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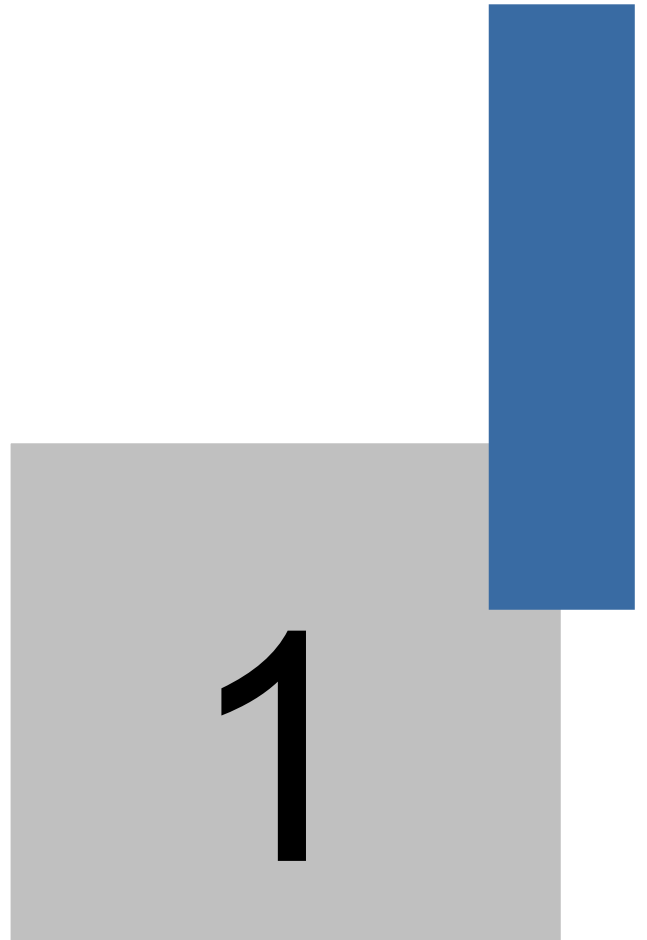
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**Installation on InoTouch Editor programming software**

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## Chapter One on InoTouch Editor Programming software installation

### 1.1 InoTouch series HMI with InoTouch Editor About Software

#### 1.1.1 InoTouch series HMI Introduction

InoTouch series HMI It can be classified as standard products, network products equipped with an Ethernet port; some are also equipped with an audio output; IT5104 / IT5121 In addition equipped with an Ethernet port, an audio output, you can also choose to configure the video input and the like.

Naming rules are as follows:

IT 5 070 TX

①      ②      ③      ④      ⑤

- |                             |  |
|-----------------------------|--|
| ① Company Products          | IT : Kymmene touch screen ( InoTouch abbreviation of)  |
| ② Serial Number             | 5 : 5000 series HMI                                    |
| ③ screen size               | 070 : 7 Inch HMI ; 100 : 10 Inch HMI                   |
| ④ Assist features           | T :Standard configuration; E : With Ethernet Interface |
| ⑤ Derivative version number |  |

for example: IT5100T Expressed IT5000 Series as standard products, 10 Inch LCD ; IT5104E Expressed IT5000

Series of network products equipped with an Ethernet port, 10.4 Inch LCD . Detailed product specifications appendix.

#### 1.1.2 InoTouch Editor About Software

InoTouch Editor Kymmene technology is InoTouch series HMI Programming configuration software, using Windows Visual Studio

Style, powerful, easy to use has the following characteristics:

- 1) stand by 65536 True color display;
- 2) stand by windows Platform vector fonts, text size can be freely scaled;



- 3) stand by BMP , JPG , GIF Format images;
- 4) stand by USB Equipment, such as U plate, USB mouse, USB keyboard, USB Printers;
- 5) Support historical data, fault alarm, can be saved to U Disk or SD Card inside;
- 6) stand by U plate, USB Line and Ethernet in different ways HMI Screen program to download;
- 7) Support recipe function, and can be used U Disk, etc. to save and update the recipe, larger capacity;
- 8) Support three serial protocols simultaneously connect different devices, applications more flexible and convenient;
- 9) , Support for custom boot Logo Functionality;
- 10) The vast majority of support on the market PLC And a controller, servo drive, temperature control table, but also for your special controller

Development Driver

- 11) Support for offline simulation and in-circuit emulation, which greatly facilitates the debugger;
- 12 ) PLC Controlled by PLC A data register inside or bits performing the specified functions, e.g. flip screen, the screen

Print macro is executed and so on.

- 13 ) The timing of data transmission type, to specify a fixed period, data transmission is performed.
- 14 ) Event registration, text and conditions of the definition of failure.
- 15 ) Data sampling, regular sampling PLC And saved data to the specified memory, and for displaying historical data and trends

Wait.













- 16 ) System information, customers can customize these by the HMI Some tips display system itself.
- 17 ) Scheduling, define a specified time, change PLC A status bit or changes in PLC Number in a register












according to.








In the introduction InoTouch Editor Before the software, first introduce InoTouch Editor Software provides various control functions,

Later chapters will detail how the function of each control is achieved.

icon Control Name		Functional Description

	<b>Pilot lamp</b>	Graphical or text display, etc. PLC In one bit.
	<b>Word Lamp</b>	according to PLC Different data register data, display different text or picture.
	<b>Set Bit</b>	When you define a touch control, touch on the screen, for PLC The bit is set Or reset.
	<b>Set word</b>	On the screen defines a touch control, touch, can PLC Registers Incrementing or decrementing a constant setting function.
	<b>Toggle Switch</b>	On the screen defines a touch control, when PLC When one bit is changed, it Pattern will change; when touched, and further change the state of a bit.
	<b>Multi-state switch</b>	On the screen definition touch controls more than one state, when PLC Data register number When the value is changed, it will follow the pattern changes; when touched, will change PLC Send data The register value.
	<b>Numerical display</b>	display PLC Values in the data register.
	<b>Numeric Input</b>	display PLC Data in the data register, using the numeric keypad can modify this number value.
	<b>Character display</b>	display PLC Register ASCII character.
	<b>Character input</b>	display PLC Register ASCII Character, alphanumeric keyboard can be modified using this ASCII character.
	<b>Direct Window</b>	In an area defined on the screen, as defined PLC The bits ON State, The designated number will be displayed in the screen area.
	<b>Indirect Window</b>	In an area defined on the screen, as defined PLC Data with a data register

		Equal numbers of pictures, the picture will be displayed in this area.
	<b>Menu items</b>	On the screen defines a drop-down menu, touch, you can select different items,  Whereby the writing of data to the different PLC in.
	<b>Slide switch</b>	On the screen defines a sliding touch controls, when the finger sliding controls, will line  <b>Changes PLC Values in the data register.</b>
	<b>Function keys</b>	On the screen defines a function key screen jump may be performed, the macro is executed, etc.  Features.
	<b>Mobile Graphics</b>	<b>This control with PLC Change pattern to change the value in the register state values</b>  And position on the screen.
	<b>Animation</b>	<b>This control with PLC Change pattern to change the value in the register state values</b>  And the position of the screen, the location is already pre-configured.
	<b>Hands</b>	<b>Use hands to show the graphic PLC Dynamic changes in data in the data register.</b>
	<b>Stick Figure</b>	<b>A rod-shaped graphic displays PLC Dynamic changes in data in the data register.</b>
	<b>Trend</b>	<b>Use multi-point connection displayed PLC One or more of the number of data registers</b>  According to historical trends or trends change.
	<b>XY Curve display</b>	<b>PLC A group of consecutive data registers X Axis coordinates, the other group of consecutive registers</b>  The data is Y Axis coordinates, even these coordinate points corresponding to the curve.
	<b>Historical data show</b>	Use the table manner, display historical data.
	<b>Group data show</b>	Displayed by PLC Curve data composed of continuous data in a set of registers.

	<b>Alarm Bar</b>	The use of a revolving door, the display " Event Log " The alarm information.
	<b>Alarm List</b>	Use text displayed " Event Log " The fault information, when a fault recovery, Text display disappears.
	<b>Event List</b>	Use text displayed " Event Log " The fault information may be displayed fault has occurred Students time and recovery time, fault recovery, the text does not disappear.
	<b>Triggered data transmission</b>	It may be manually or according to PLC State in a position to perform the transfer of data.
	<b>Backup</b>	Saved to HMI Inside the recipe data, data sampling or data failure alarm Etc. copied to the specified U Disk or a remote computer.
	<b>led Marquee</b>	The control with in Displaying a set of moving lights, its movement and the moving speed operation A control register, the lighting color and light-off display colors are formed alternately moving the movable Make.
	<b>Date Time Control</b>	The controls used to display the date and time.

## 1.2 installation InoTouch Editor Programming Software

### 1.2.1. Software Sources

InoTouch Editor Programming software by the UPM Control Technology Co., Ltd. developed, ask your HMI Suppliers request,

Or on the Shenzhen Kymmene Technology website: <http://www.inovance.cn> Downloads can also be themes Kymmene down in China's industrial network

Upload, obtain the latest software InoTouch Editor .



### 1.2.2 Computer Requirements (recommended)

CPU : Frequency 1G Above Intel or AMD product

RAM: 512MB or above

Hard Disk: minimum 500MB More free disk space

Display: Resolution Support 1024 x 768 More color display

Ethernet Port or USB Used when downloading a program on the screen: mouth

operating system: Windows XP / Windows Vista / Windows 7 / Windows 2000

### 1.2.3 installation steps

1 ) After the software is downloaded to a computer, unzip, click inside the file

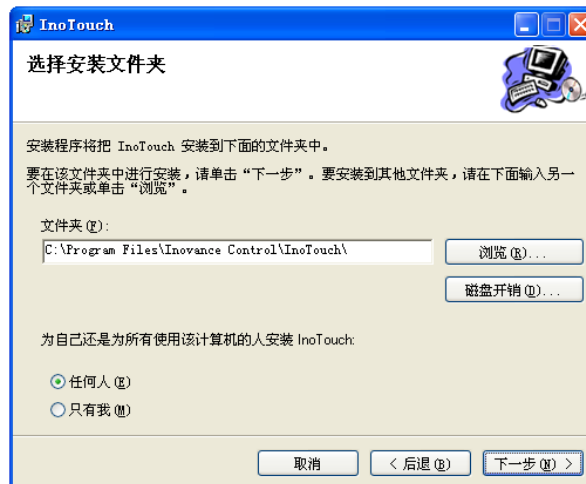


[ setup.exe ] File, the screen will

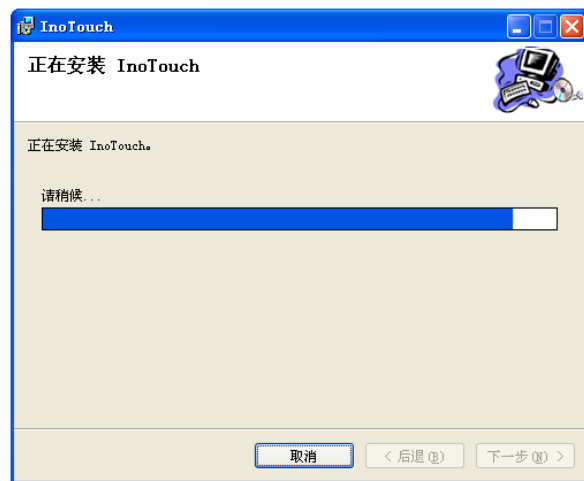
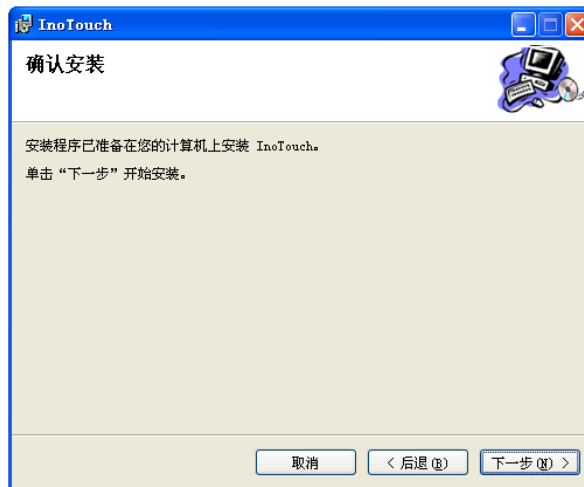
Installation window is displayed as follows, this time under the guidance prompts, tap " The next step " ::




2 ) Select the software installation folder or choose the default path, and click " The next step " :



3 ) According to the guidance prompt, click " The next step " Confirm the installation, click after the installation is complete " shut down " To complete the installation process.

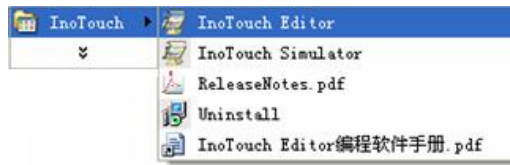


4 ) To execute the program, click on the desktop; [start]  be from a menu /

(program) [ Inovance

Control Find the execution of the program corresponding to the next].



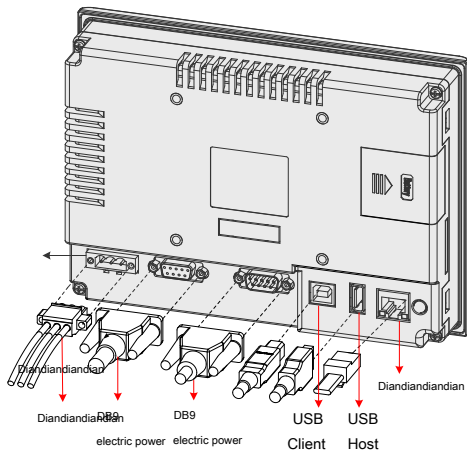


The meaning of each of the options of software directory as follows:

InoTouch Editor	Programming Software
InoTouch Simulator	Simulator
ReleaseNotes	Release information
Uninstall	Uninstall software
InoTouch Editor Programming Software Manual Software Manual	

### 1.3 FIG connector system

InoTouch Series connection interface touch screen system includes the following:



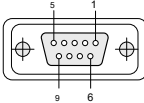

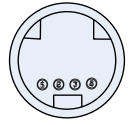
### Kymmene PLC versus HMI Wiring methods

UPM PLC and the HMI wiring (RS422) method (HMI Kymmene to female DB9 connector end, antenna port is made male)

Kymmene HMI ( COM1 [RS485] 4w 9 needle D Shaped port)	Kymmene PLC H1U / H2U ( RS422 Communication Port 8 needle Din Circular ports)
Pin Number	signal Pin Number
	signal

1	RX-	4	TX-
2	RX +	7	TX +
3	TX-	1	RX-
4	TX +	2	RX +
5	GND	3	GND

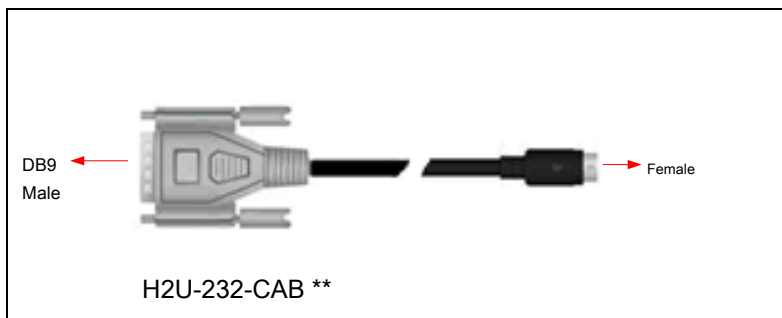
  

**HMI DB9 Female (plan view) IT5-H2U-CAB \* (Order Number: 15041140) PLC Din8 female (plan view)**

\* IT5-H2U-CAB (optional): HMI and PLC communication connection cable, the core 5, a length of 3 m. When use of the cable, corresponding to the communication port COM1 port HMI, the HMI user program need to configure COM1 "RS485-4W".

Note: The cable easily confused with the figure H2U-232-CAB cable, make distinction in use.



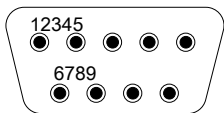
\*\* PLC special H2U-RS232-TO-RS422-CAB download cable (Rohs), although H2U-232-TO-485-CAB may be used for communication between the PLC and HMI IT5000 series, but the brand of electrical cable design differences, There may be cases of insufficient anti-jamming capability, not recommended.

**1) Connected to an external device (DB9 male connector)**

Cable Requirements	With different external devices connected require different communication cable.
--------------------	--

<p><b>Precautions</b></p> <p>caveat! Do not plug the communication cable in the communication process.</p>	<p>To avoid communication problems, please note that the communication cable length not more than 150 m when connecting devices for RS485 / 422, RS232 devices when not more than 15 m. Note that the communication cable length.</p> <p>If the communication problems, usually you can see the "PLC no response ..." failure prompts on the display until communications can be established. Communication indicator on the front panel will be lit each communication. When a longer communication cable or communication cable run in an electrically noisy environment, the cable must be shielded to make the communication cable.</p> <p>Note that the communication cable and not to the AC power cables in the wiring or cloth with the cloth in a position near the communication cable sources of electrical noise. Make sure the communication cable connector ends have connections are secure.</p>
--	---

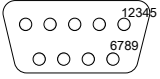
**Product back of the case COM1 [RS-232] , COM2 [RS-232] Having a port for connecting RS232 The controller communication port, pin arrangement shown in the following table.**

Pin Number	signal		DB9 Male connector pin arrangement of FIG.
	COM1 [RS-232]	COM2 [RS-232]	
1			
2	RXD (Receive data)		
3	TXD (send data)		
4		TXD (send data)	
5	GND (Signal ground)		
6		RXD (Receive data)	
7	RTS (Ready to send)		
8	CTS (Clear To Send input)		
9			

**2) Connected to an external device (DB9 female)**

COM1 [RS485 2 / 4W] / COM3 [RS485] Product back of the case / COM3 [RS232] is connected to the communication port RS485 / 422 communication port of the external device. (COM1 [RS485] 4wire namely COM1 [RS422]). COM1 [RS485

2 / 4W] / COM3 [RS485] / COM3 [RS232] Communication controller having a port for connecting RS485 / RS422 / RS232 communication port, (COM1 [RS485] 4wire namely COM1 [RS422]) pin arrangement in the following table shows.

Pin Number	signal			DB9 Female pin arrangement of FIG.
	COM1 [RS485] 2wire	COM1 [RS422] COM3 [RS485]	COM3 [RS232] / COM2 [RS232] ※	
1	RS485-	RX- (Receiving negative)		
2	RS485 +	RX + (Receiving positive)		
3		TX- (Sending negative)		
4		TX + (Being sent)		
5	GND (Signal ground)			
6			RS485-	
7			TXD (send)	
8			RXD (receive)	
9			RS485 +	

※ 1. model IT5043T for COM2 [RS232] Other model COM3 [RS232] .

※ 2. Serial printer can be connected to the serial port, set the reference specific background software help.

**3 ) Connected to an external device ( DB9 Female / DB9 Male connector)**

DB9 Female: COM1 [RS485] / COM3 [RS485] / COM3 [RS232] Communication Port 9 needle D Type female pin

FIG arrangement; this port for connecting with "RS485 / RS422 / RS232" Communications controller ports.

DB9 Public seat: COM1 / 2 [RS-232] Communication Port 9 needle D Type male connector pin arrangement of FIG.; With this port for connecting

RS232 Communications controller ports.

**4 ) USB interface**

Product back of the case USB port: USB Client ( Type B ) Interface for the PC Connection, uploading / downloading

User configuration and setup HMI System parameters, can be a general USB And communication cables PC Connect; USB

Host ( Type A ) Interface for the U plate, USB mouse, USB And keyboard USB Printers and other equipment, Plug and Play.

**5 ) Ethernet Ethernet connection**

Product back of the case for the Ethernet interface 10M / 100M Ethernet ports. Port can be used HMI Configuration of the /

Download, set the system parameters and configuration of the in-circuit emulator; you can connect multiple via Ethernet HMI Constitute more than HMI Online; can

Through Ethernet PLC And other communications; via Ethernet port PC Machine communication.

This port can be a standard Ethernet cable by ( RJ45 Direct connection) and HUB Or is connected to the Ethernet switch, then

The local area network, or by one pair of interconnection cable ( RJ45 Crossover) directly PC Ethernet port connection.

## 1.4 InoTouch Series HMI system settings

At the beginning of InoTouch Before the series HMI programming, you need to know InoTouch Series HMI system settings.

The following describes in detail how to set InoTouch Series of man-machine interface IP Address, date and time, upload / download password

Adjustment LCD Brightness, as well as view the system version number.

### 1.4.1 How to enter the system's human-machine interface

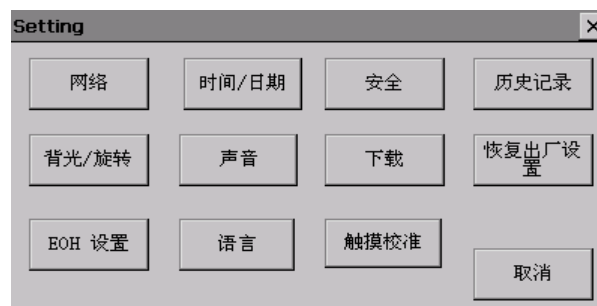
At power up, hold touch panel is pressed, the system after completion of startup, system settings screen will appear as follows:



For the safety of the system, into the system, is the need to enter a password. There the system dialog 20 Second countdown, if 20

Second password box is no point, the system will enter the calibration mode, if the correct password, the system will automatically enter the setting screen

surface. The default password is 6 More 1 (which is 111111 ). As shown below:



### 1.4.2 set up HMI IP address

Click on the 'Network' into the human-machine interface IP Address setting screen, as shown below:



select " Automatically IP address( Auto Get IP Address ) " When will the LAN DHCP Server Automatic allocation

IP Address, at this time InoTouch Editor HMI is the equivalent of a computer inside the LAN, IT5000 Human machine interface

When the surface to a local area network computer is located, you can check this option.

select " Manual configuration IP address( IIP address get From below ) " When, in this case generally suitable computer and a human machine interface

Case directly connected to the surface. Manual setting IP An address, note, the man-machine interface using the computer network and connected directly to the cable

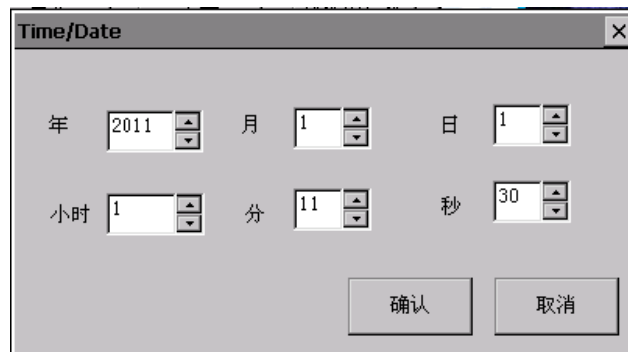
HMI itself, both of which must be manually set static IP Address, and both of IP Address must be on the same network segment.

For example, man-machine interface IP set as: 192.168.60.201 Then the computer IP Address to be set as follows: 192.168.60.202

Wait.

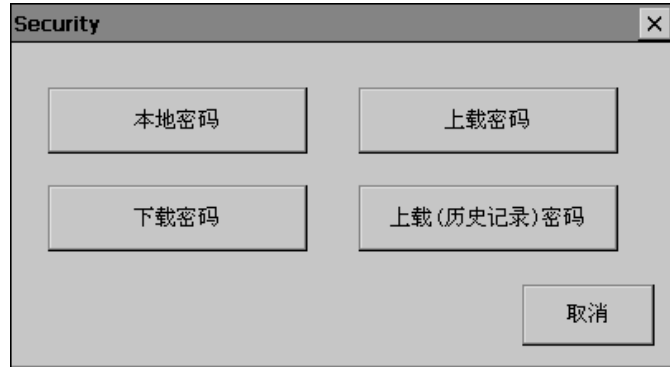
### 1.4.3 set up " Time / Date ( Time / Date ) "

Click " Time / Date " You can set the system time and date on the man-machine interface.



### 1.4.4 " Safety( Security ) "

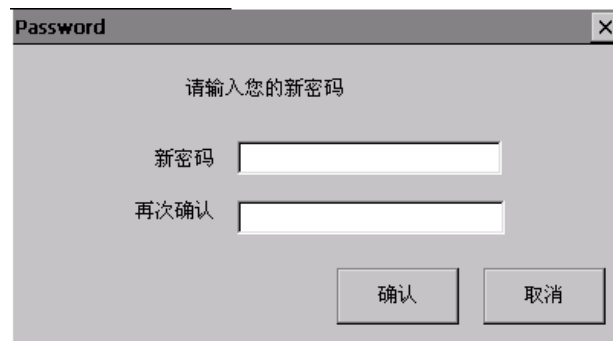
Click " Safety( Security ) " When, you may modify various passwords, as shown below:



The meanings of the password are as follows:

Local password	The password to enter the system settings
Upload password	Password when uploading pictures from a program HMI
Download password	Password download screen HMI program
Upload (history) Password	Upload password stored in the display inside information sampling, alarm information and other documents

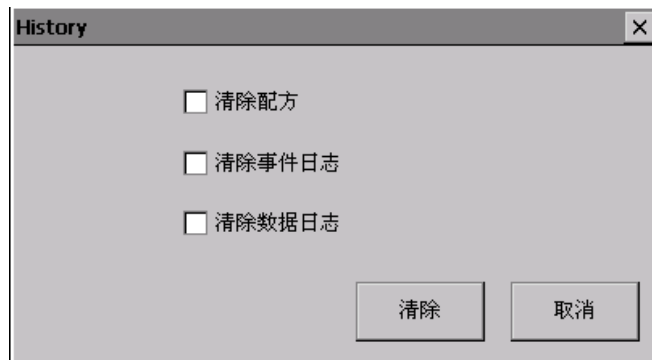
When you modify any password dialog box will pop up as follows:



Enter the new password, you need to re-enter once, twice enter the same password, then modify successful.

### 1.4.5 " history record( History ) " Settings

Click " history record " , The screen will appear as shown below.



This protection can be cleared The presence of man-machine interface inside the formula, sampling and historical fault records.

Clear formula	When checked, when you click the Clear button, clears stored in the display which recipe data.
Clear Event Log	When checked, when you click the Clear button, clears the fault history saved in the man-machine interface inside.
Clear data log	When checked, when you click the Clear button, clears stored in the display inside information sampling records.

#### 1.4.6 " Backlight / Rotation ( Backlight / Rotate ) " Settings

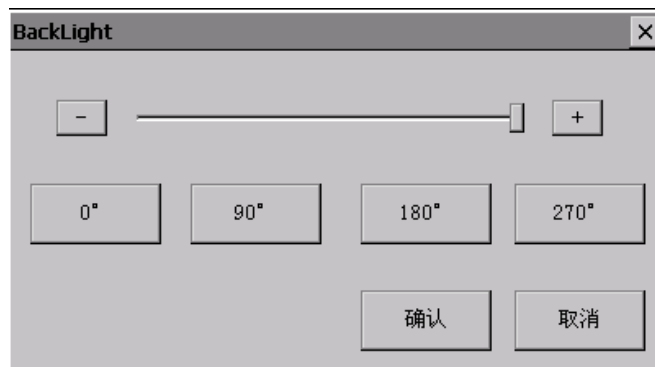
Click " The backlight / rotation ", The following dialog box is displayed, this can adjust the brightness of the backlight.

When the left slider slides the finger (or mouse), LCD The brightness of the backlight dims; when the finger (or mouse)

When sliding the slider to the right, LCD The backlight luminance becomes bright.

Or click "-", LCD Backlight brightness diminishes; click "+" LCD The backlight luminance becomes bright.

"0 °" click on the page, "90 °", "180 °" and "270 °" screen lets you choose the angle of rotation.



#### 1.4.7 " sound( Sound ) " Settings

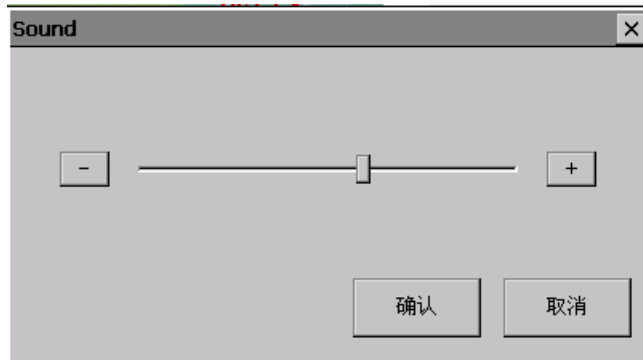
Click " sound " It will display the following dialog box, where you can adjust the size of the sound.

When the finger (or mouse) slides the slider to the left, the sound becomes small; that when the sliding finger (or mouse) right

When the slider, the sound becomes large.

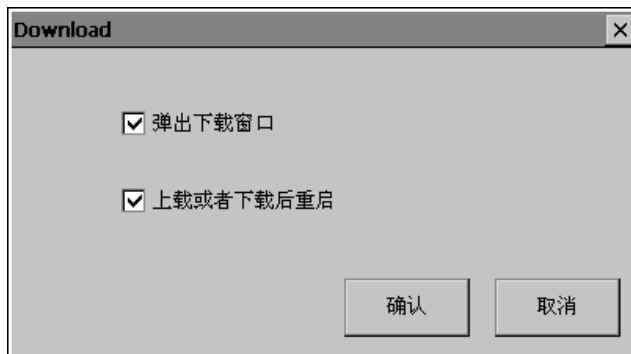
Or click "-", The sound becomes small; click "+", The sound becomes large





#### 1.4.8 " download( Download ) "

Click " download " It will display the following dialog box.

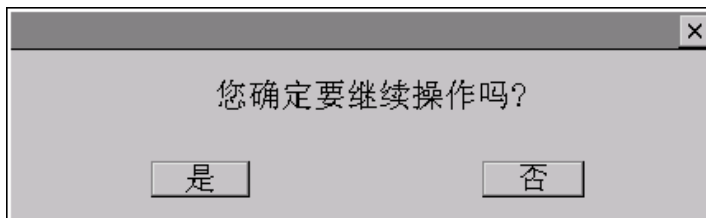


Download pop-up window	When checked, insert SD Card or U Download window pops up automatically when the disc
<u>Upload or download after the next restart</u>	When checked, U Disk or SD Card download / upload automatically restart when completed

#### 1.4.9 " reset( Restore Factory Settings) "

Click " reset " Will display the following dialog box, click "Yes" to restore production setting. Recovery production setting.

Engineering documents, data, configuration, etc. will all be cleared, please carefully operation.



### 1.4.10 "EOH Settings ( EOH Setup ) "

Click "EOH Set up " Will display the following dialog box, you can set the page displayed first project is running. After setting the weight

The new power-up takes effect.



### 1.4.11 Language ( Language)

Click the 'language', the following dialog box, set the system to set the language menu.



### 1.4.12 calibration( Touch)

Click the 'calibration', HMI will enter calibration mode.

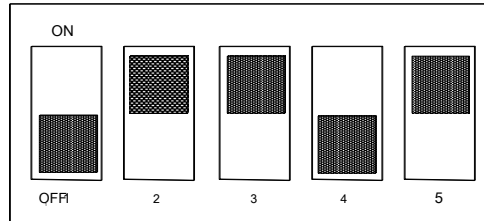
### 1.4.13 How to restore the human-machine interface to the system password

If you accidentally forget the password gives the machine a variety of interface settings, such as entering a password system, the password to download the program to upload And so on, then you can not download the program on the man-machine interface. In this case, as long as the human-machine interface will be restored to the system password, which **These passwords will be restored as a unified system password 111111 That six 1 . Also resume upload / download password 000000 That six**

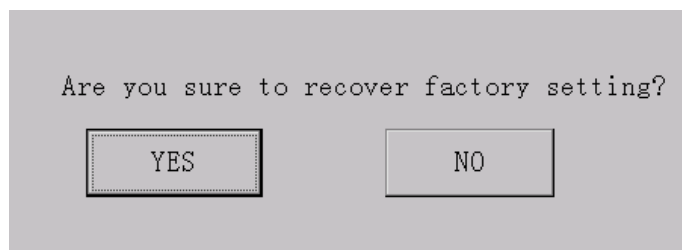
More 0 . As follows:

a , The five DIP switches on the back of the touchscreen, the first 2 Th, 3 Th and 5 A set ON ,the remaining 2 A DIP switch

Off set OFF . As shown below:



b , After dialing please re-power, the following dialog box will pop up asking if you want to set the password back to the factory.



c ,Please click "Yes (confirm) " .

Note: At this point, click "YES" Man-machine interface screens inside the program and all the saved data, such as recipe data, information

Sampling data, alarm records will all be cleared.

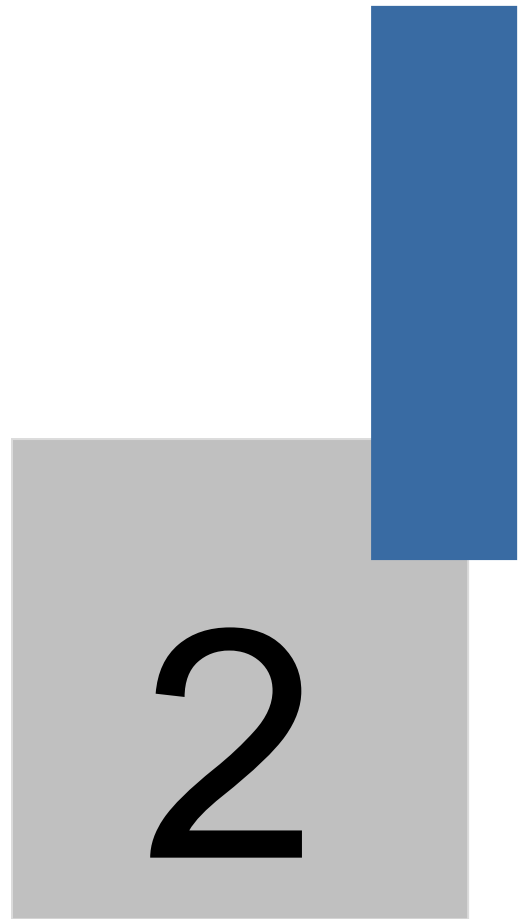
After execution of the above-described recovery system, the system will password man-machine interface (i.e. Local Password ) Will return to

111111 , which is 6 More 1 ; Password to upload and download programs for the recovery 000000 , which is 6 More 0 .

#### 1.4.14 How to calibrate the man-machine interface

1 ,will HMI DIP switch of light 235 Set as ON, 1 4 Set as OFF, then HMI Power on the restart, will enter the calibration mode.

2 , Referring to the system settings menu 1.4.1 .



**Make a simple project**

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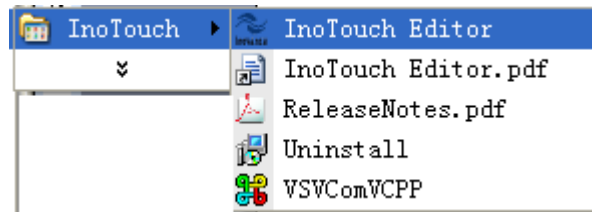


## Chapter two Make a simple project



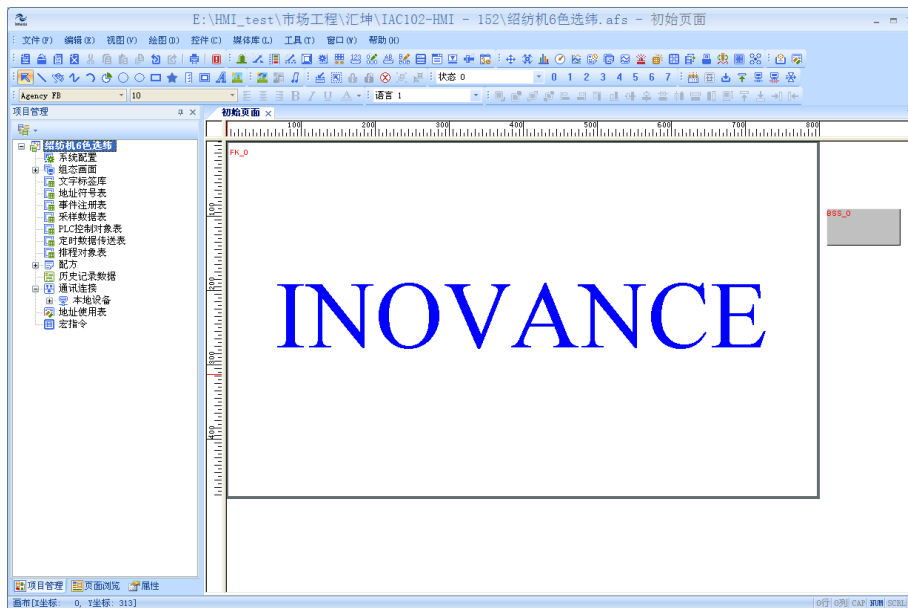
After the software is installed, when you want to execute the program, you can click on the desktop or you can [start] from the menu

/ (program) / ( Inovance Control Find the execution of the program corresponding to the next]. As shown below, click InoTouch Editor , You can enter InoTouch Editor Software programming interface.



Before you start writing programs, first introduce InoTouch Editor The layout software.

InoTouch Editor After opening the software layout structure as shown in FIG.



Below is connected Kymmene PLC An example of how to make a simple project. Step one: First press on the toolbar " New Construction " Button, as shown below:



Path to write the project name, choose to save the project, select HMI Model and screen type, etc. After setting, then press the "OK" button, the following dialog box will pop up:



**Step two: Connect Kymene PLC H2U If the communication parameters set with PLC inside the communication parameters are inconsistent, then**

Click the "setting" to enter the parameters to modify the communication interface, as shown in FIG.



As can be seen from the above picture, the communication parameters are 9600 Baud rate, 7 Data bits, 1 Stop bit, even parity, use of It is a man-machine interface COM1 RS485 4W It is connected to UPM PLC .

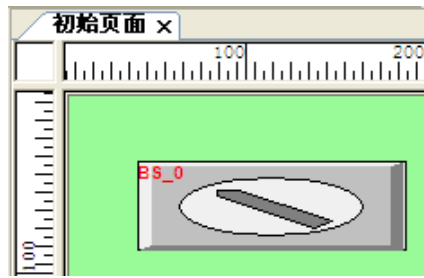
Step Three: To add a [Toggle Switch] control, press the control buttons as shown below in FIG. In the window, click the mouse Mark left on the establishment of the " Toggle Switch " Control, as shown in FIG.



select " Toggle Switch " Double-click or right-click to select " Attributes " Edited, as shown below:



At last " The initial screen " It will be shown below.



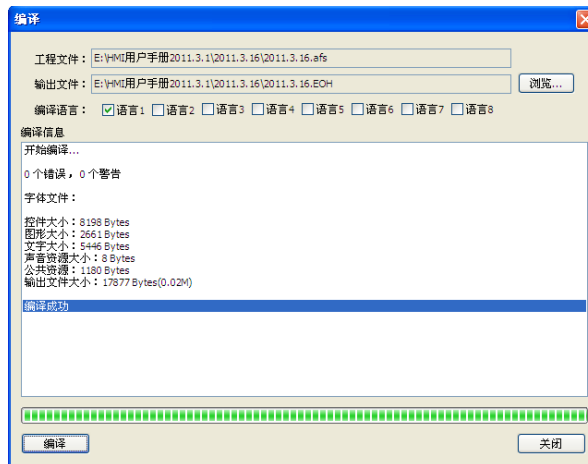
Step Four: Click the icon and save the file. InoTouch Editor Software to edit the generated project file name suffix. afs .

After saving the user can use to complete the compilation, check whether the correct picture planning, execution button function is compiled,

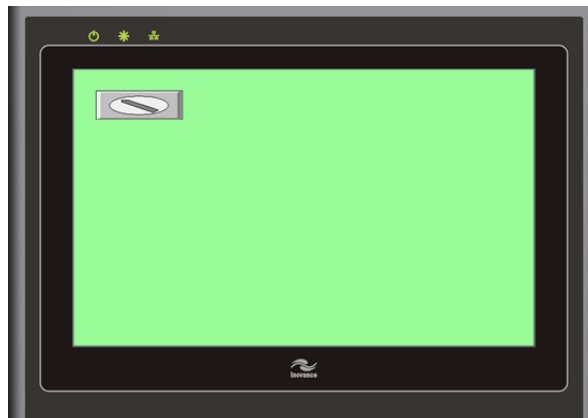


After compiling the generated output file name suffix EOH .

If the results are shown in FIG compiler, any error does not exist, the function can be performed off-line simulation.



Step Five: Click button on the toolbar offline simulation, the execution screen as shown below:



For online simulation, in-circuit emulator after connecting the device button on the toolbar can be carried out.



Therefore, a simple application engineering picture is done.

Step Six: The program is downloaded to the display screen inside. Ethernet way to download an example (later tells USB Installation side

Style and way to download).



In the previous chapter describes the human-machine interface IP Download address setting and password settings. if: InoTouch Series human machine interface

Face set IP Address: 192.168.60.201 Download the default password is 000000 ( 6 More 0 ). So, download the program

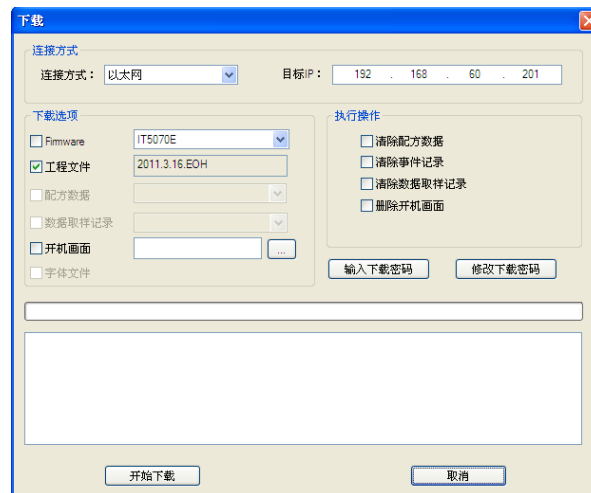
Before, previously had to just do a small program to do the save and compile the work (this is a must do before downloading program operation), in this

As long as the download operation is like. To be noted that the use of the cable InoTouch When the series of man-machine interface download

Hou, computer IP And the need to address human-machine interface IP Address on the same network segment, the port number is not the same. If the IP Address expressed as

( A , B , C , D ) Form, then A , B , C To be consistent, D It can not be the same. E.g HMI of IP Address: 192.168.60.201 ,

Computer IP Address: 192.168.60.202 . After clicking the Download button, the screen will appear the following:



in HMI Enter the address bar inside InoTouch Series of man-machine interface IP Address, enter the correct password box which downloads password,

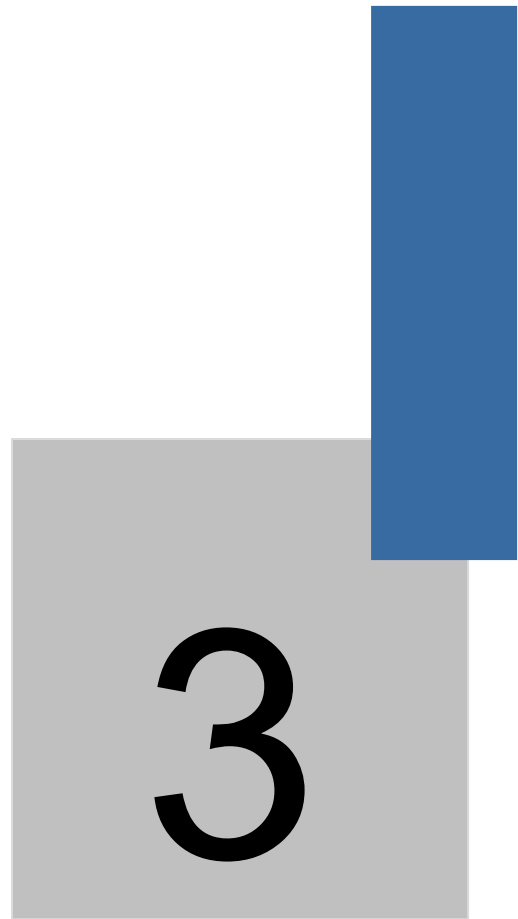
And check "Firmware" with " After downloading the program start screen " After clicking " download " Function keys, you can perform an action program download,

And after the download is complete, InoTouch Series HMI screen automatically restart the program you just downloaded. Work related to the download screen

Can, in this chapter only briefly explain, in subsequent relevant section describes the various methods detailed program download screen.

**Summary: From the above, making a project screen basic steps: 1 Select the model used; 2 Select the connected PLC And set up and PLC The serial port communication parameters and connections; 3 , Various program editing screen controls using the software.**

**4 Save and compile files; 5 , Offline simulation, layout effect of the screen to view the preparation. 6 The program is downloaded to the display screen inside.**



**Compiler, simulation and download**

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### third chapter Compiler, simulation and download

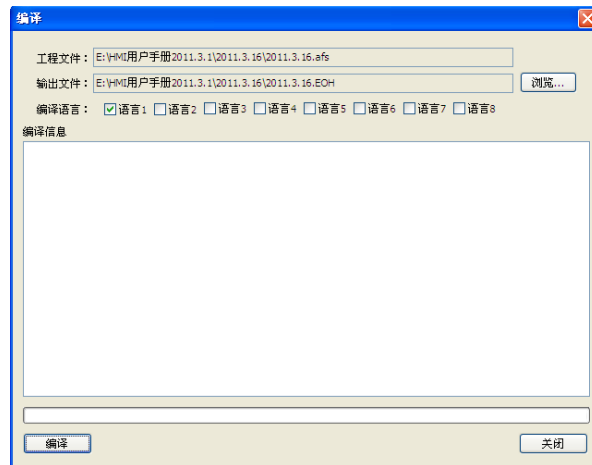
After editing the project screen, it normally takes a look at the picture editing effects, preview the pictures downloaded to the Display Effect, the screen layout, colors and so on. At this point you need to use the offline simulation function. The following are to illustrate InoTouch Editor Project picture common method of operation.

#### 3.1 Compile

Edited the picture, before the offline simulation or downloading to HMI, need to be " Compile " This operation. Operating side Law:

a , Click on InoTouch Editor Save icon or menu on the toolbar software " File / Save Project " The editing work Cheng screen to save them. Save as engineering, you will be prompted to enter a file name, enter the file name you need. file name Generally understand the principle. File name suffix after saving both afs Such as name " Packing Machine. afs " Such as the file name.

b , Then click InoTouch Editor Compile icon or menu on the toolbar software " Tools / Compiler " Or fast key F5 Will pop up " Compile " Dialog box.



c , Click " Compile " , You can compile the project, compiled successfully, you can close the dialog box. As shown below. Compile After the file extensions are EOH ,Such as " Packing Machine. EOH " Wait.



If the compiler errors, double-click the error line to jump to the wrong location corresponding.

### 3.2 simulation

InoTouch Editor Simulation software provides offline and online simulation two kinds of simulation. Off-line simulation function is calculated using

For the machine to simulate the human-machine interface, see the project screen layout effects editing and so on. The in-circuit emulator can be used as a computer simulation

Man-machine interface, the operation is directly connected PLC To facilitate the commissioning of the screen, without the need to screen every time debugging program

To the display unit inside, the actual connection PLC To debug. The following steps are described.

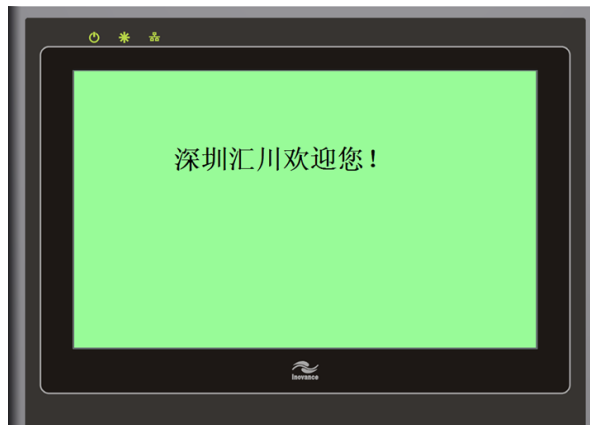
#### 3.2.1. Offline Simulation

When you have finished the picture program, and compiled a EOH After the file, it can be off-line simulation of the operation. Click InoTouch



Editor menu " Tools / offline simulation " Icon on the toolbar or , Can be carried out off-line simulation operation, the display screen may be

Refer to the following.



#### 3.2.2. Online Simulation

Before performing online simulation, computer and need to be PLC Use a serial communication cable connected. in case PLC Interface

Yes RS485 Interface, are due to the computer's serial port RS232 Mouth, it requires the use of a RS485 turn RS232 Converter.

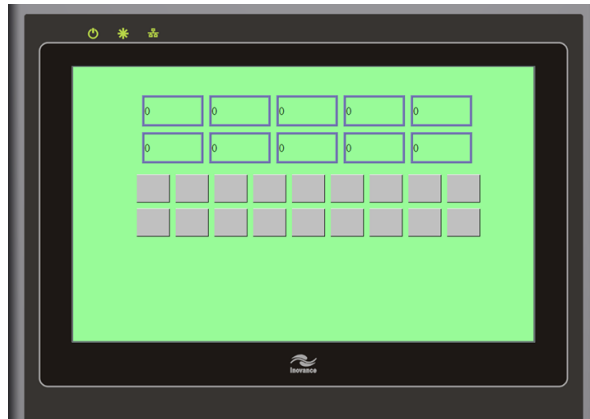
But in general execution InoTouch Editor Software " Online Simulation " When the function is to use PLC The download cable to the computer and



PLC Download port to connect, just use a computer to PLC The same connection to download the program. Then click InoTouch Editor

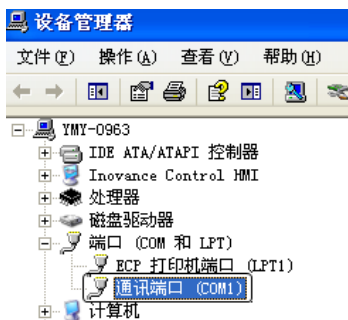
Software menu " Tools / In-Circuit Emulator " Icon on the toolbar or after normal connection is established, will be displayed PLC Data and

Status bits, refer to the diagram.



In-circuit emulator and execution PLC When the connection is established, you must InoTouch Editor Project which, pre-configured and PLC

Various communication parameters, only when the communication parameters are set correctly, to be able to ensure the normal execution " Online Simulation " Features.



Computer communications port ( COM1 )



HMI Software set up communication connections ( COM1 )

Because the computer simulation is a man-machine interface, if the HMI Use software settings COM1 Port connection PLC , Then

It must also make computer COM1 The port and the computer PLC Connect, otherwise it will not execute properly " Online Simulation " Features. this

Case of " Online Simulation " Every function can only be executed 30 Minutes, more than 30 After automatic disconnection minutes, then just re-run

An online simulation operation, and you can establish a connection.

### 3.3 Download

Introduced in front of preservation methods and compile the program, after performing the above steps, you can download the program to the man-machine interface inside.

Download the program currently have the following methods:

#### 3.3.1. Using a network cable to download the program

Using a network cable to download the program, you need to know the man-machine interface IP Download address and password, if a computer is directly related to human-machine interface

Connection, the computer IP It must be set to address the human-machine interface IP Address on the same network segment, the port number is not the same. If the IP

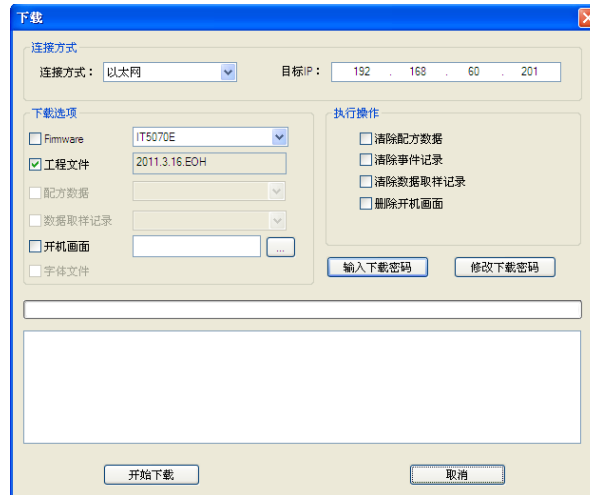
Address expressed as ( A , B , C , D ) Form, then A , B , C To be consistent, D It can not be the same. E.g HMI of IP Address:

192.168.60.201 , Computer IP Address: 192.168.60.202 . Download password to the initial password 000000 (which is 6 More

0 ) , Click InoTouch Editor Software menu " Tools / Download " Or shortcuts F7 Or icon on the toolbar will pop up



The following dialog box.



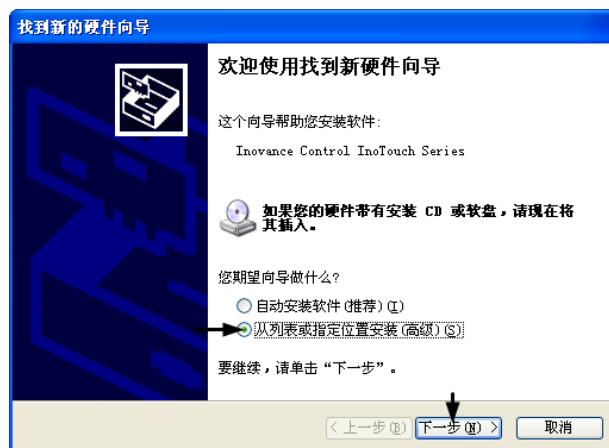
Download mode settings in the dialog box to " Ethernet " , And set up correctly "HMI address " Download and password. If the first time gives Machine interface to download the program, or for the first time with an updated version of the software, check "Firmware" Other options can be based on the actual You need to check. After setting, click " download " , You can download the program to the man-machine interface inside.

### 3.3.2 use USB Line download

InoTouch Series support the use of man-machine interface USB Line download. due to USB Speed line to download the program very quickly, as To avoid interference, with a copper mesh recommended isolation USB Download line. When you install the software, USB Drive automatic installation, If the automatic installation is unsuccessful, perform the following steps to manually add.

#### 1 ) USB Line driver installation

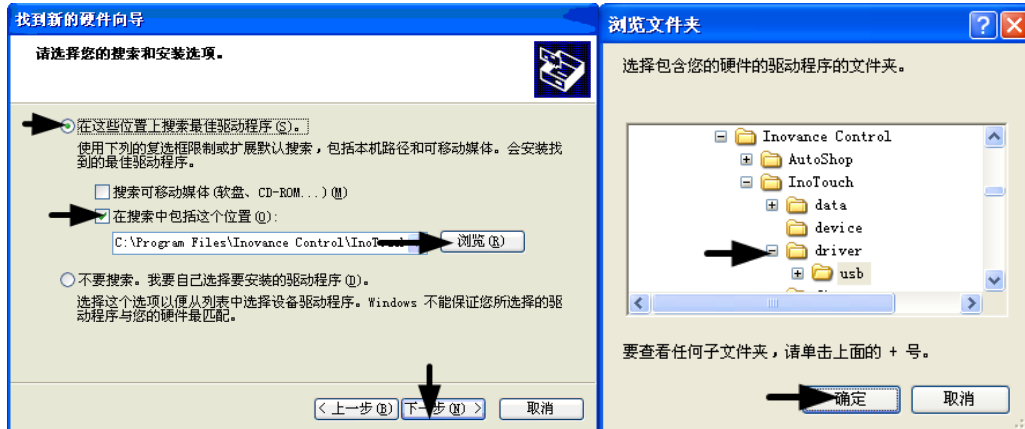
step 1 :will USB One end of the access line InoTouch Series of man-machine interface USB Port, one end plugged into the computer USB mouth, After power on the man-machine interface will pop up Found New Hardware dialog box, select " Install from a list or specific location " ,As shown below, And click " The next step " .



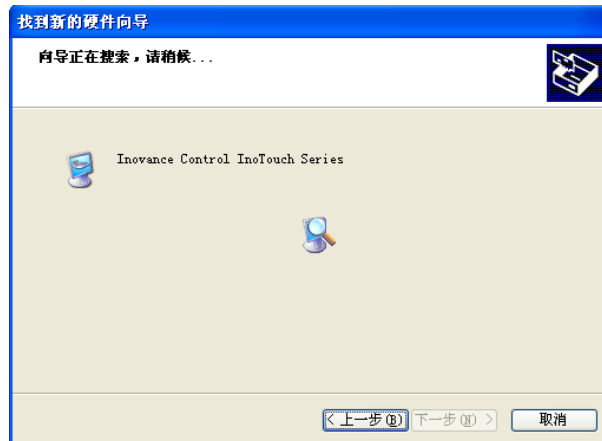
step 2 : " Search for the best driver in these locations " Check the second option on " Include this location in the search " And browse

InoTouch Editor The following software installation root directory "Driver USB" This folder, USB Drive lines saved in this file

Folder, for example, position: "C:\Program Files\Inovance Control\InoTouch\driver\usb",As shown below.



step 3 : Now press " The next step " Button, the computer will automatically install the driver, as shown below.



step 4 : When there " Completing the Found New Hardware Wizard " When the dialog box indicating that the drive has been installed.



step 5 : Click " carry out " Later, in " Device Manager " Inside, you can find this "Inovance Control HMI" device of,

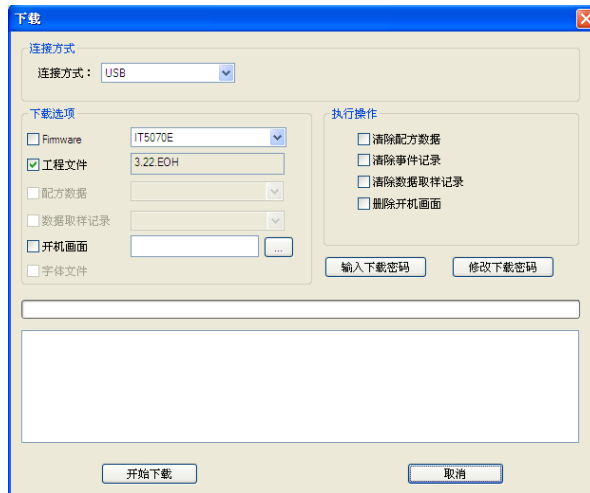
As shown below.



2) use USB Line download

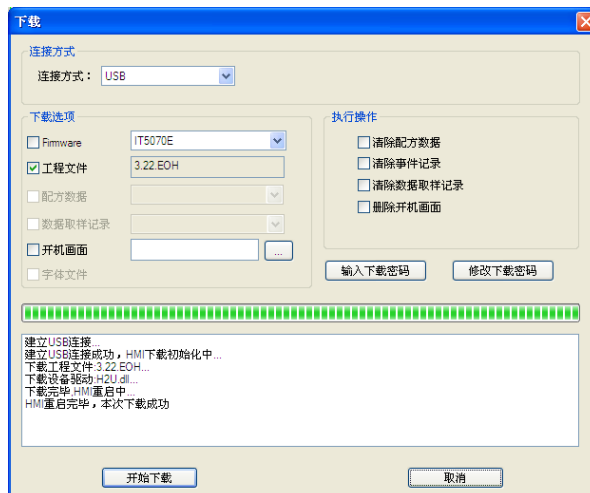
Installed USB After the line driver, can be used USB Download the program line up. Click InoTouch Editor Software menu " work

With / Download " Or icon or shortcut on the toolbar F7 , The following dialog box will pop up.



Because it is using USB Download line, so choose "USB" this. At this point only need to click " start download ", You can download the program.

As shown below.







**Use InoTouch Editor Software**

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## Chapter Four InoTouch Editor Use of software

This chapter will explain in detail InoTouch Editor General operating software to help you quickly grasp InoTouch Editor

The use of the software.

### 4.1 file

Click "file" The menu will display the following options:



#### [ New Construction]

Click " New Construction " It represents a new InoTouch Editor Screen program. all InoTouch Editor Can be edited

Screen program are . afs end.

#### [ Open project]

Click " Open project ", It means open an already edited InoTouch Editor Screen program.

#### [ Save Project]

Click " Save Project ", It said it would save up screen currently being edited program.

#### [ Save Project As ....]

Click " Save Project As .... ", Said it would currently open InoTouch Editor Screen program again with another file name

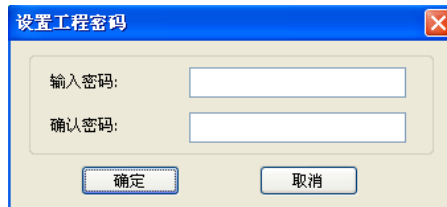
Saved.

[ shut down]

Click " shut down " , It said it would close the currently displayed page.

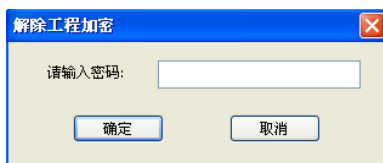
[ Engineering Encryption]

Click " Encryption works " , The following dialog box, enter the password you want to set, click "OK", the project password has been set.



[ Lift engineering encryption]

Click " Lift the encryption works " , The following dialog box, enter the correct password, click "OK", the project password lifted.



[ Close project]

Click " Close project " , Said it would currently open InoTouch Editor The screen closes.

[ print]

Click " print " It expressed using a printer connected to the computer currently used to print out the way the picture being edited

Screen program.

[ Printing preview]

Pressing this button shows the current program being edited picture to picture the way displayed, this display is the

Renderings after printed.

[ Print Settings]

Function key is pressed, the current representation of the printer on the connected computer screen print settings. Such as setting of paper

Model, print direction.

More about " file " Explain the menu, and the general Windows Operated in the same file system, it is not described in detail.

## 4.2 edit

Click Menu " edit " , The options shown below will appear. The following items will be introduced one by one function.



**[ Undo ]** 

Undo command is generally used to cancel the last action edit screen. Such as deleting a control, press " Revoke " Rear,

Just delete the controls will be restored to the screen.

**[ Redo ]** 

Redo the undo command cancels the action just executed. For example just " Revoke " A delete control action, press " Redo "

After just been restored to the controls on the screen will again be deleted.

**[ Cut ]**  ,[copy]  And [Paste] 

After selecting the desired control, click on the "cut" to another window click "Paste", you can change the position of the target control;

The general function is to copy the selected controls copied to another location in the same window or another window, while retaining the election

**The controls. As it has been previously performed " Shear " or " copy " After the command and then the " Stick " The command, it will be just selected**

Controls copied to the person to open the window inside.

**[ Bulk Copy ]**

Bulk copy function is to edit InoTouch Editor A common screen function. It represents more than copy the selected controls

A same type of control on the same screen. When elected in a control, click " Edit / Bulk Copy " It is displayed on the following

Dialog box.



**Bit interval:** indicates the type of address word bit interval. (E.g: LW\_BIT0: 0 Bit interval 1 , LW\_BIT0: 1 )

According to the content needed to write more than the screen, then click "determine". After, the current will appear on a screen a plurality of aligned

The same type of control. Within the parameters related to the above dialog box as follows:

**[ The number to be copied ]**

X And the number of axes Y The number of axes, these two parameters determine the total control of the copy. among them X Horizontal axis represents the number of  
The number of the up control, Y The number represents the number of control axes in the vertical direction.

**[ Spacing ] and [ interval ]**

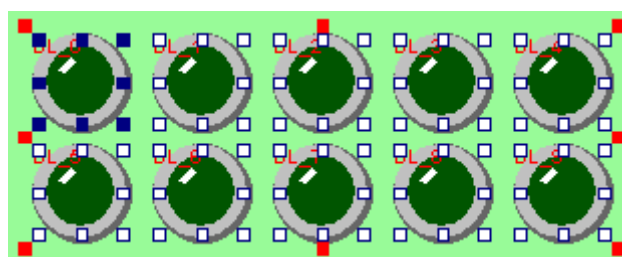
When you select "spacing" When, after the copying control in a distance to the front left and the next control from the control left behind  
of "X The axial distance " Setting the number of block which is determined, and the distance to the top of the next row to the top row of the control of the control, by "Y  
The axial distance " Set inside the block number is determined.

When you select "interval" After the time control, replication, a distance in front of the right and the next control controls the left by the following  
of "X The axial distance " Setting the number of block which is determined, and the distance to the top and bottom end of the row of the next row control controls, by "Y  
The axial distance " Set inside the block number is determined.

**[ Placement ]**

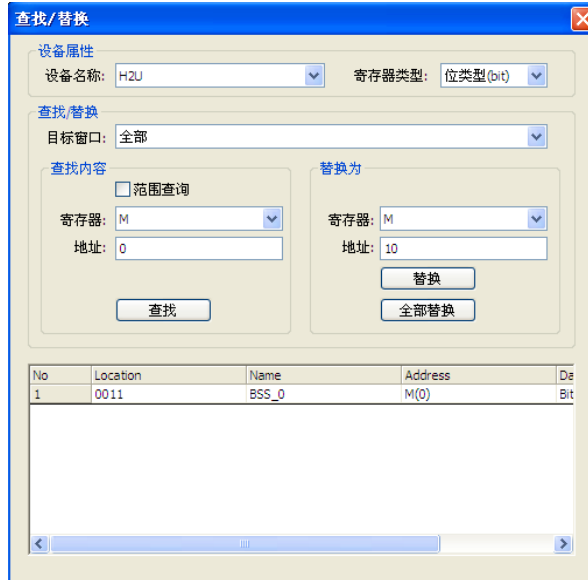
Address interval represents the value of these controls delivery address data after copying. For example, select " Address gaps " Value "1" And then  
After check " Increased levels ", Represents the number of controls after copying its device address horizontal sliding scale 1 Relationship. When checked " vertical  
increase " When indicating the number of controls after copying, which is perpendicular to the sliding scale device address 1 Relationship.

In summary, the parameters set by the upper view of FIG bulk copy, can be for example, the total copy 10 The same type of control,  
The horizontal direction 5 A vertical direction 2 row. It controls two adjacent intervals in the horizontal direction is 10 , Two rows in the vertical direction control  
The interval is 5 , Device address incrementing the horizontal direction is 1 of. As shown below:



**[ Find / Replace]**

Press " Find / replace " Function keys, the following dialog box will pop up



**[ Device Name]**

He expressed the need to find InoTouch Editor You specify the type of device controllers connected to the edit screen.

**[ The target window]**

Select the window range need to look for.

**[ Find what]**

It indicates setting to find / replace register and the start address, end address.

**[ Replace]**

Will meet and address register set search criteria to find and replace for the development of registers and addresses.

Once set up the above parameters, click the dialog box " Seek " Button, then look in the window in line with Article Look of

The control device. After If found, the display window of the control number found in the white box at the bottom ( Location ), The control number

( Name ) And device type and address ( Address ). Controls When you find qualified controls, double-click the find, the picture

It will automatically jump to the window where the control and mark is the window which control.

Click " replace " or " Replace All " When, it said it would comply with the conditions found in the controls, the replacement for the control parameter settings in the device class

Type and address.

In summary, the above setting dialog box, when you click Replace, means that all the current edit screen all windows

for M0 Controls replace all M10 .

**[ Selecting a next] and [Select]**



" Select the next " It is to choose the next control.

" select all " Select all the controls on the page.

### **[Find Text]**

Users often a certain look for all the controls in a category of distress from which to find hundreds or even thousands of text labels library, event registry and address of the symbol table from hundreds or even thousands of control.

Text search function is the user in order to solve the above-mentioned distress and design, including search and text retrieval control two functions, shortcut keys Ctrl + Q .

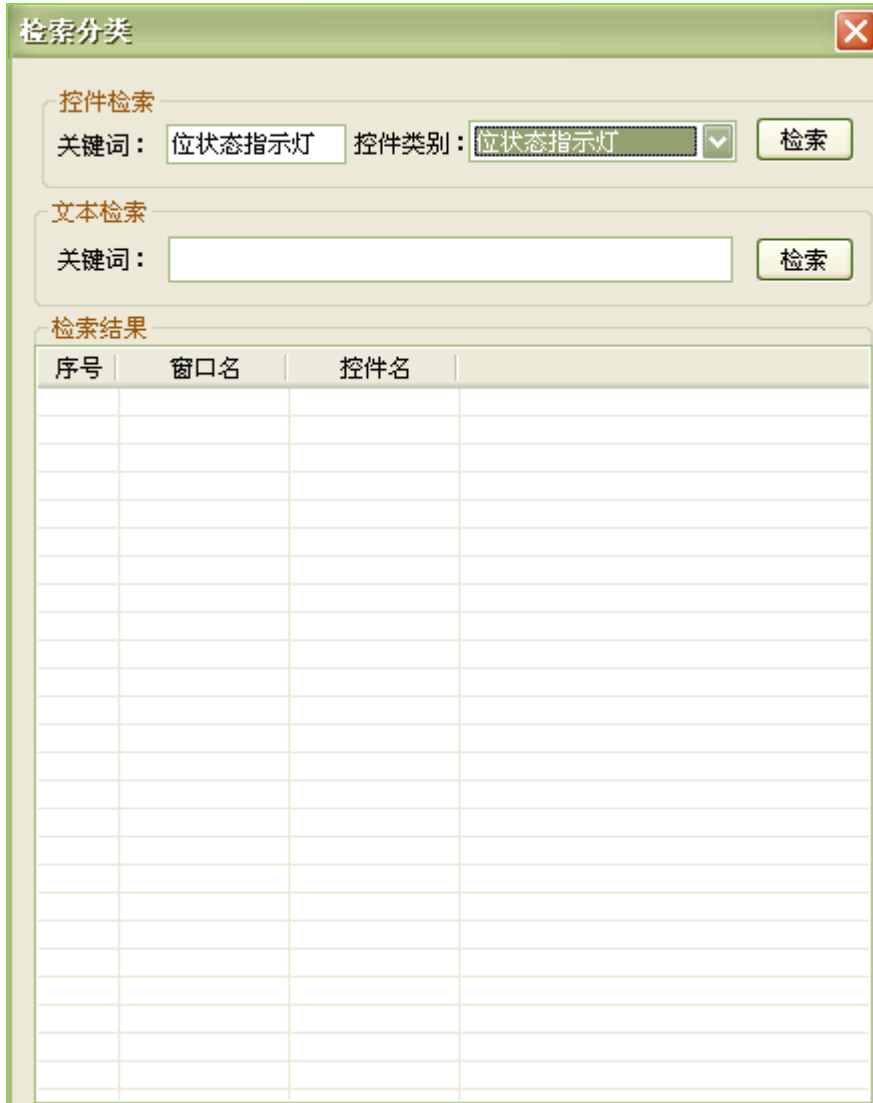
Control retrieves mainly used to find all the controls of a category which has been used in the configuration screen. Text retrieval software is mainly used for objects which contain the search keyword.

**First, open the way**

**(1) turn on InoTouch Editor Software switches to the initial page, press the shortcut key Ctrl + Q .**

**(2) Click InoTouch Editor Editing software menu → Text search options. Shown below will appear by any**

one of the above two methods text search interface:



**Second, examples**

**1 . Control retrieves**

You can find a whole category of software which has been used by the search function controls all controls to find the software among the indicators as an example:

**step 1 :** Keyword entry box in the control retrieval input indicator (you can also choose the right side of the control column name Table) and click on the search button.

**step 2 :** Name of the control in all controls containing indicators (e.g., bit status indicator, a multi-state indicator) will

Listed in the following list, double-click the item in the list which can be positioned, as shown below:





## 2. Text Retrieval

You can find objects contain certain keywords through a text search function, text retrieval target range now includes:

- Controls
- Event registry events content field
- **Text tag library (text labels Name field, language 1 ~ Language 8 Field)**
- Symbol table address (address name label field)

To find text tag library as an example:

**step 1 :** New shown below 4 Article text labels, text input box, enter the search keyword, tag

1, Click on the search button:

编号	文字标签名称	状态数	语言1	语言2	语言3	语言4	语言5	语言6	语言7	语言8
1	Lab_1	1	标签1-语言1	标签1-语言2						
2	Lab_2	1	标签2							
3	标签3 未使用	1	标签3 未使用							
4	Lab_4	1								

**step 2 :** Text label text label name or language 1-8 Field contains the keyword "label 1" The text labels are listed below among the list, double-click the list item may be positioned, as shown below:



If you enter a keyword tag name directly in the input box Lab\_1 , The search result as shown below:



**[ Location Lock] / [unlock]**

After use position lock function, may be selected to control one or more fixed positions and can not move, and the shape and the large Small can not be changed.

1) Selecting one or more fixed control needs;

2) Click the icon "control lock position", the selected controls will be fixed;

3) Select the controls have been fixed, click the icon again to "lock release position," you can control the lift fixed, and

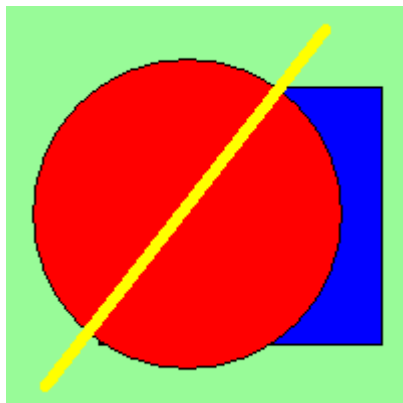
You can move and change the size.

**[ delete]**

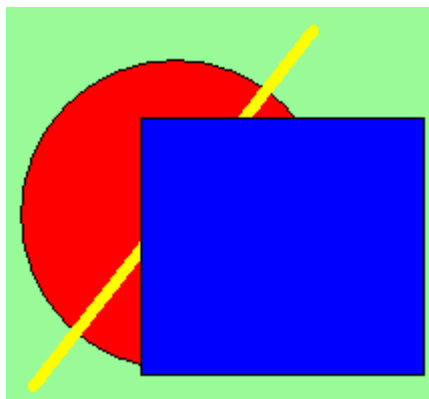
When you need to delete one or more controls, first select the one or more controls, press " delete " Or keys on the keyboard of "Delete" Key, you can delete the selected control. Of course, the control uses to delete previously described " Revoke " But also the function keys To recover.

**[ Layers]**

Is a relative concept plurality of control layers added together to produce the. In order to better illustrate the concept of the layer below as a Round, rectangular, and an example to illustrate the straight line. As shown below.

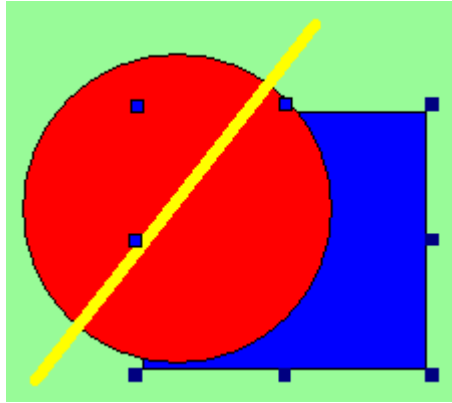


1 ) First select the blue rectangle, and then click the layer under the Edit menu, and then " Bring to top " Or click on the toolbar Effects icon is displayed as shown in FIG. As can be seen, the blue rectangle to cover the circle and line.



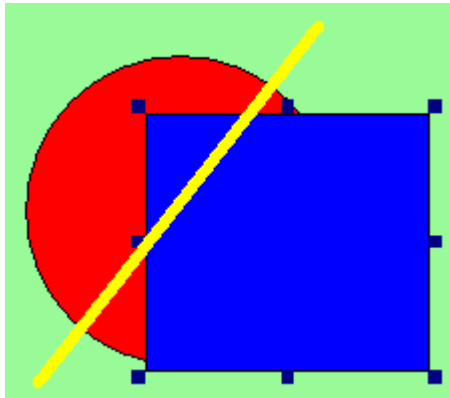
2 ) Then click " Move the bottom " Or click the effect icon on the toolbar, the display as shown below. can watch

A blue circle and a rectangle behind the line.



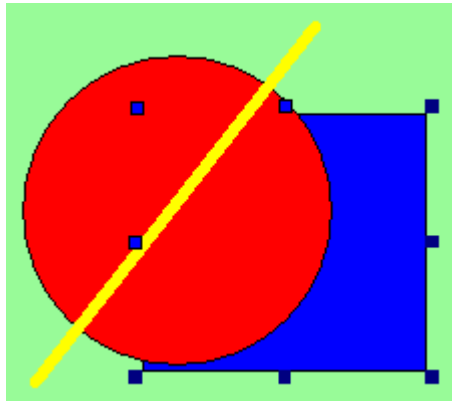
3 ) Then click " Move layer " Or icon in the toolbar, as shown in FIG display effect. As can be seen, the blue

Moving up a layer of rectangular, round covered, without covering the line.



4 ) Then click " Shift the next level " Or icon in the toolbar, as shown in FIG display effect. As can be seen, the blue

A rectangular case and moved to the back of the circles and straight lines.



**[ Align ]**

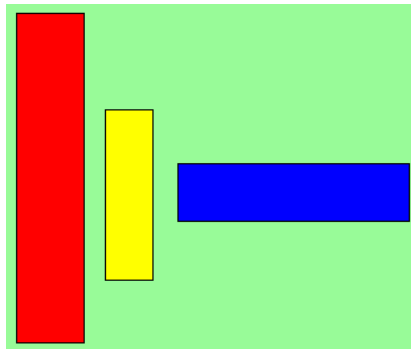
Align is the usual editing tools commonly used in a screen. Fast row lets you select two or more controls

Neat columns. When you select a control, the last to be selected controls four weeks apart will be different from the other color region selected controls, general

To do is to use blue flag distinction. At the same time, do aligned movement, it will be the basis of this control, arranged with the alignment of all kinds

formula. Red, yellow and blue rectangle below to three different colors, respectively, to be described, to facilitate a better understanding of all. The following three graphics

As shown in FIG.



### 1 ) Left

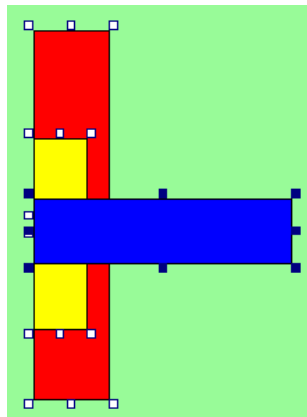


First select the three controls. You can click the left mouse button, drag the use of the three control mode selection, or hold down the keyboard

**Ctrl Key, and then click three controls were also three controls can be selected. Then click on the " Left " icon display**

**The results as shown below. Is represented by a blue rectangle as a benchmark, three controls on the left aligned. Finally press " Revoke " ,These three**

Control arrangement has returned to the position before.



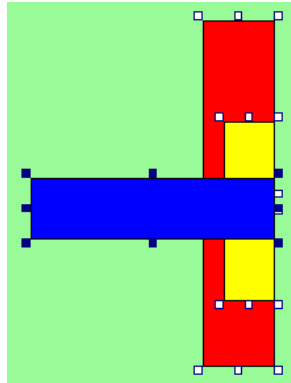
### 2 ) Align Right



Also the three selected control method, and then click the icon right-aligned, the pattern arrangement of the three controls as shown below.

**Blue rectangle is represented as a benchmark, three controls on the right alignment. Finally press " Revoke " Before, the three went back to the control arrangement**

s position.

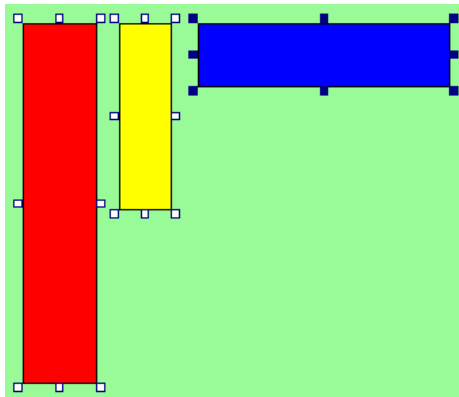


3 ) Align the top 

After you select the three controls, and then click the icon to indicate the top three controls for alignment. As shown below. Be arranged from FIG.

See, is a blue rectangle to the top of the reference, the three controls are aligned. Finally press " Revoke ", The three controls and recovery

Multiplexing arrangement to the position before.

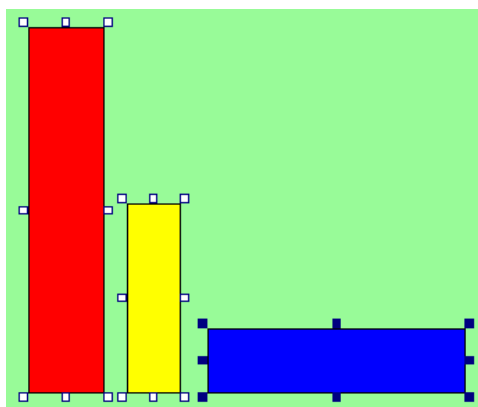


4 ) Bottom Alignment 

After you select the three controls, and then click on the icon, indicating that the three controls to the bottom of the alignment. As shown below. From the arrangement of FIG.

View, blue rectangle is aligned to the lower end is arranged in the reference, the three controls. Finally press " Revoke ", This three controls

He has returned to the position before the arrangement.



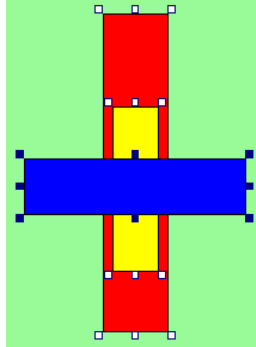
5 ) Align Horizontal Centers 



The three controls selected, and click on the icon, the center said it would be three levels of control arrangement. The arranged pattern as follows. by

This can be seen as a reference rectangle is blue, three controls centered horizontally arrayed. Finally, press " Revoke " , The three

Control has returned to the position before the arrangement.



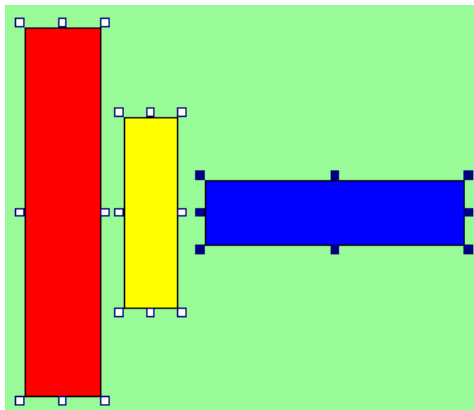
#### 6 ) Vertically centered



Three controls selected, click the icon you want to show three controls are arranged in a vertically centered way. The arranged positions shown below.

As can be seen, this time is the basis of the blue rectangle, centered vertically aligned three controls. Finally, click " Revoke " Button, three

Controls has returned to the position before the arrangement.





#### [ The object resizing]

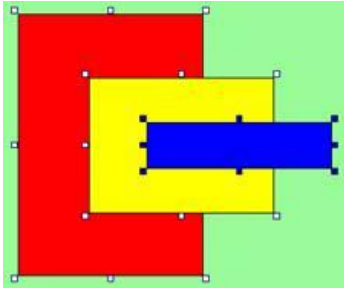
When editing screen program, sometimes you need two or more different controls to adjust the size of the same features that make the picture controls more beautiful. Similarly, the number of controls selected, the last selected controls will be different with other selected color controls around, and is usually blue to show the size and after adjustment, based on the control basis. Here likewise rectangular several enumerated above as an example.


1) **Level of pitch:**  Level can select multiple controls of the same pitch size difference.


2) **Vertical spacing and other functions:**  enables a selected plurality of vertical phase difference controls the size of the same pitch.

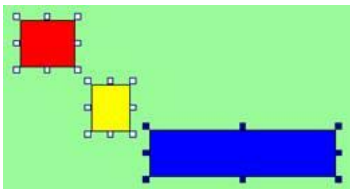
3) width 


Select three different colors in a rectangular embodiment. Then select the icon shown, the  final results shown below in FIG. As can be seen from the figure, the reference is a blue rectangle, rectangular width become equal to three. Finally, press the "undo" function key, the width of the three has returned to the control of the width before the change.




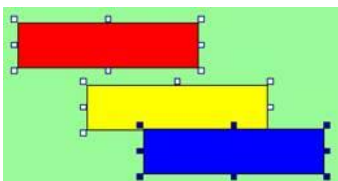
4) high 

Select again the three control, and then click on the icon, these  three controls set at the same height, after execution FIG effect as shown in FIG. As can be seen, is a blue rectangle height as the base, the height of all three rectangle becomes the same. After you click the "Undo" function key, the size of three control has returned to the state before the change.



5) other small 

The three selected rectangle, and then click the icon size, etc., which  controls three changes to the same size, change After the size shown below. As can be seen, is a blue rectangle as a benchmark, three rectangular sizes have become the same.



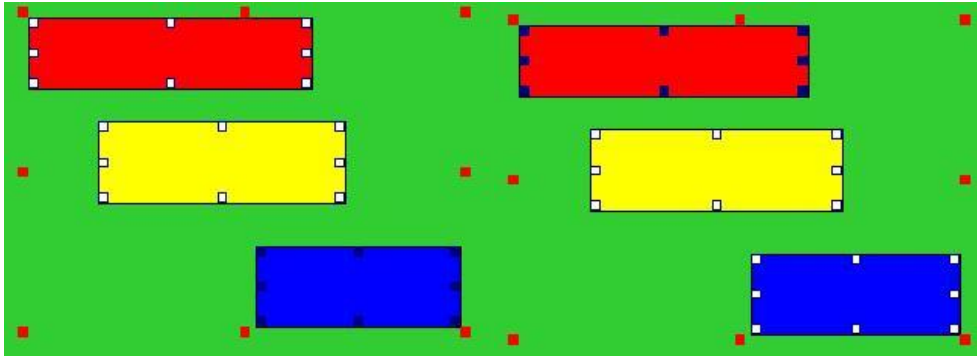


Description:

(1) The default standard controls: Controls the default reference for the control of all selected among the first to establish the controls, as shown below (1)

, The control sequence established blue rectangle, rectangular yellow, red rectangle, and therefore, control of the reference blue rectangle. (2) Adjustment of the reference controls: Hold down the Shift key, click on to be selected as the baseline control, you can switch the reference controls,

Below (2): reference controls switching from blue to red rectangle rectangle.



(1)

(2)

**[ Object position fine-tuning]**

Acting on the fine tuning is finer adjustment screen controls placement location, it provides up, down, left, right four Adjustment tool button direction. Icons are: up, down, left, right. Steps are:

- 1) Select one or more controls that require fine-tuning
- 2) Click the icon to adjust the direction with the mouse, click once to move one pixel location.

**[ Object composition / object segmentation]**

Availability of groups, two or more of the controls may be combined together. In this way, a few of these can easily Control delete, copy, move, and so, if only as easy to operate a control. Proceed as follows:

- 1) Select the desired control group
- 2) Click on the icon, the selected controls will be grouped together.
- 3) If you need to ungroup feature, select the group that has been control, and then click on the icon, the selected controls will

Separated from a group, each individual can control the various operations performed.

**[ Add Page / Delete Page], [the new equipment / Remove device], [ HMI System Configuration]**

For new pages / delete pages, the new equipment / remove the device, HMI System Configuration chapter will be relevant later in a detailed

Instructions.

### 4.3 Draw

InoTouch Editor HMI project screen, is " Graphical " Manner displays various information under the control of the machine And state. These graphics can be made InoTouch Editor Gallery comes with software, programming calls, you can also add external Come. Simultaneously InoTouch Editor The software also provides a set of drawing tools, first to explain how to use the drawing tools to draw Made all kinds of graphics required.

InoTouch Editor Software provides drawing tools lines, circles, arcs, polygons and other graphics tools, these tools through painting Out of the graphics, you can easily display screen in the project, may also be added to InoTouch Editor Software library to prepare Follow-up project to continue to use.

#### 4.3.1 Draw a straight line

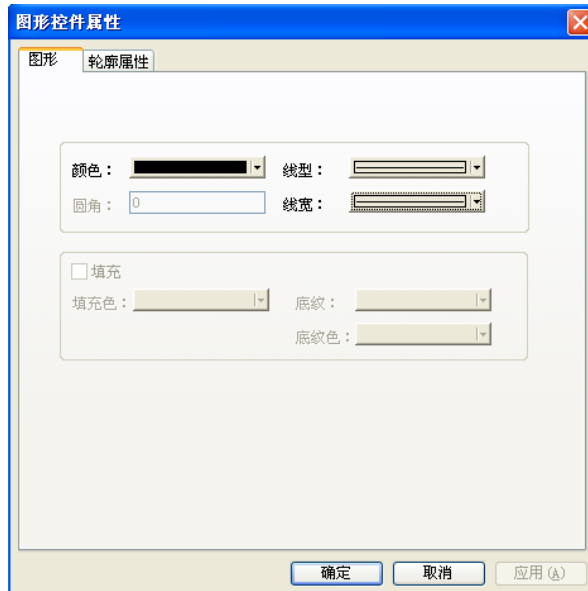
Linear contains three attributes: line style, line width and line color. After setting these three attributes, you can draw a straight Line out. Proceed as follows:

a , Click on InoTouch Editor On the menu " Drawing / linear " Or icon on the toolbar, this time on the screen workspace

Click of the left mouse button to indicate the starting point of the line. After dragging the mouse a certain distance, then click the left mouse button, a straight line representing The end point. On the screen appeared a straight line.

b , After selecting the position immediately drawn straight line, a straight line can be moved to desired; you can also drag the mouse to change the length of a straight line Short direction.

c , Select this line, double-click or right-click to select " Attributes " Edit, as shown below:



d , Click on " Colour " Behind the button will pop up a list of colors, select the desired color is immediately displayed in this manner square;

e , Click on " Linear " Behind the button, it will pop line shape, a continuous broken line or solid line and the like;

f , Click " Linewidth " Behind the button will pop up width of the line, selecting the desired width;

#### 4.3.2. Freehand

The tool provides a locus can draw any line function

a , Click on InoTouch Editor Software menu " Drawing / freehand " Or click the icon on the toolbar, this time in the series 

Left-click editing screen area, indicates a starting position of the hand-drawn lines, in the need to move the mouse in the editing screen area,

Will see on the track mouse movement will have a line appears, click the mouse to complete a freehand line. If you need to draw a number of hand-painted

Line, then the previous operation can be repeated;

b , Double-click the Freehand or right-click to select " Attributes " Edit, you can change its color, line width and other attributes.

#### 4.3.3 Broken line

Broken-line tool can draw a continuous line, so as to form a new pattern.

a , Click on InoTouch Editor Software menu " Drawing / polyline " Or an icon on the toolbar, the screen editor 

Click the left mouse button to indicate the start area to draw the line, then drag the mouse according to their needs, will be out on the track mouse

Now a straight line, and then click of the left mouse button, draw the end of the first line at this time, while the end of the first line of play

Further a start point of a straight line drawn, just repeat the steps. Finally, move your mouse over the location you want to draw, click the right mouse

Key, which is formed with a few lines consisting of a polyline.

b , Double-click the graphics just drawn polyline or right-click to select " Attributes " Edit, you can modify the color graphics,

Line widths and other attributes.

#### 4.3.4 Draw an arc

An arc-shaped curve can be drawn out using a draw an arc tool.

a , Click on InoTouch Editor Software menu " Drawing / arc " Or click the icon on the toolbar, in the screen edit area 

Domain Click the left mouse button to indicate the start drawing, and then drag the mouse, you will see a circular path in the graph changes to achieve the desired

When the size, then click the left mouse button once, then the center will appear in a straight line, use the mouse to move straight from the need to start

Drawing location and click the left button, and then use the mouse to move straight to the required end position, and then click the left mouse button once, so

To complete the arc of a draw.

b , Double-arc-shaped curve, or draw a good right-click selection " Attributes " Edited, this arc-shaped curve can be modified

Colors, line widths and other attributes.

#### 4.3.5 sector

Fan-shaped drawing tools fan can draw the desired pattern, except that it is the display angle 1 To 360 ° between.

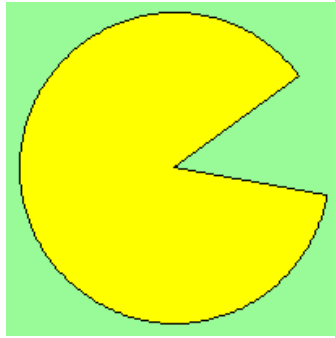
a , Click on InoTouch Editor Software menu " Drawing / sector " Or click the icon on the toolbar, in the screen edit area 

Domain Click the left mouse button to indicate the start drawing, and then drag the mouse, you will see a circular path in the graph changes to achieve the desired

When the size, then click the left mouse button once, then the center will appear in a straight line, use the mouse to move straight from the need to start

Drawing location and click the left button, and then use the mouse to move straight to the required end position, and then click the left mouse button once, so

To complete a sector mapping, as shown below.



**b , Just double-click the pie chart drawn or right-click to select " Attributes " Editing may modify the pie chart genus**

Sex.

**4.3.6 Circle / ellipse**



Circle / ellipse tool can draw an elliptical or circular pattern. Draw a circle / ellipse is determined by four parameters: the width, color, line type

And internal padding.

**a , Click on InoTouch Editor Software menu " Drawing / round " Icon on the toolbar or**



In the screen edit area point

Click the left mouse button and drag the mouse, this time on the screen will see the formation of a circle. Click the left mouse button, then the end of this

Draw a circle;

**b , Double-click or right-click to select the circle " Attributes " Edit, you can modify the circle fill color, line width,**

Size and other attributes.

**c , If the inner circle / ellipse needs to be filled, check " filling " And select a fill color, shading, and color shading;**

**d In " Colour " Properties, selection width circle / ellipse and the color of the border line;**

**4.3.7 rectangle**



With a rectangular drawing tools can draw a rectangle or square required. After the graphic drawing, the width of a rectangular frame,

Color, size, and other parameters to determine the fill color.

**a , Click on InoTouch Editor Software menu " Drawing / rectangle " Or click the icon on the toolbar, the screen editing area**



Click the left mouse button, and then drag the mouse to another location, immediately draw a rectangle will see graphics on the screen, again

Click the left mouse button, the rectangle graphically displayed on the screen;

**b , Just double-click the rectangle drawn graphics or right-click to select " Attributes " Editing, it is possible to modify the border color, width**

degree,

Size, fill color and other attributes.

**4.3.8 Polygon**



Object can draw polygons using polygons, the same polygonal shape by a border color, width, size, filled

Color and other attributes to decide.

**a , Click on InoTouch Editor Software menu " Drawing / Polygon " Or click InoTouch Editor Figure on the software toolbar**



Standard, In the region of left-click editing screen, drawing polygons indicating the start control; in this case by dragging the mouse to another

Location and click the left mouse button, draw a polygon on one side; and then drag the mouse to another position, and then click

The left mouse button, and draw a polygon one side; so repeat the operation, you can draw multiple edges.

b , After both sides of the polygon rendering is complete, right-click the mouse, you just draw a straight line will be automatically connected end to end,

Thereby forming a polygon.

c , Just double-click the polygon rendering graphics or right-click to select " Attributes " Edit, you can modify each genus polygon


Sex.

#### 4.3.9 Graduation

Use scale tools, can draw graphics formats required scale on the screen of, scale by the scale pattern is the size of the contour,

Line color, style and scale the number of divisions to decide.

a , Click on InoTouch Editor Software menu " Drawing / scale " Or click InoTouch Editor Figure on the software toolbar

 Standard, then the mouse will become "+" Shape; editing screen area, click the left mouse button, and dragging the mouse to another location,

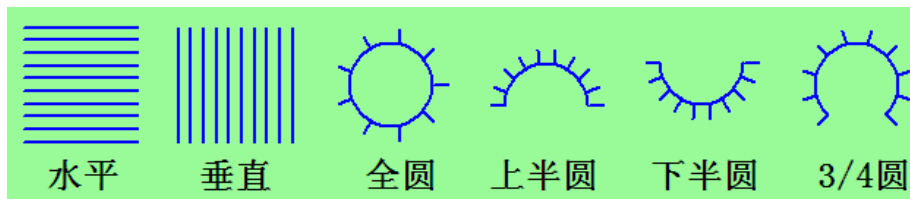
Then click the left mouse button once, then displays a default horizontal scale on the screen;

b Double-click the scale just drawn graphics or right-click to select " Attributes " Edit, display properties can scale graphics

Correct

Dialog box, where you can change the color of the scale pattern, line width, style, and the scale needed. Scale styles are the following

Types;



c , Select the required number of tick split equal parts, by default 10 . In addition to horizontal and vertical directions, the other direction

Scale may set the length of the mark pointer;

d , Click on " determine " To complete the drawing scale graphics. Scale pattern generally hands, trend graph, bar graphs, etc. The controls enable

Use can be more image display PLC State data.

#### 4.3.10 frame

Using a drawing tool can draw borders desired rectangular or square border. After the pattern drawn by the border width,

Color, size, and other parameters to determine the fill color.

a , Click InoTouch Editor Software menu " Drawing / Border " Or click the icon on the toolbar, in the screen edit area 

Domain Click the left mouse button, and then drag the mouse to another position, will see immediately draw a border graphics on the screen, and then

Time click the left mouse button, the border of the graphic display on the screen;

b , Double-click the border just drawn graphics or right-click to select " Attributes " Edit, you can modify the border color,

Width, border type, fill color and other attributes.

**4.3.11 Writing** 

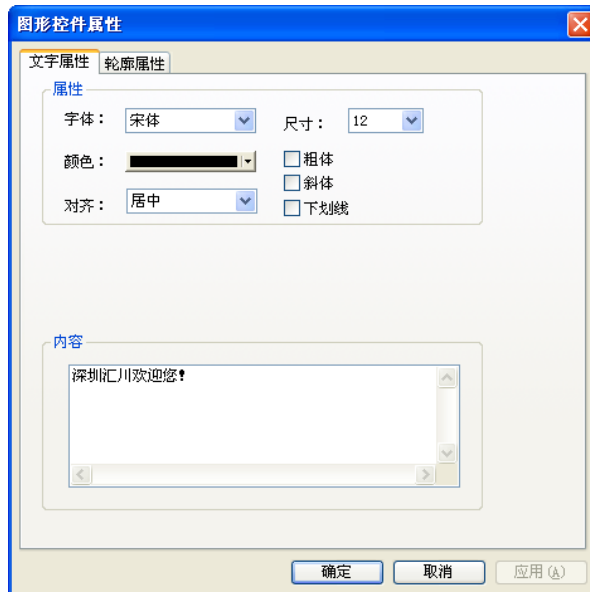
InoTouch Editor software support Windows All fonts and text are vector fonts. In this way, you can make

Use any font you like, and you can freely zoom in and out smoothly, it will not produce a sawtooth wave phenomenon. Each font can be selected Bold, italic, underline, or the like.

a , Click InoTouch Editor Software menu " Drawing / Text " Or click the icon in the toolbar, click the mouse in the screen edit area



Standard button, displayed, double-click the icon or right-click to select " Attributes " Edited, as shown below;



b Select the desired font from the list of font, text color, font size, alignment and other attributes;

c ,in " content " Input box, you can enter text required. Enter key on the keyboard to change the line.

d After input is complete, click " determine " And then move the mouse and clicking the left mouse button on the screen text objects placed together

A suitable position.

**4.3.12 image** 

InoTouch Editor Software library provides part of the picture. InoTouch Editor Software Support picture shows color

for 65536 Color, supported image format BMP , JPG with GIF Three formats. In addition to the gallery software comes with image outside,

Users can also add external images to gallery software to facilitate multiple uses, such as a whole photo equipment company logo Pictures and so on.

Use bit graphics library

a , Click on InoTouch Editor software " Drawing / picture " Or click the icon on the toolbar, single-screen editing area



Click the left mouse button on the display, double-click the icon or right-click to select " Attributes " Edited, as shown below;



b , Click on " From Gallery " Button, the graphics library will display a dialog box as shown below;



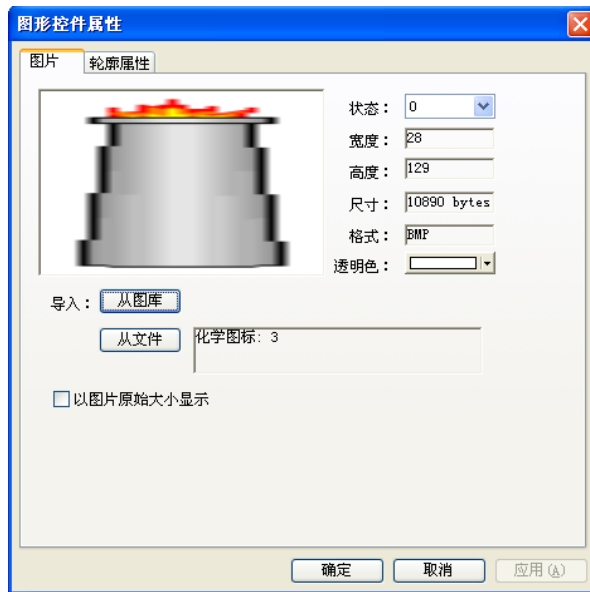
c , Click the top left corner of the gallery name, graphic at the gallery to display, by moving the scroll bar on the right you can also view the map

All graphics library inside;

d , Select a graphic from the gallery, the selected graphic that all states will be in the lower left corner of the drawing status bar of the dialog box display.

e , Click on " determine " This graphic is selected, the dialog will return just the graphics, just select the graphics will appear in the pair

Dialog box, as shown below;



f , Then click " determine " Just select the graphics will be displayed on the screen.

g , Click on " From file " Button will display the Open dialog box, select the picture you want.

Summary: This chapter introduces the InoTouch Editor Picture editing and drawing software, doing editing screen, often for each control

See editorial finishing work. For example, a plurality of controls are arranged, make it more like a neat appearance; may draw graphics drawing you want,

Also vector graphics.





**System parameters**

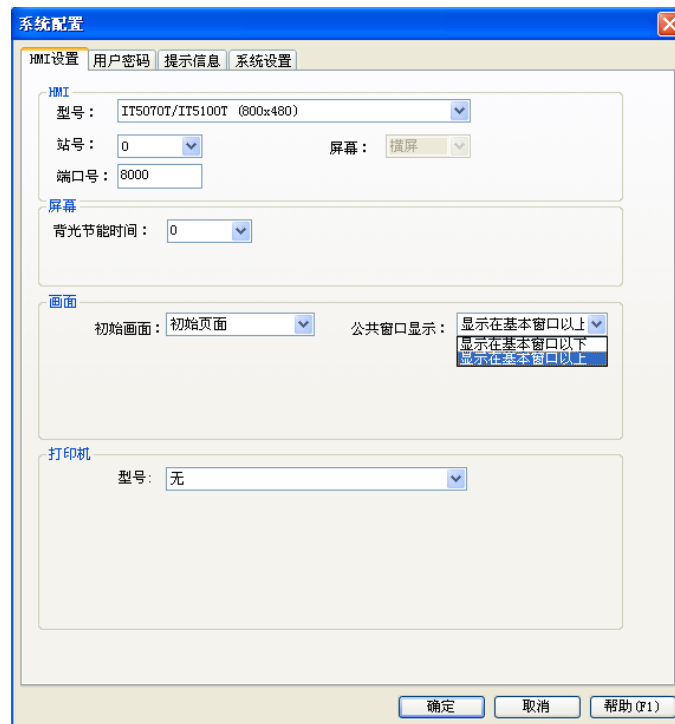
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## chapter Five System parameters

turn on InoTouch Editor After the software, click the menu " edit/ HMI System Configuration ", It is possible to open the set of system parameters

Dialog box, as shown below. System parameter which contains a total [ HMI Set], [User Password], [message], and [the system provided

Set] a total of four sections. Each of these sections will be described.



### 5.1 HMI Set up

[HMI Set] For setting used for setting the Display model, station number, port number, screens, screen or the like.

Description of each setting is as follows:

[HMI model]

Alternatively model, used according HMI Models to choose.





#### [HMI Station]

select HMI Station number is used, if no special purpose, use the default settings.

#### [ The port number]

set up HMI As used port number, if no special purpose, use the default settings.

#### [ The backlight power saving time]

When the duration of the man-machine interface does not exceed the limit operation, it will turn off the backlight unit of time set for min. turn off

Any place simply touching the screen of the touch area after the closing of the backlight, the backlight can reopen. When the set value selection "0" Time,

The display unit will not use a backlight saving function. For every day twenty four Hours of continuous operation of the machine, in order to extend the life of the backlight using Life is generally recommended to set this parameter.

#### [ Initial screen]

After selecting the loader man-machine interface, the start page is displayed.

#### [ Public display window]

Public window ( 2002 No. window controls) in the basic window will appear on every screen of the project, this option is used to select the public

Controls in the window that appears in the upper, or lower the basic controls of the original window.

#### [ printer]

#### [ model]

Display currently supported printer type, the printer needs to use a serial connection.

Use a serial connection of printer correctly setting serial communication parameters. When the printer model RD-E , The need to properly set up

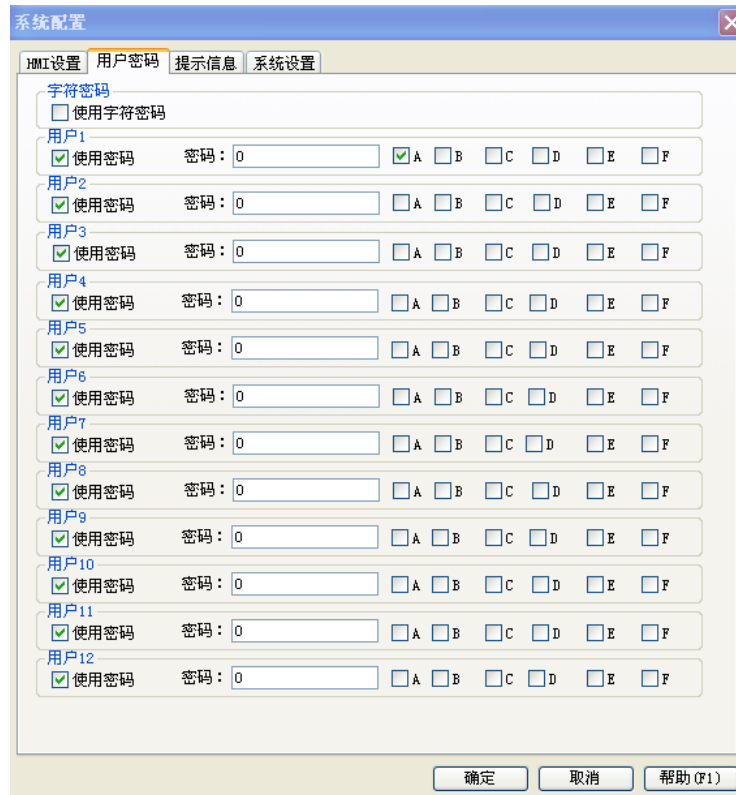
Fixed width, this setting can not be more than the pixels per line printer can print, or will result in incorrect printing results.

## 5.2 user password

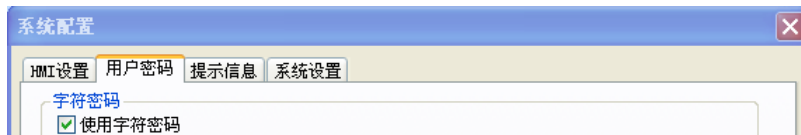
The system parameters [User Password] setting page for setting a password for each user, and each user-operable control programming class

**Do not, in InoTouch Editor in, Controls are divided into " no " versus "A ~ F" So a total of 7 Categories. The user's password by default 0-9**

The figures, the InoTouch Editor Up plan 12 Users.



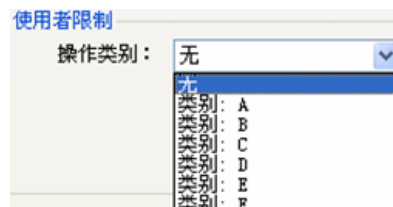
If you want to use character password, select the Use character password box, as shown below:



HMI runtime, after the user successfully entered the password, InoTouch Editor Will decide in accordance with the contents of the user's settings

The user can operate the controls category. In the project file, the controls are divided into categories " no " versus " category A " to " category F " Altogether 7 Species,

Control can be set to belong to the category, with reference to the following figure. Category belongs " no " Controls, any user can operate.



On the graph " user password " Settings page, you can see that the user 1 Password is 11 This allows the user to operate the controls category

belong " no " versus " category A " Controls. The user 12 Password is 666 The user can operate " no " with " category A " To " category F "

All types of controls, indicating that the user is the highest administrator of the machine. For more information, refer to [Control Security].

Note: You can not use all digital 0 Password.

### 5.3 Tips

When prompted, you can choose " Operation confirmation prompt " Input error " System error " Three.



### 5.4 System Settings

The system is to set the system to set how long is not operating, it will automatically log out and return to the login page.





**window**

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## Chapter Six window

Window is InoTouch Editor The basic elements of a program display unit screen, is also a very important element. With window

After the mouth, various objects, graphics, text and other information on the screen can be displayed on the display unit. General engineering, not only

**A window, it is generally a need to create multiple project windows. InoTouch Editor provided 1 ~ 2000 Altogether 2000 A window**

The mouth of the creation and editing capabilities. The number of windows for each specific project can be used, after compiling all created by the window, the output file

**Pieces ( EOH File) does not exceed InoTouch Editor Man-machine interface can output files ( EOH File) capacity size is determined.**

**E.g, InoTouch After compilation series screen human-machine interface, the output file ( EOH File) capacity is exceeded 16MB Will be reported**

**Police, the screen written EOH As long as the file size of no more than 16MB You can create as many multiple picture window.**

### 6.1 Window Type

in InoTouch Editor Software, in accordance with the use of the different functions, the window can be divided into the following three types:

(1) The basic window; (2) Common window; (3) system message window; sequentially as follows:

#### 6.1.1. The basic window ( base window)

This is the most common of the window, as a general purpose outside the main screen, is also used in:

- a. The bottom screen, the other windows may be provided as a background image.
- b. Keyboard window.
- c. [ Function keys] pop-up window controls used.
- d. [ Indirect Window] popup window with [Direct Window] controls used.
- e. Protection screen.

The basic window must be the same as the size of the screen. That is, the resolution of the base and sub-window require man-machine interface used in

The same resolution.

#### 6.1.2. Public window ( common window)

2002 Window preset common window, this window will also appear in other basic items in the window, so each will usually

Windows sharing the same object or objects referred to in a common window is placed. For example, a product of logo Icon, or a certain

Shared keys.

#### 6.1.3 System Messages window ( system message window)

2003 window, 2004 window, 2005 Window and 2006 Window system default system prompt message window. among them 2003

Window "PLC response " Window, and when the man-machine interface PLC When communication is interrupted or the controller, the system will automatically pop up this window

HMI currently open window.

**2004 Window "HMI connection "** Window, when the man-machine interface can not be connected to the display of the remote system will automatically bounce out

This window.

**2005 Window " access permission "** Window, when the user's operating authority is insufficient to operate the controls was about to operate, will depend components

The setting contents, decide whether to jump out of this window as a reminder that purpose.

**2006 Window " State storage "** Window when HMI Memory or U Available space on the disc is insufficient to store new data,

The system will automatically pop up this window. Users can also use the following reservation system registers View HMI RAM, U Currently on the plate

Available storage space.

[LW 9072] HMI Currently available space (unit K bytes)

[LW 9074] SD Cards are currently available space (unit K bytes)

[LW 9076] U Currently available disk space (unit K bytes)

When the case of space shortage occurs, the following system may be utilized which registers a type of viewing device storage space insufficient.

[LB 9035] HMI The available space is insufficient warning

[LB 9036] SD card The available space is insufficient warning

[LB 9037] U plate The available space is insufficient warning

**window 2003 To the window 2006 The contents inside tips that can themselves be modified according to actual needs. For example, window 2003**

**Display content "PLC response " Can be changed " And man-machine interface PLC Communication interruptions! " And other tips actual content. Several other windows**

SUMMARY port may be modified, mutatis mutandis, to facilitate the operator to readily read and identify the fault information.

## 6.2 The establishment of the window, and delete settings

InoTouch Editor Window software created can be viewed through the window list on the left, as shown below. Said the following

And to set out how to build these windows.

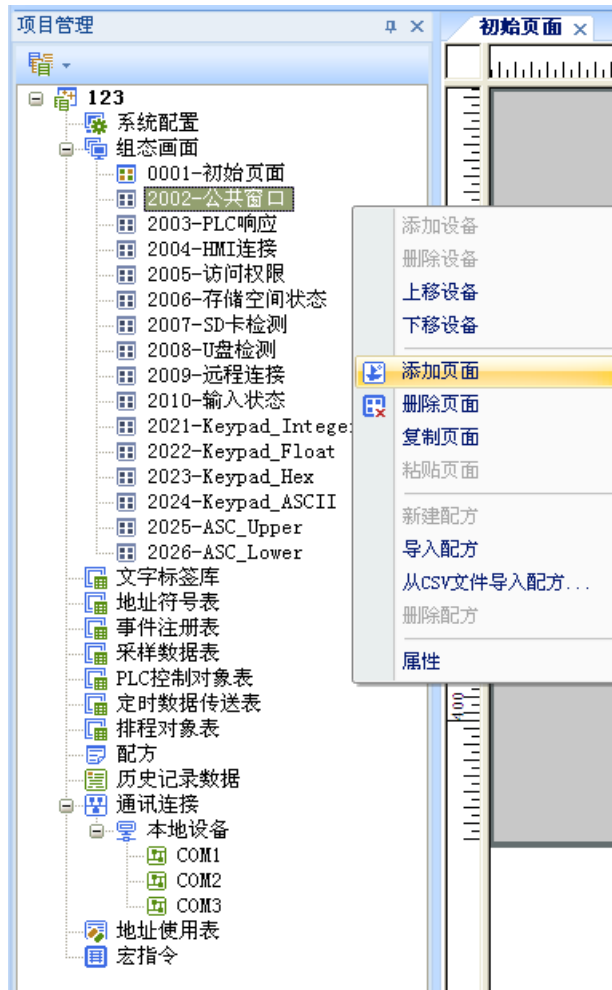
### 6.2.1. Windowed

The establishment of the window there are three ways, first way is to select the window you want to build on the window tree view, and the right mouse button is pressed.

After the form appears select [Add Page] settings dialog box will appear, after the completion of the setting and press the Enter key, you can create a new

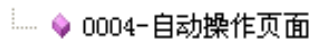
Window, with reference to the FIG.





After the name of the displayed page number, with reference to the following figure. Generally easy to read and remember the principle. For example: manual page,

Page automatic operation and other names, clear.



[ Page number]

Page numbering, from 1 ~ 2000 .

Location Dimension

[ Width], [height] Window size. The resolution of the general basic window with the resolution chosen as man-machine interface. E.g.

Use of man-machine interface is IT5070T Its resolution is 800 \* 480 . So wide that the newly created window on the set 800 ,

High set 480 .

[X] , [ Y] Basic window can also be used as pop-ups, [ X] versus [ Y] Used to set the base window pop up on the screen coordinate position.

Coordinate origin in the upper left corner of the screen.

[ Exclusive] As this option is selected, when the basic window and the window appears as a bounce in front of this basic window is not closed, it will not

Other operating window. When the window is basically a keyboard window, automatically have this property.

Exterior

[ Border width] This setting is to set a border of the window width. Range is 0-10 The default setting is 0 .

[ Border Color] Set the color of the border. You can choose a color in the color list their needs inside.

[ background color] Set the background color of the window. You can click the Color list, select an appropriate color.

Overlapping windows

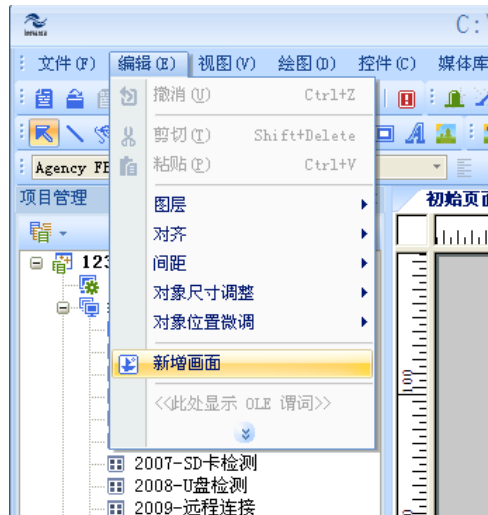
[ Bottom], [Middle], [top] Each basic window and then select up to three other basic window as a background, from the [bottom

Layer] start to [top] end, the control within these windows will sequentially appear in the background of the basic window. Default are no underlying

window.

The second way is to establish a window of use InoTouch Editor Can be obtained [Edit] menu, select [New Screen] After

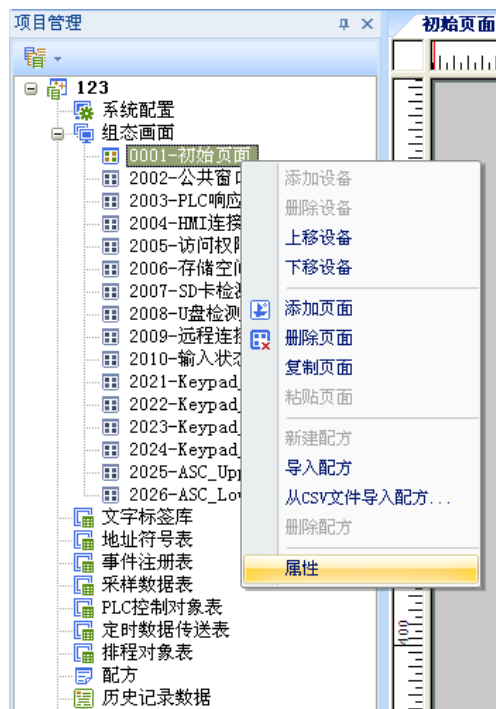
" A new window " Dialog box,



### 6.2.2. Set window properties

InoTouch Editor Changing the properties window, in the window, press the right mouse button when not to select any of the controls and window

Select [Properties] appears after the body, or in project management list, select the window you want to modify, right click and select [Properties].



### 6.2.3 Open windows, turn off and delete

To open an existing window using the mouse double-click on the window of coded tree view window, you can open the window of your choice.

To close the window click "X" close



Delete the existing window, the window in the tree view to select the window you want to delete, and press the right mouse button, the form appears after

Select [Delete Page], you can delete the selected window.

## 6.3 Use basic window

In the above mentioned InoTouch Editor When editing the project screen, the general operation of the various window types. So in engineering drawing Face runtime, how to use basic window it? Let's them out.

### 6.3.1. It opens a base window

As mentioned earlier, the basic screen is generally used as a full-screen window that can be used as " Function keys " Pop-up window controls call. use " Function keys " When the controls, you can open a full screen window can also be called a basic pop-up window.

#### 1 ) Calling Elementary window

Using the function keys to open the basic window, the window will substantially close the currently open, and switch to the specified base window.

Setting step as follows:

a) Click " Controls / function keys " Or click the icon on the toolbar, left-click in the window, on the establishment of a

Function keys.

b) Select just created " Function keys " Double-click or right-click and select Properties, you can set the properties of the function keys.

c) in " General Properties " Inside the dialog box is selected " Change Window " And " Window Number " Back box selected targets need to switch

Window number;

d) in " Graph " Options, select a picture gallery inside;

e) in " Label Options " Inside, fill in the required text and select the font used in the text;

f) Click the bottom of the dialog box set " determine " Button to complete the property settings.

Thus, the function keys do the basic window of a switch, when performing off-line simulation, you will find, click on this button,

Screen will switch to basic specified number.

#### 2 ) Calls pop-up window

Basic window can also be used as a pop-up window. In this case, the basic screen is generally not a full screen (full screen or may be). bomb

The window may be displayed on top of the base window, it displays what specific position of a window, the window in establishing the set

As a pop-up window X Shaft and Y Axes to decide.

a) Click " Controls / function keys " Or click the icon on the toolbar, left-click in the window, on the establishment of a power

Function keys.

b) Select just created " Function keys " Double-click or right-click and select Properties, you can set the properties of the function keys.

c) in " General Properties " Inside the dialog box is selected " pop-up window " And " Window Number " Behind the selected frame of the target window to pop required

Numbering;

d) in " Graph " Options, select a picture gallery inside;

e) in " Label Options " Inside, fill in the required text and select the font used in the text;

f) Click the bottom of the dialog box set "determine" Button to complete the property settings.

In this way, a pop-up window will do the function key, when performing off-line simulation, you will find, click on this button, the current

It will pop up on the screen of a picture in the picture specified upper layer, and the top has a pop-up window "Window Bar", drag

Move this "Window Bar", The window can be moved to anywhere in the window current range.

3) use PLC To call the base window

use InoTouch Editor Under the control menu "PLC control" Controls can also be opened to perform the basic functions of the window. That

Function is to define a PLC The basic data register window switching. At this point, the man-machine interface will continue to scan PLC In the

Register value, when a certain value of the screen number and screen works the same man-machine interface will automatically switch to

The picture window, while the value of the picture numbers will be transferred to the next register in the register. For example, "PLC

control" This control is defined PLC middle D0 Basic window is switched, when D0 = 11 When the man-machine interface will automatically switch

To 11 The number of basic window screen, and the data 11 Sent to D1 To confirm the completion of the switching window. Setting step as follows:

a) turn on InoTouch Editor Under the menu on the left side of project management "PLC Control object table", display PLC Control settings for

Dialog box as shown below.



b) Which is set by the connection PLC To switch the window, and "Trigger address" Items "Equipment type" with "address" Inside fill phase

Should the device type and address. And setting the data format address. Generally set 16-bit unsigned format. The data format

PLC The data format is set.

c) Click "determine" Button to end the setting and close the dialog box. This will see a new a D0 This address

Change Window. when PLC of D0 To obtain a data register, and a project with a screen number is the same, a human machine interface

Side is automatically switched to the screen. when PLC of D0 Register the data obtained in the project can not be found with the same

When the screen number, the man-machine interface will do nothing for switching screens.

### 6.3.2. Direct and indirect window window

If you want to use PLC A small pop-up window to be a basic window, there are two controls can achieve this function, that is, " straight Contact window " Controls and " Indirect Window " Control.

Direct window controls are defined PLC Status of a bit in a pop-up window is performed. When HMI detects this position The state ON When, the pre-defined window, displayed in the " Direct Window " Controls placed position is displayed, and And the size of the window display of the control " contour " Consistent.

The definition of indirect window controls PLC In one of the registers, the data in this register to a pop-up window. versus "PLC control " middle " Change Window " Like property, when the data and the register number with a screen at the same time, the In this screen will be displayed " Indirect Window " Control is placed in the position, and size of the display screen of the control " contour " Consistent.

Similarly, as " Direct Window " with " Indirect Window " Control to display the window, generally sized to be smaller than these windows

The basic full screen window.

### 6.3.3 display " Direct Window "

1 )turn on InoTouch Editor Software menu " Controls / direct window " Or an icon on the toolbar at the midpoint of the window 

Click the left mouse button on the establishment of " Direct Window " Control, as shown in FIG.



2 ) Select this control double click or right-click and select Properties, you can set the property, as shown below.



3 )select " Read address ", PLC The need to control directly the pop-up window " Equipment type " with " address " .

4 )in " Window number " Select the desired number pop-up window; if desired pop-up window can be moved inside the base, in " category " In the choice " Display window control bar " Otherwise, select " Hide Window Bar " ;

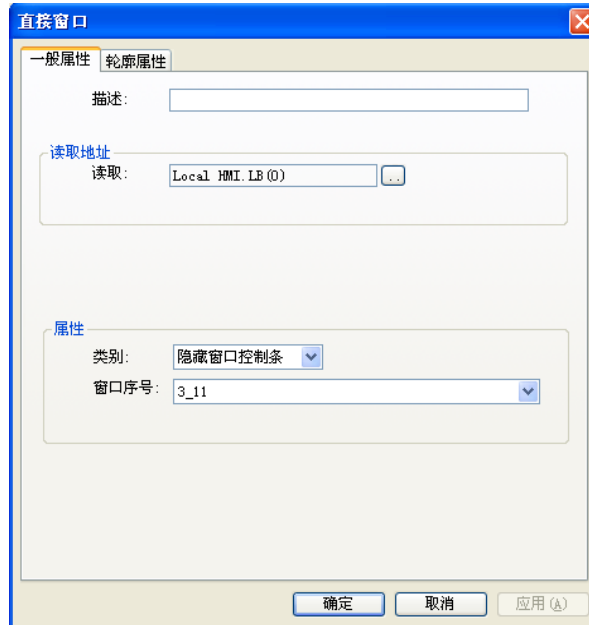
5 ) Click " determine " The end of the set, and click the left mouse button, you can place the control to the editing screen;

6 ) Use of the left mouse button to drag the position control, and may change its profile to the appropriate size.

This will do a " Direct Window " Control.

Below a simple example to illustrate " Direct Window " Use the original.

a , The assumption has been created two windows, one window 10 , It is a window 11 . In the window 10 On the establishment of a " Direct Window " Control, select the double click or right-click the control and select Properties, properties can be set up, as shown below.

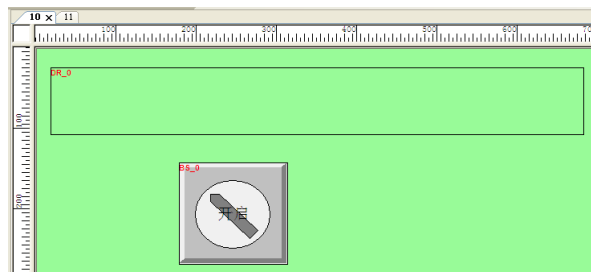


b , As it can be seen from the figure, using LB0 This bit controlling the window 11 The display on and off. And hides the window control Article. In this way, do a " Toggle Switch " Controls, read and write addresses are set to LB0 , " Switch Type " Set up for " Switch " . And state 0 The text labels set " Open " ,status 1 The text labels set " shut down " , As shown below

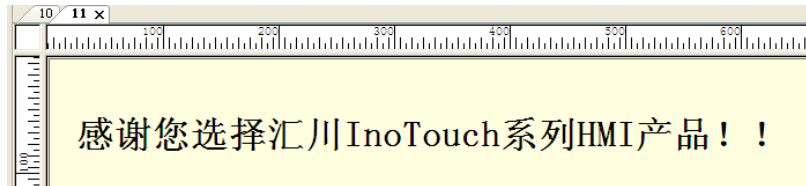
Shows.



c , Finally, on the screen 10 Position as shown below.



d Window 11 Content as shown in FIG.



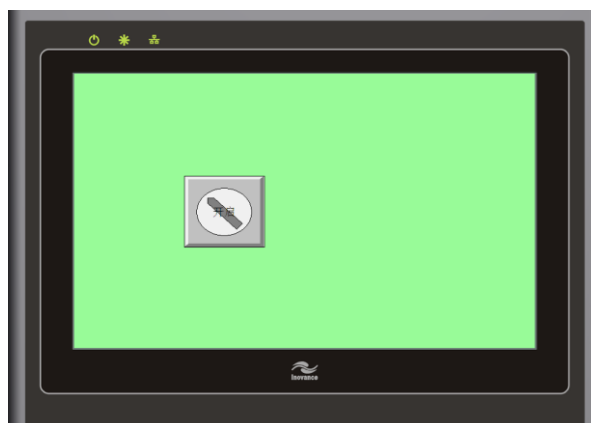
e , Perform an offline simulation, click once "Toggle Switch " Controls, it can be 11 Number displayed in the window " Direct Window "

The position and size of the original outline, as shown below.



f , At this point, press " Toggle Switch " Controls will be put 11 No. window closes in " Direct Window " Original Bit

The disappearance of the home. As shown below.

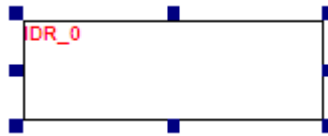


### 6.3.4 display " Indirect Window "

1 )turn on InoTouch Editor Software menu " Controls / Indirect Window " , Or an icon on the toolbar in the window 

Click the left mouse button on the establishment of " Indirect Window " Control, as shown in FIG.





2) Select this control double click or right-click and select Properties, you can set the property, as shown below.



3) select " Read address " , PLC Indirect need to control pop-up window " Equipment type " with " address " .

4) select PLC In the data format of the data register.

5) If desired pop-up window can be moved to any position inside the basic window, then " Property / category " Inside selection " Show

Control bar shows the window " Otherwise, select " Hide Window Bar " .

6) Click " determine " The end of the set, The control can use the mouse to move to the right position, or adjust the engagement contour

Appropriate size.

Thus, the establishment of a " Indirect Window " Display control. Set on the map can be seen, by LW0 This register control " Indirect Window " Displayed. when LW0 Value = 11 , The window 11 Will be displayed in the window position of the control is placed on, when LW0 Value = 12 , The window 12 The location is displayed in the window of the control is placed on, and so on. Of course, this value numbers The window must exist, it will display property. For example, if LW0 Value = 20 ,in case 20 No. window does not exist, then the window is not It will be displayed.

### 6.3.5 Public window

In the project screen, sometimes you need a certain message, regardless of the current basic window which opens, you need to show up.

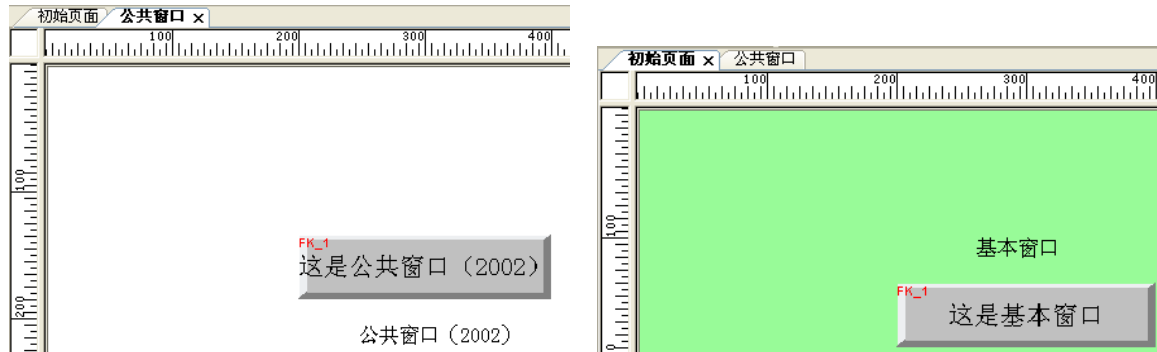
These controls are so common and consistent to be displayed can be placed in the public window.

When a new arbitrary InoTouch Editor When the software project screen, the common window (ie window 2002 ) Will automatically

Established in the project. Since the objects placed in the public window will be displayed in full screen of any basic screen, in order not this

These objects to stop, these objects generally placed at the top or bottom position of the window and the like in public. If the same location, then, based on

"HMI System Configuration/ HMI Set / common window display " Set to decide. In view of the effect of the following two setting will be explained.

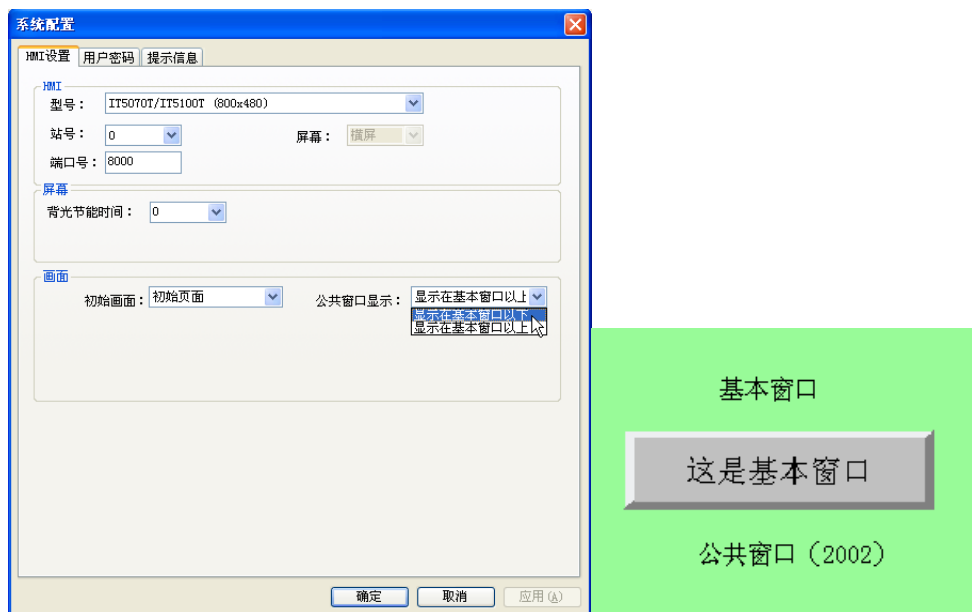


Common window screen content

The basic content of the window

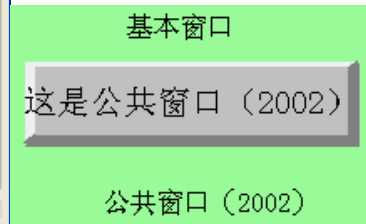
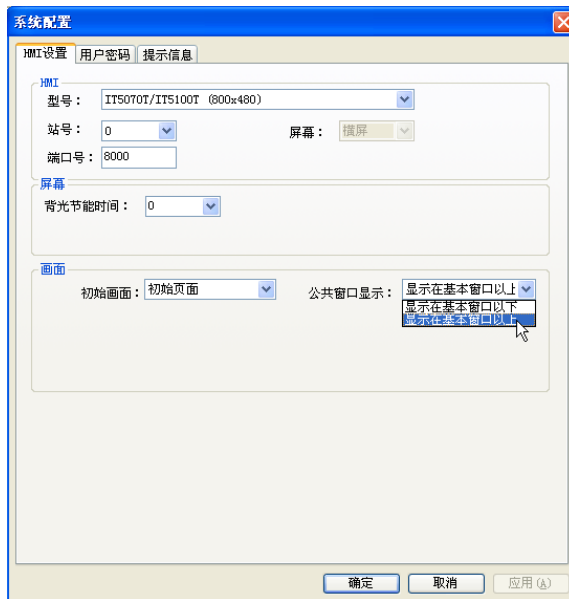
when HMI Public property system setup window is set to "The following is displayed in the basic window ", The following shows the results obtained in FIG.

Below:



Then you can see, the same object position, the object is substantially in the upper window, the window in the lower layer common object.

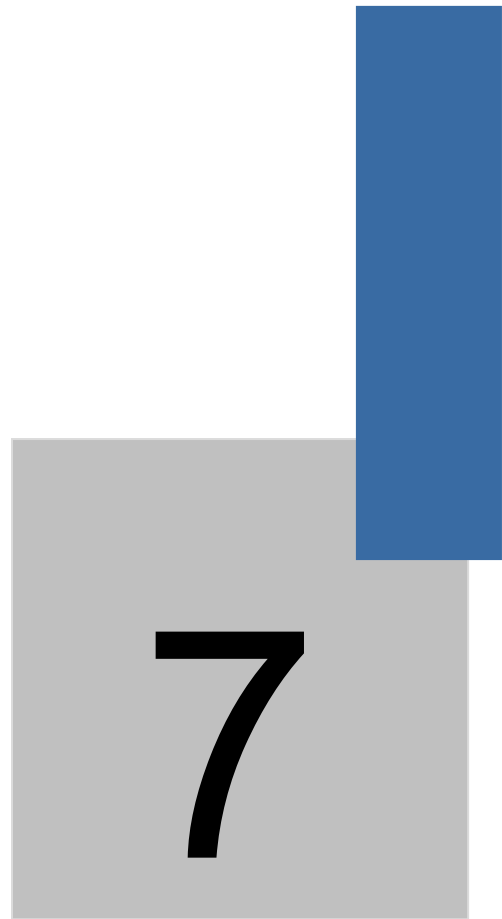
When the common property window system parameter is set to " In the above basic display window " When, shows the results obtained as shown below:



Then you can see, the same object position, the object is substantially in the lower window, the window in the upper layer common object.

Note: The window controls within the overlap, only the top touch effective!

**Summary:** Through the above description, learn InoTouch Editor When the edit screen software, concepts and various windows of the window class type. in fact, InoTouch Editor Works from a variety of window screen is composed. Commonly used basic window, and pop-up windows, Window directly, indirectly, window, etc., which is InoTouch Editor Control software, pay attention, they are InoTouch Editor Control software, rather than the window itself. These controls only through the window may be displayed on the basic needs of the window, And these source windows generally substantially smaller than the size of the window. The public and other window, you can edit a similar Windows operating Screen configuration squares. A variety of system message window, and you can define your own message, improved ease of system maintenance. Moreover, it needs To note " Direct Window " Controls and " Indirect Window " Difference control. " Direct Window " Control is to use a bit address to control the finger Given window is displayed; " Indirect Window " Control is used to control the value of the register window is displayed.



**Graphics library, the establishment and use of sound library**

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## Chapter VII Graphics library, the establishment and use of sound library

InoTouch Editor Gallery software is divided into system and user library gallery. Gallery System is InoTouch Software Department Graphics system provides, use only, can not be modified; user gallery: You can create your own graphics library based on their favorite.

Each graphics library can contain up to 256 States, that is, up to a certain location in the same library graphics library use 256 Vector graphics or photos FIG. What is " status " It? The concept of the state vector can be understood as different pictures or FIG.

### Commonly used " Bit Lamp " To show, PLC One bit status is ON still is OFF ,use " Word Lamp "

To show PLC Different data or machine registers in different work processes and so on. In these different display state, Using different graphics, sometimes with a different text labels to display. Therefore, in the instructions PLC A bit in the state of A data register or different states have at least two different graphics. The following will explain how to create graphics library.

Using the system library, refer to "general property of controls" section.

## 7.1 Establish user gallery

turn on InoTouch Editor Software menu " Library / Open Gallery " , Or an icon on the toolbar "Open Graphics Library"



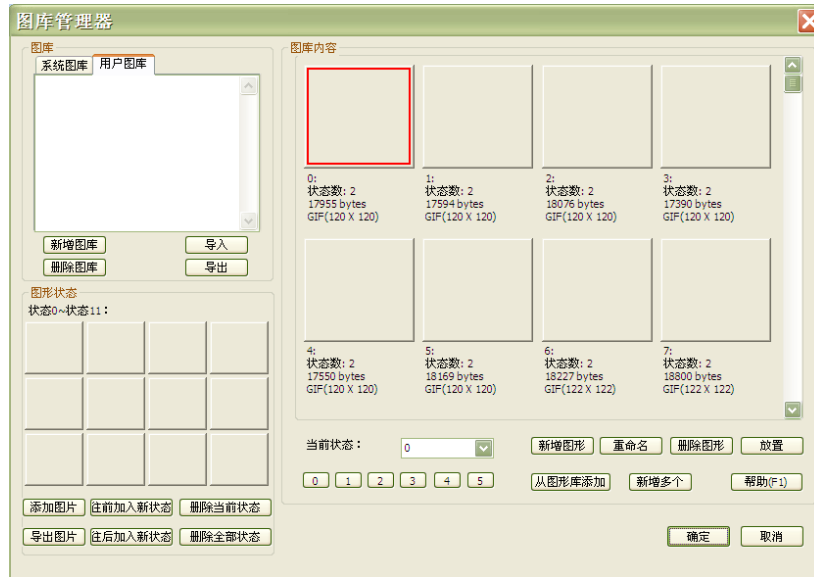
Referring next to FIG:



[ System Gallery]

Gallery System is InoTouch Graphics software system provides, use only, can not be modified; to choose which type of graphics Need to click on the name of the gallery, you can choose to use graphics.

Click on the user gallery, see below:

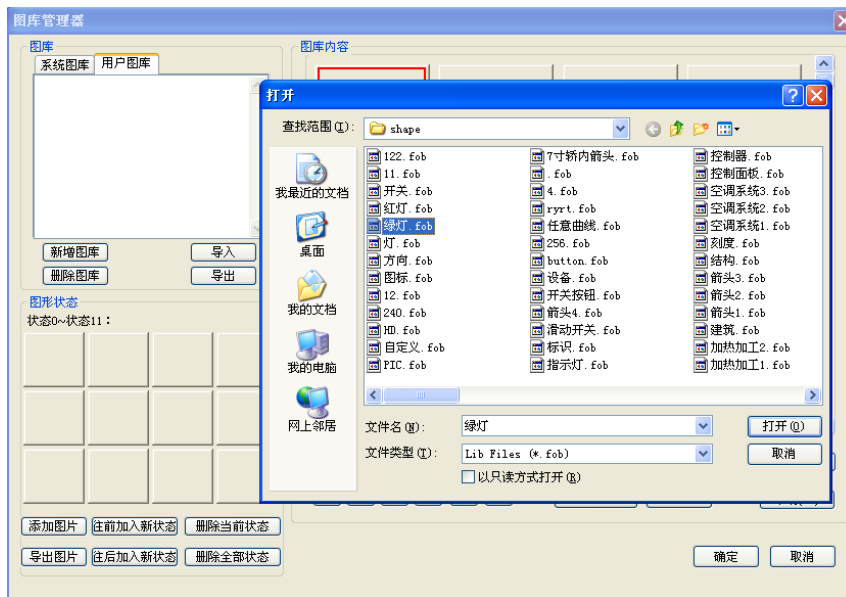


a , Gallery

[ Import]

Screen in Fig may occur after the button is pressed to select the project screen this library was added. When you click a gallery name

, The user may be introduced into the gallery inside graphics library.



[ New Gallery]

FIG screen may appear under this button is pressed, it can be used to add a blank images. Gallery can name their own name.



[ Delete Gallery]

Select the name of the gallery you want to delete, gallery After pressing the button will display the [User gallery] are excluded from this project screen.

**Note that only the selected gallery deleted from the current project, but InoTouch Editor Software root folder shape**

Inside the gallery did not delete this file.

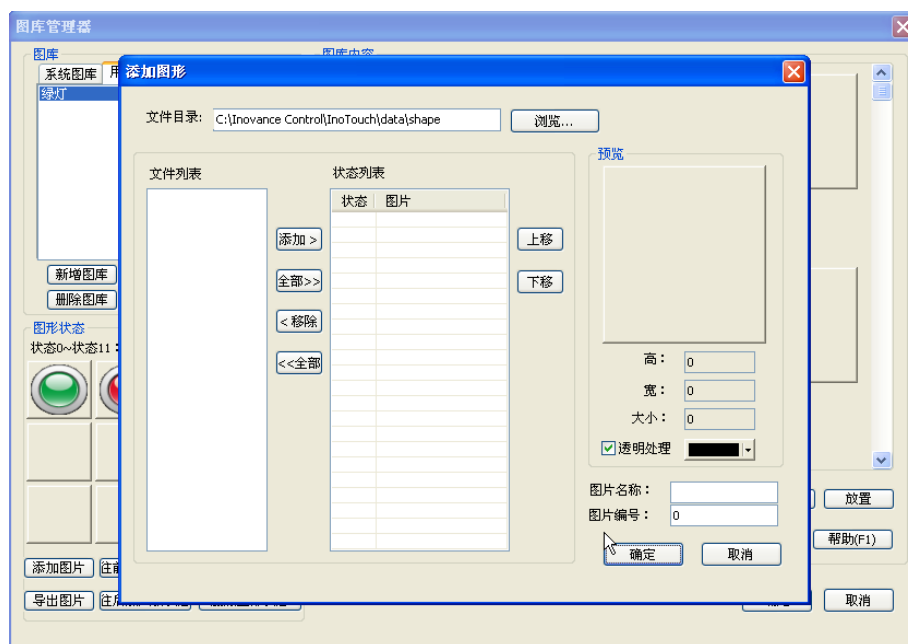
b , Gallery Content

[ New graphics]

Increase the graphics they need or like. The following diagram screen may appear after you press the button, select Browse, locate the graphic file,

After determining, the file list will show the name of the graphic, select the graphic needs to join this gallery, click on " Add to " The graphic can

Added to the state list.



[ All >>]

All means all added to the state list, a list of all the graphics files.

[< Remove]

Delete selected graphic from the state list.

[<< All]

Delete status list all the graphics.

[ Up] / [down]

Move up or down the selected pattern.

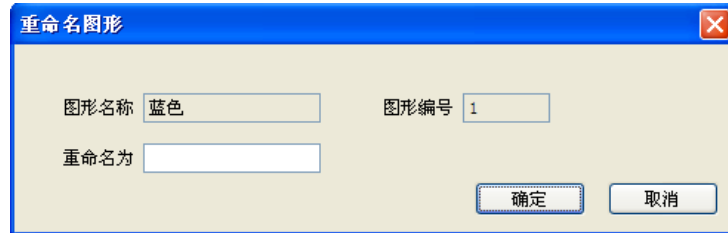
[ Transparent process]

The transparent color is invisible, i.e., not displayed. As will be set to a transparent red color process, then all red will not significantly

Show out.

[ Rename ]

Dialog box in the figure below appears after you press the button, you can rename the currently selected graphic.

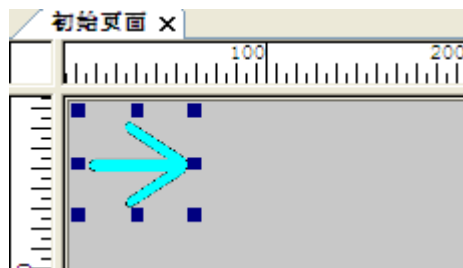


[ Delete graphic]

To delete all the selected state graph. This graphic will soon empty gallery.

[ Placed]

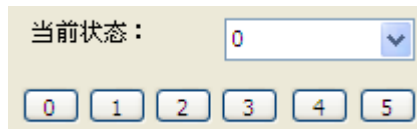
Currently selected can be output to the graphics used in the window, as shown in FIG. Click on the image can be moved to the position where you want to put.



[ Current status]

Select the user to display the current status of the gallery, click " Current state " After the state list, which you can change the display status

Graphics. When the window is not displayed graphically, showing that the pattern does not exist, or this has not been defined in the current graphics state.



[ Add the graphics library]

In addition to a graphics library graphics inside all added to the current gallery.

[ Add more]

Gallery can add multiple simultaneous multiple states, but need to put the name of the graphics editor is good, according to certain naming conventions, the **multiple bitmaps ( JPG , BMP , GIF ) Once added to the current gallery.**

Naming rules are as follows:

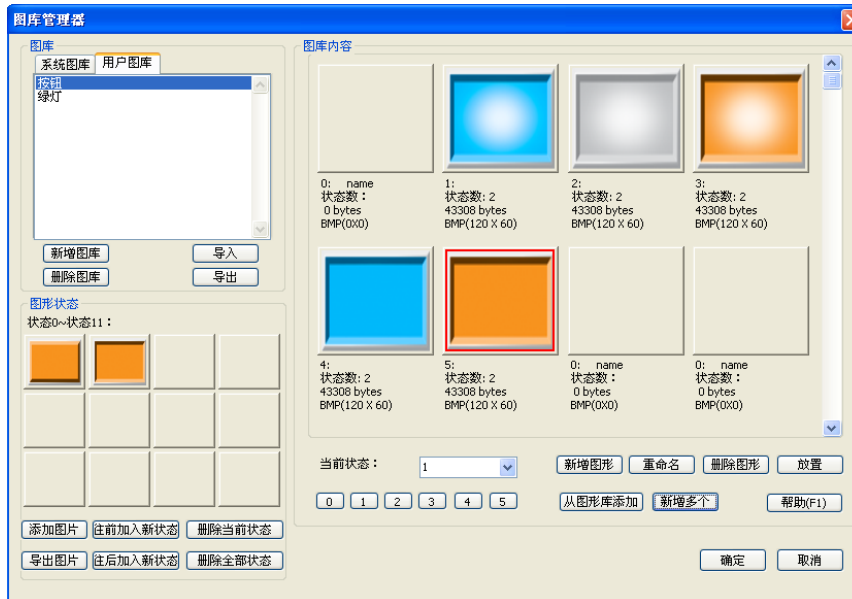
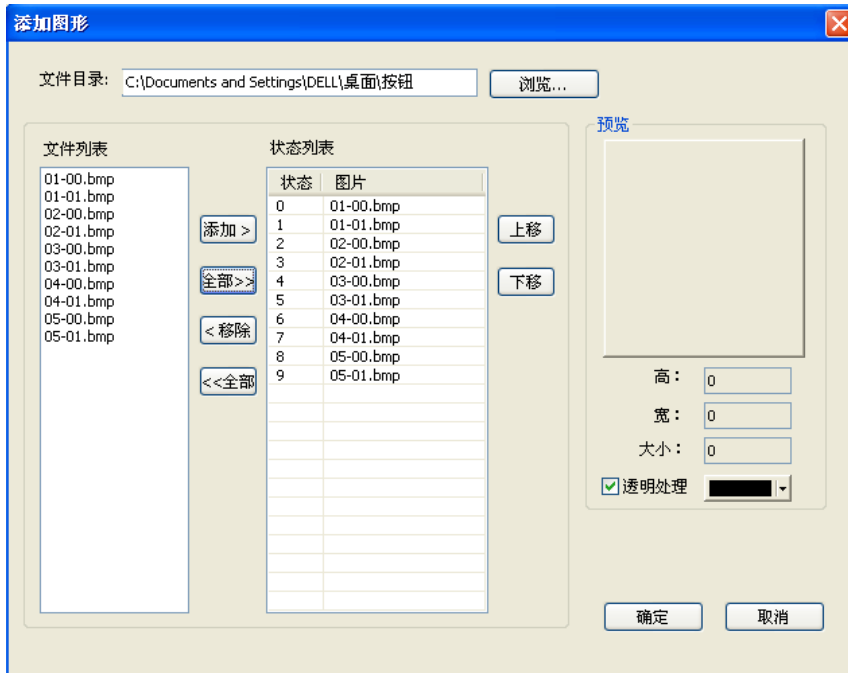
**XX - ## .jpg , .among them XX Graphical representation ID ,Take up 2 Characters, number ## indicates the state of graphics, accounting 2 Characters, graphics ID**

And between the states separated by a number of characters.



For example: there are now 10 Zhang bitmap, respectively, it is the command 01-00.jpg , 01-01.jpg , 02-00.jpg , 02-01.jpg ,

03-00.jpg , 03-01.jpg , 04-00.jpg , 04-01.jpg , 05-00.jpg , 05-01.jpg



[Add] button by a plurality, one of these can be separately added to a bitmap of the current library ID No position 1 , 2 , 3 ,

4 , 5 The graphics and improve efficiency.

c , Graphics state

[ add pictures]

Selected graphic library to add a new graphics.

[ Delete the current status]

To delete the current status of the selected location of the graphic is displayed.

[Delete all state]

To delete all the graphics state of the selected position currently.

[Export Images]

Click this button, the currently selected graphics can be output to the specified location, so that users can get the original graphics.

[ Forward the new status]

In front of the current graphics state is displayed to add a new state. For example, the picture for the currently selected state 1 Then add

The graphics will be state 0 Graphics. Meanwhile, the total number of state of the pattern also increases a location.

[ Later joined the new state]

In the current graphics state later displayed to add a new state. For example, the picture for the currently selected state 1 , Then the state will add graphics 2 Graphics.

Meanwhile, the total number of state of the pattern also increases a location.

1 ) To create a new type of user pictures gallery

Here's how the new user to create a new library, and add a graphic with two states in this gallery. general

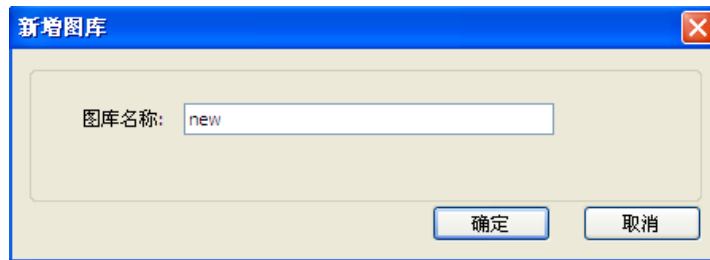
**It added to the graphics library pictures can make a digital camera photos, or photoshop , Windows Under the " Paint "**

**Forming a picture of tools. Image formats can make BMP , JPG with GIF Three formats.**

Note: When you add graphics to the graphics library, the graphic resolution not to exceed the resolution to use models. Step one:

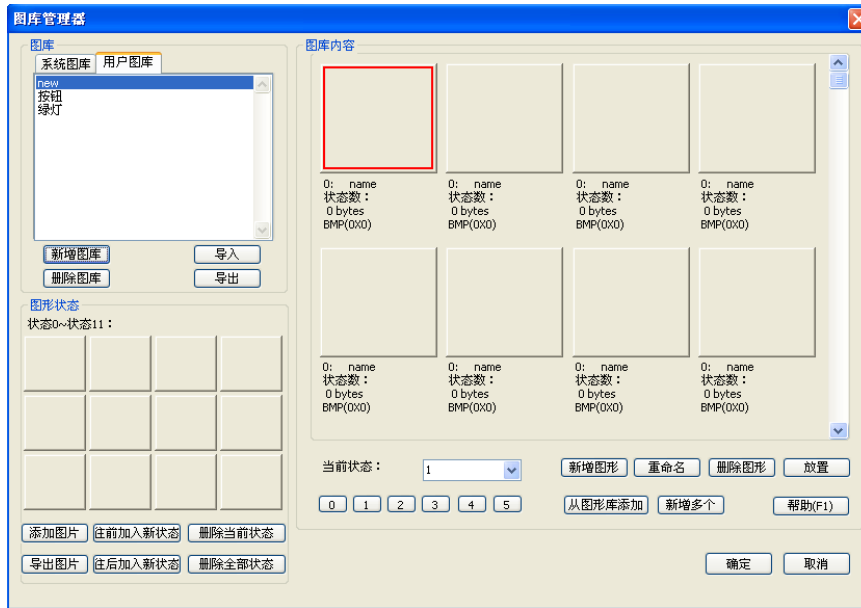
New Gallery

After pressing the [New Gallery], enter a new graphics library name in the dialog window.



At this point it can be found in the graphics library management dialog box to add a new graphics library "New" And this new graphics library is not included

Any graphics, see below.



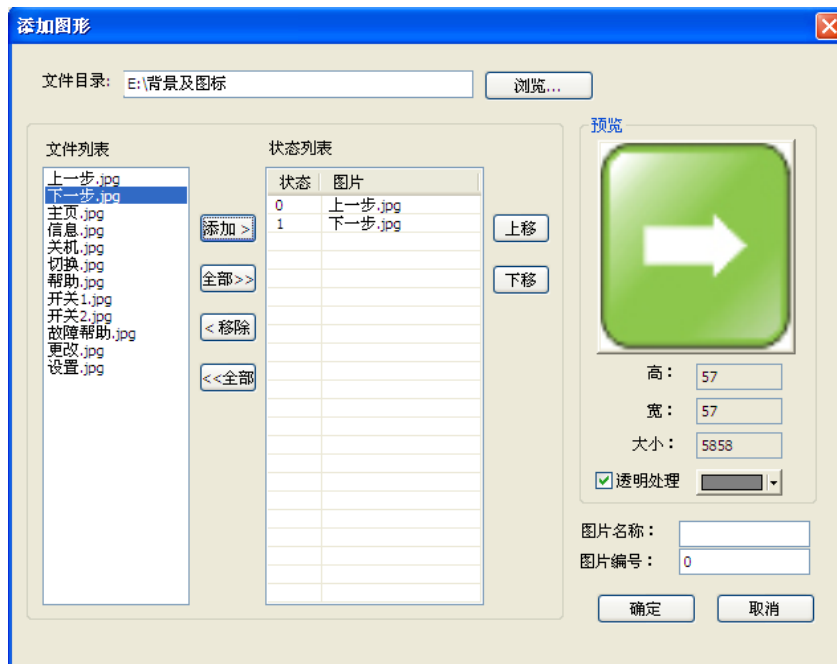
Step two: Select the graphic to be added

Ready first pattern to be added with the drawing tools; To Assume now that the following two patterns are used to represent the state of 0 And like state 1 .



First press the [new graphic] button, a dialog box may appear in the figure below, then browse the file containing graphics, " determine " Subsequently, the paper

Member list selection pattern to be used, is added to the status list, and finally press " determine " .



After completion of the above-described operation, i.e., to create a complete pattern, refer to the diagram. Then in the Graphics Manager dialog box

Graphics can be found in the newly added "Lamp" By the graphic information can also be seen in this picture is JPG Form, and includes two states.



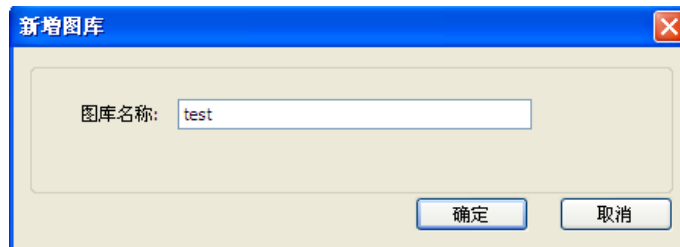
## 2 ) Create a vector graphics library user

InoTouch Editor Software can also be added to the user gallery inside the vector used. Here's how to build a new

The new user library vector, and a vector addition of two states in this gallery.

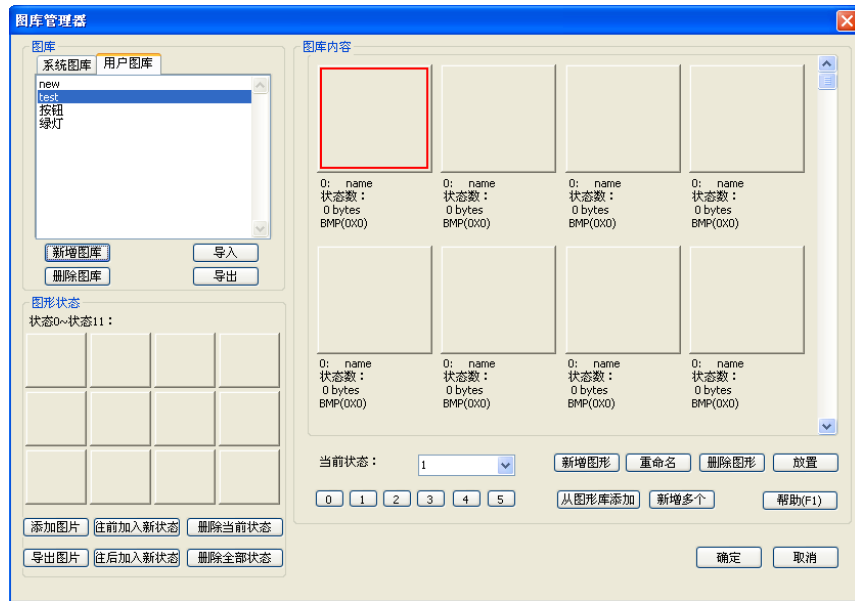
Step one: New Gallery

After pressing the [New Gallery], enter the new name of the user gallery in the dialog window.



At this point it can be found in the user library management dialog box to add a new user gallery "Test" And this new gallery and user

Vector does not contain any reference to the FIG.

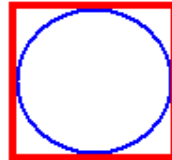


This created a new name for the test Vector graphics library user, click "determine" Close the dialog box. Step two: Select the desired increase in vector

First use InoTouch Editor Software provides drawing tools to draw the desired pattern. For example, use "rectangle" with "oval" painting

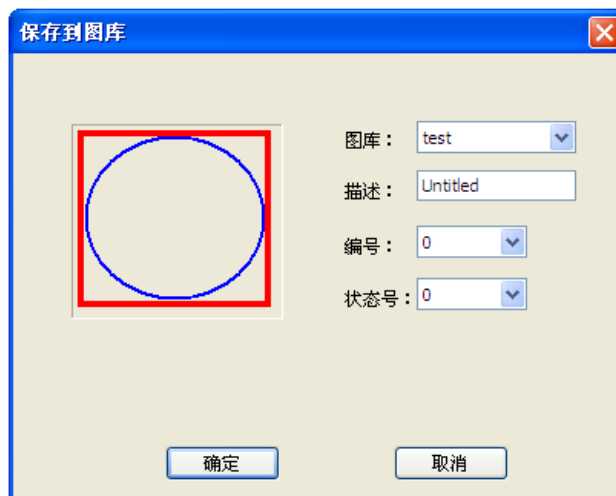
FIG tool, drawn pattern as shown in FIG.

Then drag the mouse to circle up this graphic, or use "Groups" Function composition "One" Graphics.



Then press the toolbar icon "to save the graphics library", or InoTouch Editor Software menu "Library / Save

To the Gallery " Button, you get the following dialog:



Description of the parameters on the following dialog box.

[ Gallery]

Select the current graphics add to the gallery where a user is currently selected "Test" .

[ description]

Vector's name, you can not write

[ Pattern number]

Select the current vector graphics to be added "Test" Vector library which one of the position vector. Each user has a gallery

0 to 55 Altogether 56 Location numbered. In this set 0 Representing added to the number 0 Position.

[ status]

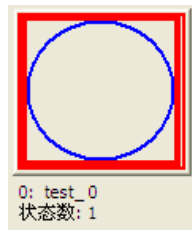
It has been selected for the position vector graphics saved numbers 0 . Vector graphics state of each location number can be up to 256

States. Here is a selection 0 , Indicating that the pattern as a state vector 0 When the graphics.

Information are also shown in FIG. "Test" No. users gallery 0 Vector graphics, the current state ( state 0) It does not define any side

Box and inside. After press enter to find graphics library has been added to the user, as shown below. By the number can also be seen in FIG.

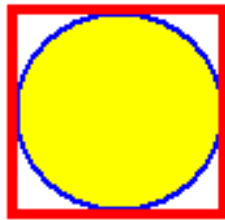
0 The vector has only one state.



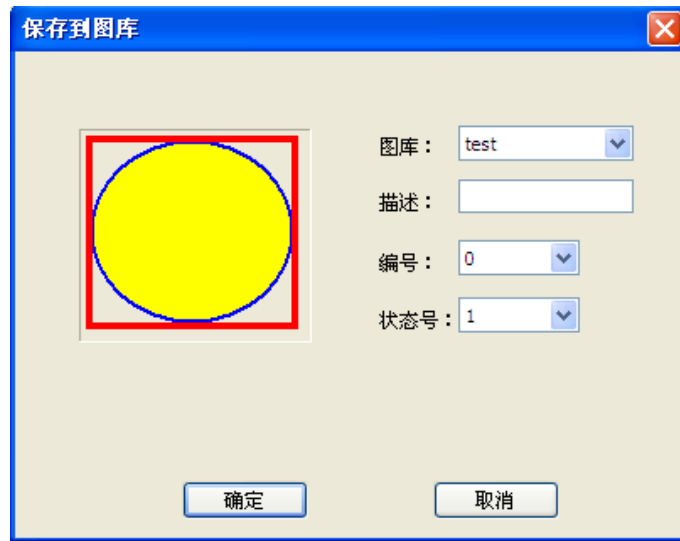
Step Three: Add another state vector image

Using the same manner as step two, add a new user to the vector graphics library. The new vector graphics assumed below

Fig.

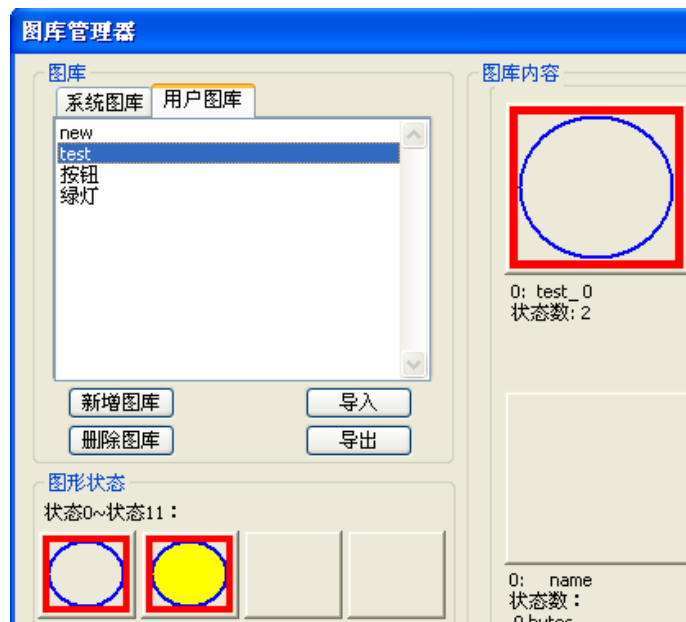


Select the new graphic is added as numbered 0 The position of the figure, and the state of 1 , Is set as shown below.



After the above respective steps, i.e. the establishment of a new vector library users, and at a position 0 Add two

Graphics state, the results are shown in FIG.



## 7.2 Sound Library

At present, only the man-machine interface is configured with audio output, connect the speakers, you can set to play a sound in the program

InoTouch Editor Software support for the sound file WAV Formats, these file formats are saved in the sound library. With map

Graphics library shaped like, you can also add a new sound file for each sound files stored in the sound library, delete the existing sound

Sound files, etc. to operate.

Open Sound Library

Click InoTouch Editor Software on the menu " Gallery / Sound Library " Or icon on the toolbar, the dialog box

as follows:



[ New sound library ...]

Click the button, will create a new sound library, operating methods and other methods to create a new user library is exactly the same, this is not

The tired.

[ Remove Sound]

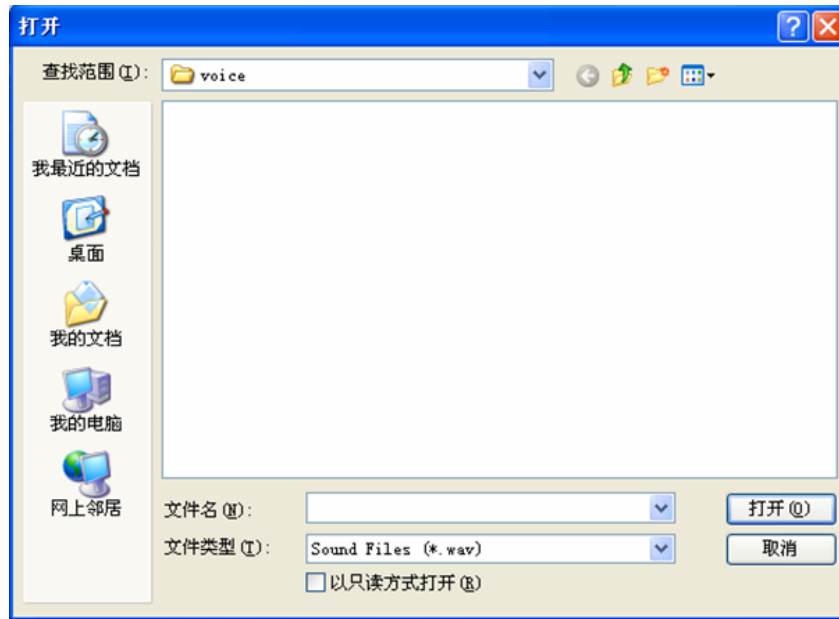
Click the button, it will open the currently selected sound library sound to delete sound from the current library.

[ New Sound ...]

First record or generate a WAV Save the file format to your computer. Click [New Sound ...] It will pop up as follows

Dialog box.





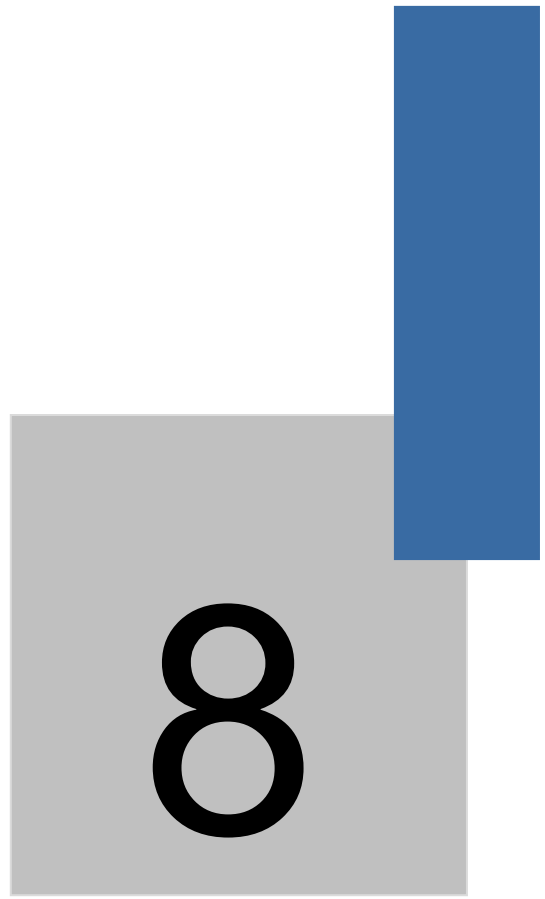
**Browse to save WAV File, click " turn on " After, it will add the sound files come in.**

[ Play sound]

First select a sound when a file is currently open sound library, then click the button will put the sound file to play come out. That may sound effects to listen to the sound file.

[ Export sound ...]

Click this button will export the currently selected sound files to your computer, and the file is to WAV format.



**Text tag library and multi-language display**

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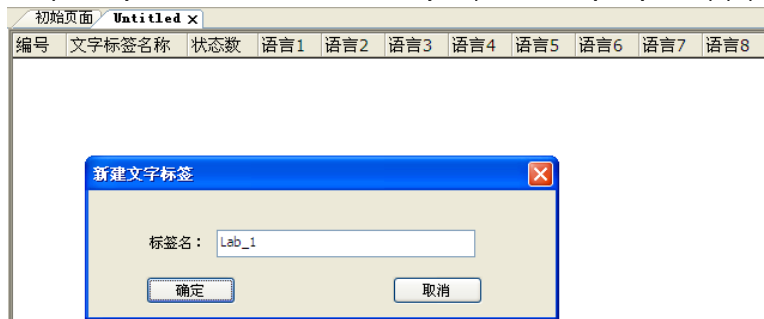
## chapter eight Text tag library and multi-language display

In some cases, a project screen, you need to display multilingual text. Export especially equipment manufacturers, engineering drawing After the plane will be used in a variety of different languages, in order to adapt the machine outlet can allow local workers to operate a variety of text on the screen read Digital information. For example, a project screen need to use Chinese, English, Russian and other text display. If the same painting Floury three different text display, this screen editing work is cumbersome and inefficient.

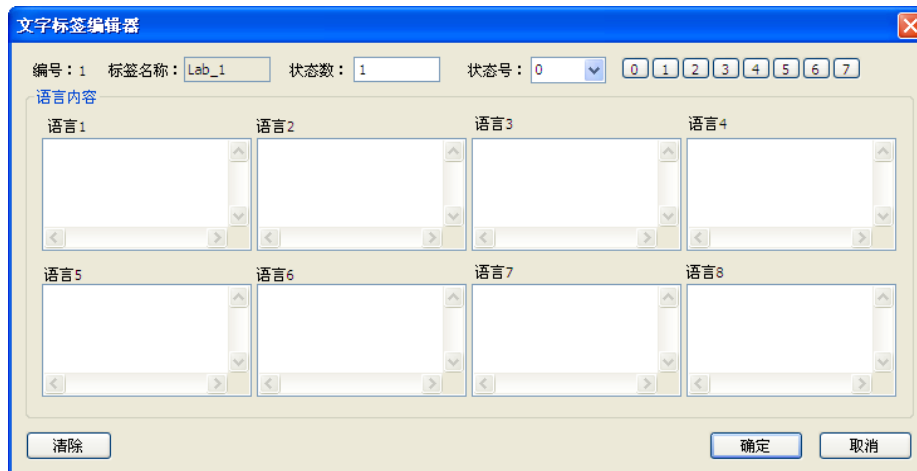
Therefore, InoTouch Editor Software supplied " Text Database " Function, you can easily achieve multi-language display And switching. InoTouch Editor Software currently supports up to 8 Text display languages, these languages can be supported from the system The language of the text chosen at random 8 Species can be. The need to establish in advance in writing " Text tag library " Select the screen while editing needs " Text labels " It can display different languages. Let's explain in detail how to implement this function.

### 8.1 Text tag library related instructions

Click InoTouch Editor Project management software on the left below " Text tag library ", The following dialog box will pop up.



select " determine ", The following dialog box will pop up.



Text editor for each language, see the following dialog box. When you're done, click "determine" Back to "Text tag library" page.

编号	文字标签名称	状态数	语言1	语言2	语言3	语言4	语言5	语言6	语言7	语言8
1	Lab_1	1	happy	快樂	快乐	幸せ	Felice	Joyeux	Glücklich	Счастливы

[ Number of States]

Display text tag library text content of the current state, can have up to 256 The text states.

[ New tag item] in " Text tag library " Right-click the page, select " New label items " Said the new addition of a text label.

[ Edit label items]

Text labels for text selected for editing.

[ Remove label items]

Clicking this button will function to delete the currently selected text tag library.

[ delete all]

Clicking this button will function all the text label text label library will be deleted.

[ Export ...]

Click this function key, the text will be in the library all the text labels to Excel Save the way up to the end of the file name. xls format. This can be saved in the project to establish the text labels, re-use.

[ Importing ...]

Save the text labels on the computer library into the current project.

[ Font]

Font settings for each language. in " Text tag library " Right-click the page, select " Writing " , You can set the font for each language, see below.

Click " determine " After back " Text tag library " page.



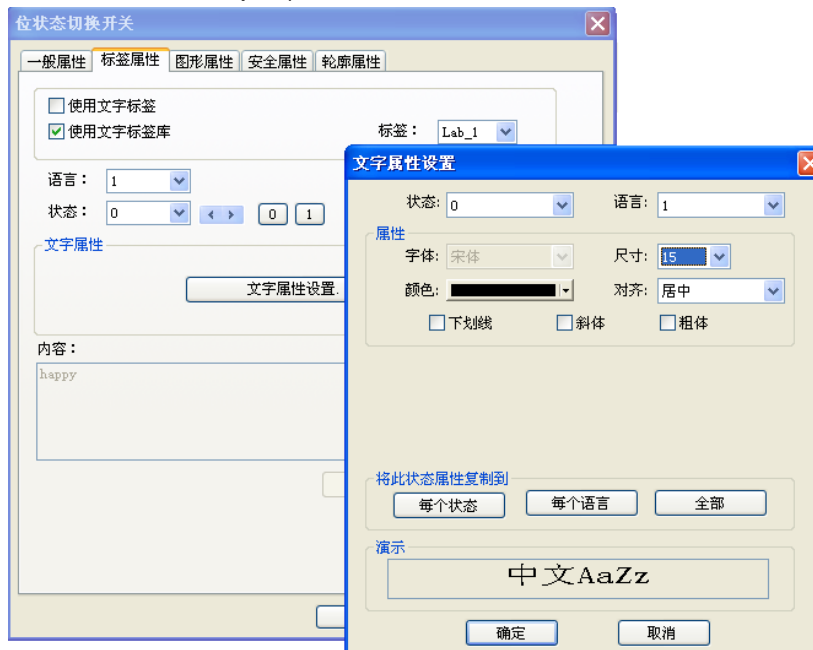
After establishing the text tag library as shown in FIG.

编号	文字标签名称	状态数	语言1	语言2	语言3	语言4	语言5	语言6	语言7	语言8
1	Lab_1	1	happy	快樂	快乐	幸々	Felce	Joyeux	Glücklich	Счастливы

## 8.2 Use text tag libraries

When the text inside the tag library to establish a text label, in control "label" Property bar, there will be "Use text tag library"

Options. When checked, indicates that the use of "Text tag library".



[ Copy this state attribute to]

### a. Each state

When this button is pressed, it will be replicated for each property in the current state to another state. That all state attributes

same. For example: font color, alignment, font size and other attributes.

### b Each language

When this button is pressed, it will copy the current language setting of each attribute to another state. That all languages have a property

kind. For example: font color, alignment, font size and other attributes.

### c All

When this button is pressed, the current state will be set and the attribute display language by copying all state display all languages

Text attributes. That is all the state language and display properties are the same. For example: font color, alignment, font size

And other attributes.

**in "label " After the text tag library selected text labels need, then you can see in " Fonts " with " content " , There before**

The selected when you create a text label font and text, but can not change it here.

Because different fonts, text and language are not the same, and sometimes will encounter the text length is not the same situation. E.g:

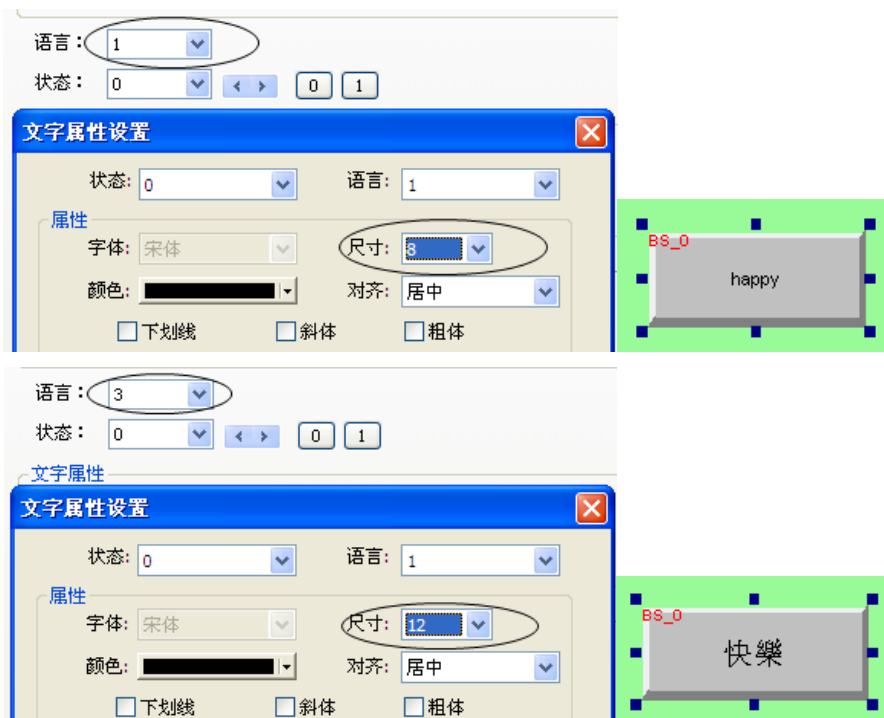
**"Happy" with " happy " These two languages when used as a text in English and Chinese control, the space occupied by the former text was significantly larger than the**

latter. InoTouch Editor It provides a different language fonts that can be set to different font sizes function. Using this feature, you can account for a large space text

font piecemeal way, you can achieve different language problem space match display in the same location. If language 1 Writing for a "Happy" , Language 3 Writing for

a " happy " Then in control " label "

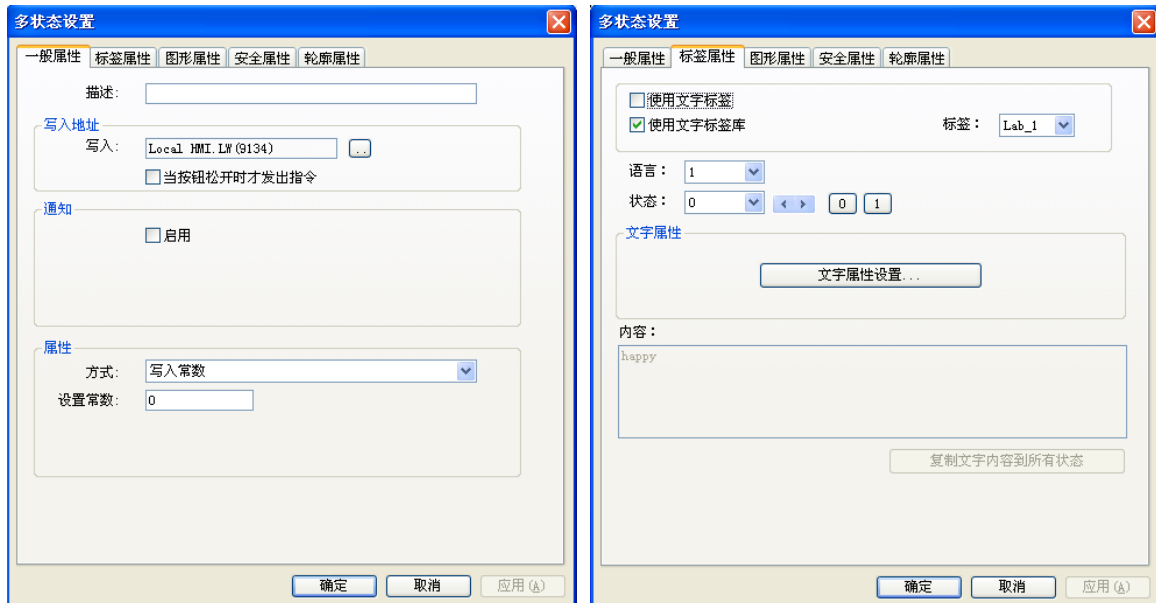
Properties dialog box, set the language separately 1 Font size 8 , Language 3 Font size 12 , You can. FIG rear set as follows.



### 8.3 Multi-language display

The establishment of a text tag libraries, and in the control of "label" Text labels used in the library. So how in IT5070T Engineering drawing Surface to display different languages it? InoTouch Editor By changing the software is "System reserved word "LW9134 The Storage Vessel to achieve different display language text. LW9134 The effective range is set 0 to 7 , Corresponding text labels in " Language 1 ~ Language 8" Altogether 8 In languages. That is, when LW9134 = 0 When, controls "label " It is displayed " Writing Tag Library " Language 1 Set text, LW9134 = 1 When the display is " Text tag library " Language 2 Wen set Digital content, and so on. when LW9134 Value exceeds 0 to 7 When this range, in the language of text displayed last prevail.

The name above description is made Lab\_1 of " Text tag library " For example, create a new " Multi-state settings " Controls, write address " Set as "LW9134" , It " Tag attributes " Check the options " Use text labels " And select "Lab\_1" As to be displayed Text, after setting dialog as follows, and the control is placed on the screen.



At this time, to make a control input value on a screen, the set value of input control as shown in FIG.



Then save the project screen, the compiler (compiler "Language 1 ~ Language 8" Are selected hook), and perform off-line simulation, when to LW9134

Different input data, the displayed text is not the same. See the figure shown.

LW9134 = 0 Time,		LW9134 = 1 Time,	
LW9134 = 2 Time,		LW9134 = 3 Time,	
LW9134 = 4 Time,		LW9134 = 5 Time,	
LW9134 = 6 Time,		LW9134 = 7 Time,	
LW9134 = 8 Time,			

(Note: more than 7 When, at last displayed language text shall prevail. )

Summary: In summary, the purpose of the establishment of the text tag library is to project the screen can display a variety of different languages.

Display different languages is a reserved word by changing the system LW9134 The value of the register to achieve. For ease of use,

You can do a few on the screen, respectively, " Multi-state settings " Controls, " Write address " Set as "LW9134" ,in " Attributes " Inside selection " write

The constant " So that you can easily choose which language the text on the screen shows.





**Establish and use an address label library**

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## Chapter nine Establish and use an address label library

In general design PLC Program, sometimes in order to easily read PLC The program, often using " Note " The way, Each address will be described using specific meaning, e.g. "M0" Intermediate register " Power ", "M1" for " Shutdown " And other specific words that are Description These soft controls in the program's specific role, you can let the program read people quickly understand the program would also allow other people to modify program. same, InoTouch Editor Software also provides this functionality is " Address Tag Library " .

### 9.1 The establishment of an address tag libraries

Click InoTouch Editor Project management software on the left below " Address Symbol Table ", The following dialog box will pop up.



select " determine " Then, on the establishment of a " Address Symbol Table " Page, as shown below.

编号	地址标签名称	设备名称	地址类型	寄存器	地址
0	Addr1	Local HMI	BIT	LB	0

[ New address label items]

in " Address Symbol Table " Right-click the page, select " New address label items " He said the new increase an address label.

[ Edit address label items]

The contents of address labels selected for editing.

[ Delete address label items]

Clicking this button will function to delete the currently selected address tag library items.

[ Delete all tags items]

Clicking this button will function all the address labels address label library will be deleted.

[ Export ...]

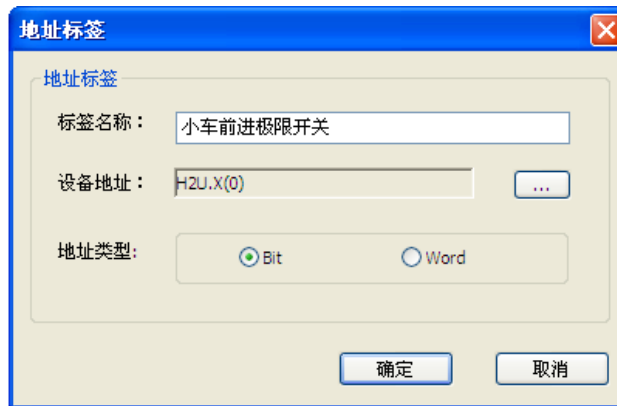
Click this function key, the address of the symbol table will address labels at all Excel Save up mode, the file name of the knot Tail is .xls format. This project will be saved in the establishment of address labels, re-use.

**[ Importing ...]**

Will be stored on your computer's address tag library into the current project.

To understanding " Address Tag Library " After the function of each button, you can own the actual needs of the project, define the address of each address label. Here's how to create a custom address labels gallery

After pressing [add an address tag entry] The following figure shows the window can be obtained.



**[ Label Name]**

Enter the set address address label content. most 100 Characters can be any character content.

**[ Device Address]**

The name comes from the name of the device at the beginning of the establishment of building a device list. Show on which PLC To set the address of the device

Meaning address label.

**[ Address Type]**

That address mode, select " Place " or " word " Two types.

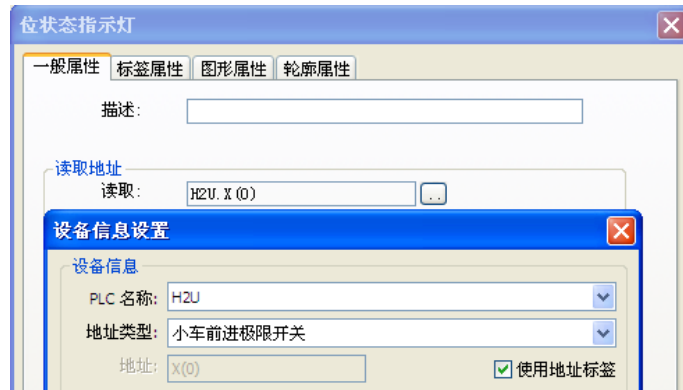
After completion of the above setting, press enter, a new label can be found in the address tag, with reference to the following figure.

编号	地址标签名称	设备名称	地址类型	寄存器	地址
0	小车前进极限开关	H2U	BIT	X	0

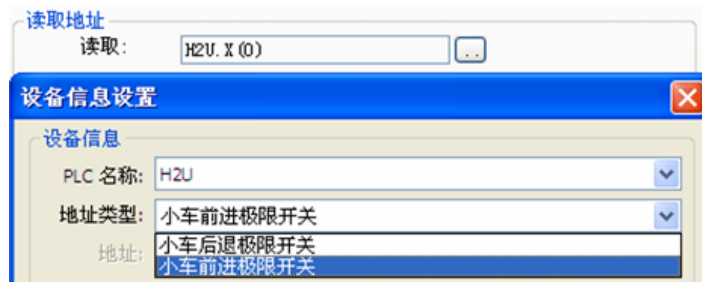
Repeating the above operations, you can create a plurality of different address labels.

## 9.2 Using the address tag libraries

Complete the establishment of an address tag library, and select those tags associated in the control's property page PLC After, you can found " Use Address Labels " The option to use these labels by choosing this option addresses, with reference to the FIG.

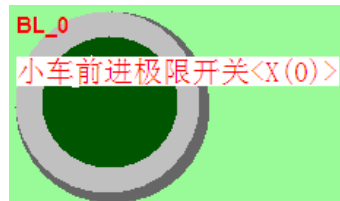


The [Address Type] having the option shown in the figure:



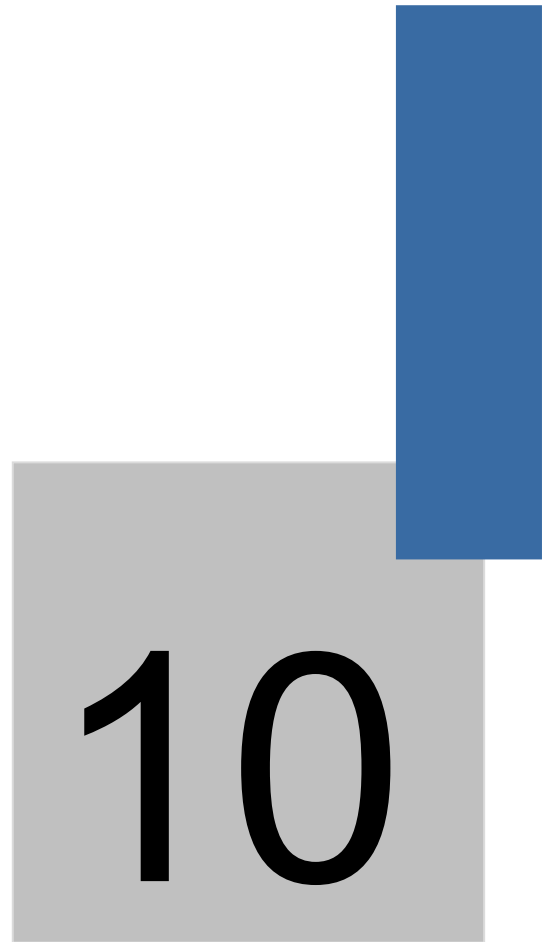
After the setup is complete, click on the icon on the toolbar, you can find the controls used address label name displayed in the control

On, as shown in FIG.



In this way, the selected " Car forward limit switch " The address label, with the setting " Equipment type " for "X" , Device address "0"

The effect is the same. Other uses, and so on.



**General property of a control**

---

## Chapter X General property of a control

Control is placed in the screen to display the project connected PLC Or information related to the controller; control or connected of PLC Or the controller to perform related actions. Only after the various controls are set correctly, the information display or control Braking action will be able to properly display and correct execution. The following first to explain all controls set the general attributes.

Controls are generally set content attribute contains the following items:

select PLC Equipment / Read and write address ( reading and writing address) set up;

Shape Library ( shape library) And graphics library ( picture library) usage of;

Label content settings ( text) / Contour adjustment ( profile) .

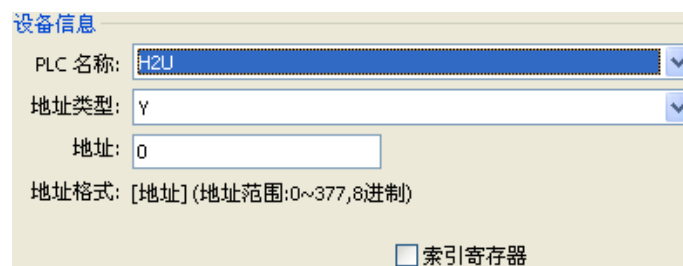
### 10.1 select PLC

Use some controls need to choose to operate PLC Object, as shown in FIG. [ PLC Name] is used to indicate to control PLC ,

The following figure shows the existing PLC Names are "Local HMI" versus "H2U" ,These ones PLC The name comes from " New equipment " .



### 10.2 Read and write address setting



The figure can be seen that generally address set contains the following items:

#### [ Address Type]

Select the address type, when selecting a different PLC When different types of address will appear.

PLC 名称:	H2U
地址类型:	Y
地址:	Y
地址格式:	X S M SM TB CB

[ address]

Setting read and write address. If you do not know how to fill out the address form on the screen it has provided mention address format

Shows. As shown below.

PLC 名称:	H2U
地址类型:	SM
地址:	0
地址格式:	[地址] (地址范围:8000~8255,10进制)

Can be seen from the figure, when the selection " Address Type " for PLC of SM When, in " address " The format of this column: [range: 8000 to 8255 , 10 Hex].

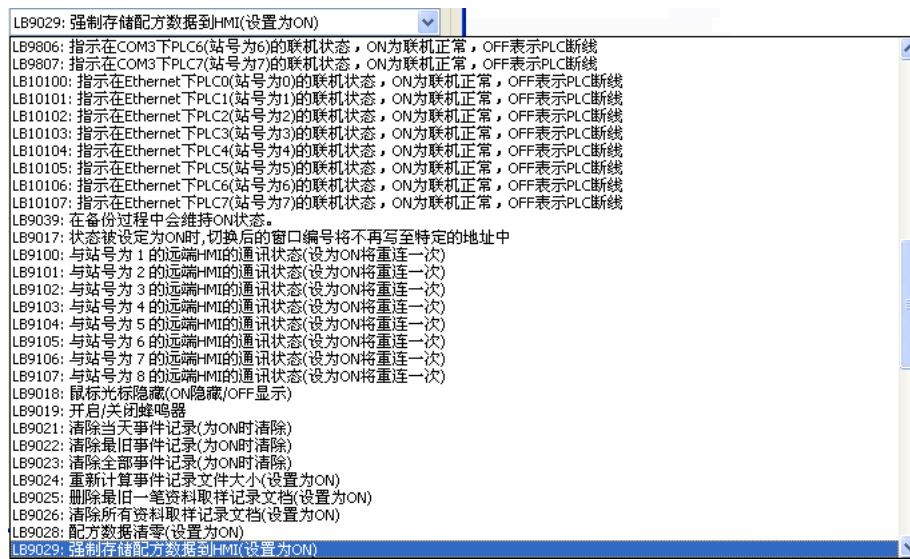
[ System Register]

when "PLC name " Item is selected "Local HMI" , It indicates that the operation address local touch screen. At this point there will be " System Storage Device " The existence of options. System register addresses reserved for special uses, as a system, and in general PLC A type of address allocation Like, divided bit Systems and registers word Register systems. Check in " System register " Later, in " Equipment type " After the list , Select the desired system register. at this time, " Equipment type " The system will display the contents of the selected register, " address " Which will The gray displayed address can not be changed. As shown below.

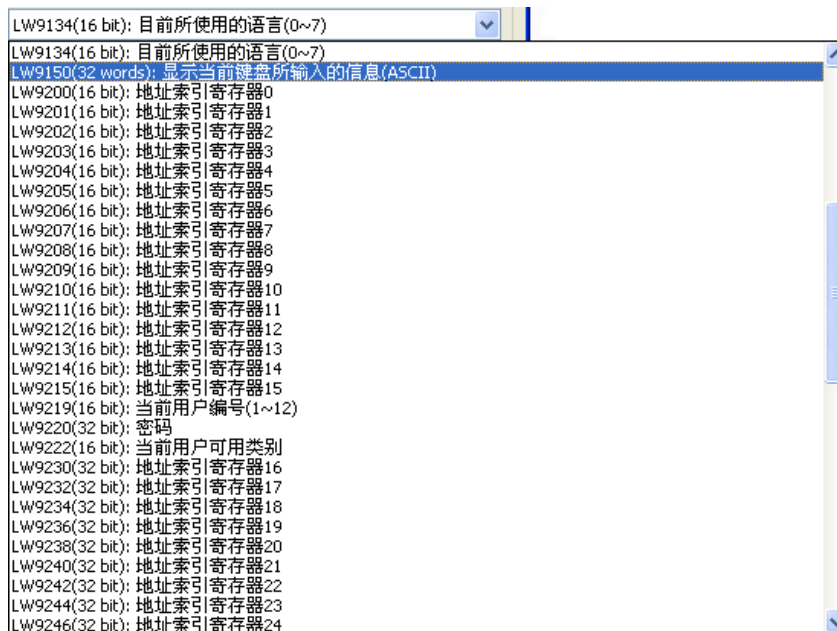
读取地址

PLC 名称 :	Local HMI
设备类型 :	LB-9029 : 强迫存贮配方资料到触摸屏 (设置为 ON)
地址 :	LB9029 <input checked="" type="checkbox"/> 系统寄存器
地址格式 :	dddd [范围 : 0 ~ 11999]

The figure below shows bit Type system register word Part of the register systems, details refer to "address tag library" The instructions.



## Bit Register systems



## Word Register systems

## [ Index registers ]

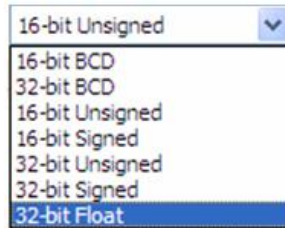
Choose whether to use " Index register ", Refer to " Index register " instruction of.



### 10.3 Data format selection

if word type " Equipment type ", The option will format the data. InoTouch Editor It supports the following kinds of data Format, you need to select the correct data format, or write to PLC Data or from PLC Read data displayed on the man-machine interface

Inconsistent. When using the system registers, needs special attention data format when the data format does not match, the result will be performed Incorrect. For a detailed description of the data format, please refer to " Controls " The relevant section of the instructions.



### 10.4 Use gallery

Some controls can use graphics library, and add visual effects controls. Use the gallery in the control property page [Graphics Properties] tab setting, see below.



[ Graphics Properties] Description Setting the page set as follows:

#### [ Gallery ...]

Click this button to choose InoTouch Editor Gallery software needed.

#### [ Use Gallery]

Select whether the pattern used in the pattern library.

### 10.4.1 How to use the library system

In pressing the [gallery ...] Button can be below " Library Management " Dialog box can be seen by the selected vector

Map will be marked with a red frame.



FIG displaying information on a style gallery systems, the meaning of these information are as follows:

0: MULBITSTATE\_SYS\_0 Indicates the name and number of this graph gallery

Number of states: 3 It represents the total number of states of this pattern

" System Gallery " A description can be described with reference to the relevant section. After completion of the setting and press the Enter key, the control will

With the currently selected pattern, as shown below.



### 10.4.2 How to use user gallery

In pressing the [gallery ...] Button, select " User Gallery " Get the following " User Gallery " Dialog box to see the

The currently selected graphics will be marked with a red frame.



The figure above shows the selected graphic information Graphics Library, the significance of this information is as follows:

0: Arrow up Indicates the name and number of this graph gallery

Number of states: 2 It represents the total number of states in the pattern

21708 bytes Size of the graphic representation

BMP (60 \* 60) Graphical representation of the original format and size, BMP Graphical representation using bitmap Formatting, graphics formats

It may be JPG or GIF . 60 \* 60 Graphical representation of the original size length 60 Pixel height 60 Pixels.

" User Gallery dialog " A description refer to the relevant sections describe. After completion of the setting and press the Enter key controls

Using the currently selected pattern, as shown below.



## 10.5 Set tag attributes

In order to show better visual effect, controls can be used in addition to graphics, you can also fill out the text in the control. Different shape

State, can use different text.

Provided with a control text [label property] in the control property page setting tab, as shown below.



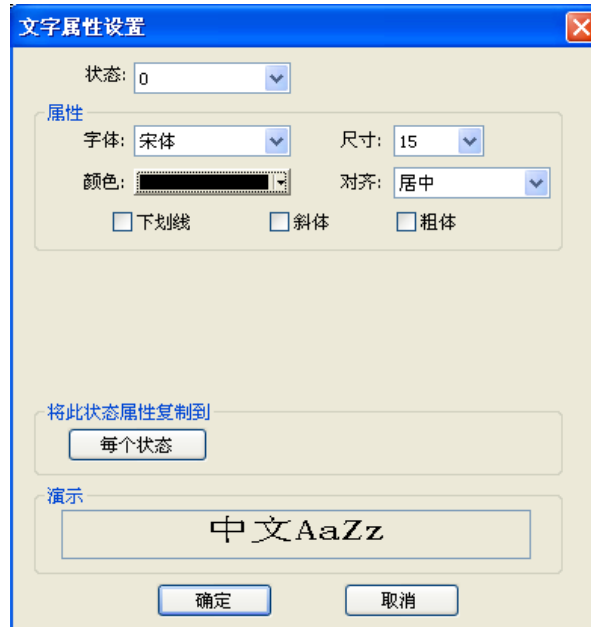
1) Label attribute setting items

**[ Use text labels]**

Check this option to control only allows the use of text labels that can fill the text on the control.

**[ Setting text attributes ...]**

View the contents of the text tag library description of this part, refer to "Text library and multi-language display" below.



**[ Font]**

Select the font used in the text. InoTouch Editor stand by Windows All fonts, And fonts are vector fonts,

As shown below.



**[ Colour]**

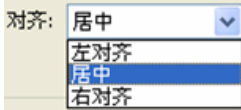
Select the color used in the text.

**[ size]**

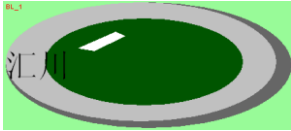
Select the size of the text used.

**[ Align]** 

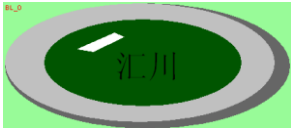
Selected text alignment, alternative manner as follows:



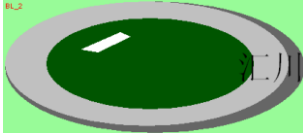
The figure below shows selected " Left " Alignment.



The figure below shows selected " Align " Alignment.

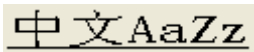


The figure below shows selected " Align Right " Alignment.



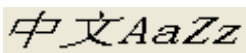
**[ Underline]**

Add text to the bottom line.



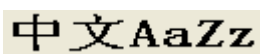
**[ Italic]**

Italic font.



**[ Bold]**

The text bold.



**[ Copy text to all of the state]**

Copy the current text to all other states.

## 10.6 Profile property

Below, the size of the shape can be adjusted by the control [profile] tab.



### 1 ) Position setting

#### [ Pushpin]

Lock settings, check this option will not change the position and size of the control.

[X] , [ Y ] The coordinates represent the coordinate position of the controls on the screen. To the upper left corner as the origin of coordinates.

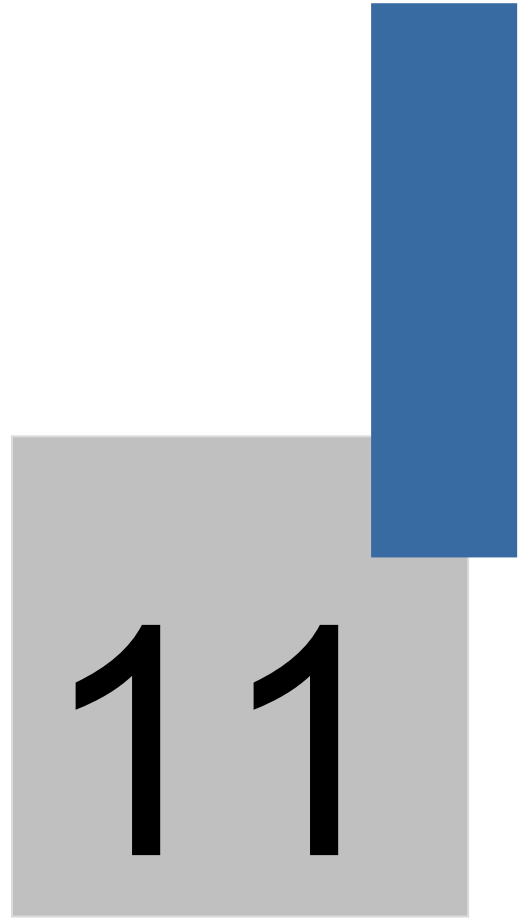
### 2 ) Sizing

#### [ width]

Set control width, in pixels.

#### [ height]

Set the height of the control in pixels.



**Security Controls**

---

## Chapter XI Security Controls

InoTouch Editor Software provides security features that correspond to the controls to achieve, rather than the corresponding window, this is the first

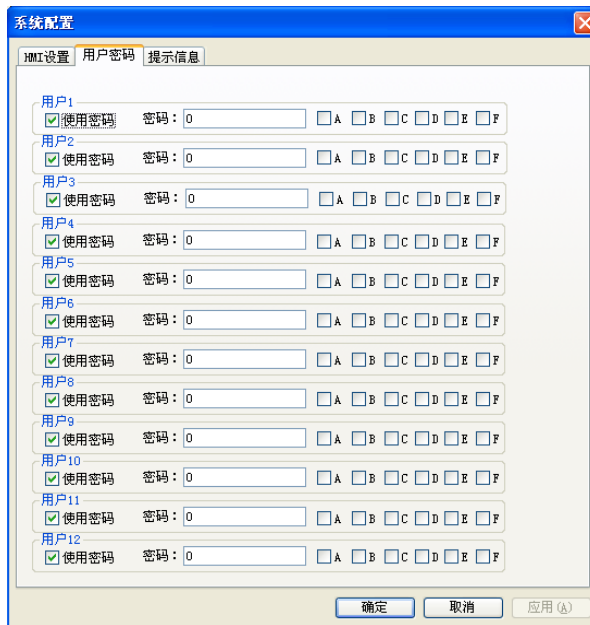
To understand clearly. InoTouch Editor Software control provides a wide variety of security, it can be divided into:

11.1 User password controls and operational categories set

11.2 Controls " Security Properties " Security provided

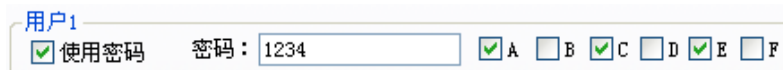
### 11.1 User password controls and operational categories set

In the foregoing description, mentioned " System parameters " middle " user password " Settings. In this setting, the user used to set the Password, and plan for each user operable controls category, in InoTouch Editor , The control is divided into " no " versus "A ~ F" Wait Altogether 7 Categories. User's password must be made 0-9 The figures, the InoTouch Editor Up plan 12 Users, That user 1 To the user 12 .



Screen program is running, the user after successfully enter the password, InoTouch Editor Will follow the user decided to use preset content

Users can operate the controls category. For example, when " user 1 " When planning follows this users are only allowed to operate the controls belong to the category in " no " versus A , C , E Controls.



Enter the correct password in addition to the process of password must be entered into the password input address [ LW9220 ] ( Altogether 2 More words, 32-bit) It

In addition, the user must use the [ LW9219 ] ( Altogether 1 More word, 16-bit) Specifies the current user. [ LW9219 ] Data must be a 1 ~

12 They were used to represent " user 1 " to " user 12 " . Please set the password input address [ LW9220 ] When that data must be format



Set as 32-bit Integers, that can be 32-bit unsigned or 32-bit signed Format, otherwise enter the password will not

It will be identified.

When the wrong password is entered, [ LB9060] The status will be set to ON State; when the password is entered successfully, [ LB9060] of The state will automatically be restored to OFF status.

user 1 To users 12 Passwords of all users can use the system read register [ LW9500] to[ LW9522] A total of twenty four words The content available.

InoTouch Editor Also offers online users to change the password feature. When the system register [ LB9061] By the state OFF change for ON Time, InoTouch Editor The system uses registers [ LW9500] to[ LW9522] Data in, update the user's password, Back and use these new password.

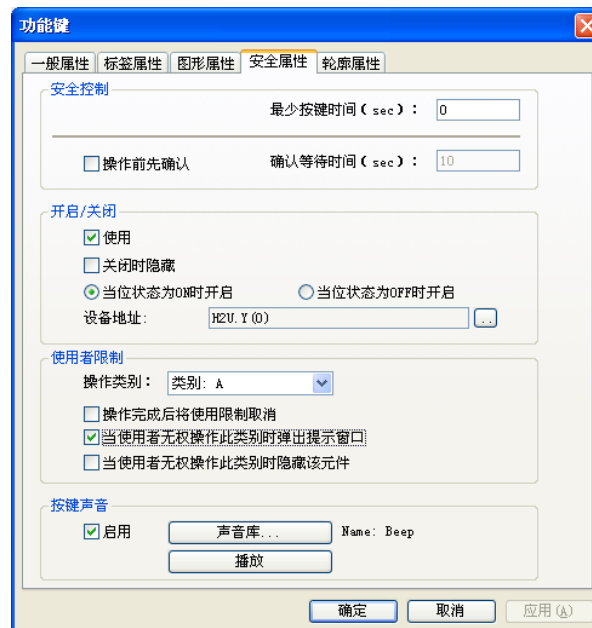
Note: At this point the user can use the control category and will not change the password changed. The system must register [ LB9061] Set as ON A new password to apply the changes, otherwise the changes invalid.

When the system register [ LB9050] ( The user logs out) from the state OFF Changes to ON When, forcing the current user can log out like State, then the system will only allow the " user " Operation category belongs " no " Controls.

In addition, [ LW9222] Record Controls category of the current user can operate, bit 0 for 1 Said the current user operable category belong "A" Controls; bit 1 for 1 That the current user operable category belongs "B" Controls, the rest bit Meaning expressed by so analogy.

Note: You can not use all digital 0 Password.

## 11.2 Controls " Security Properties "



The picture shows the relevant controls " Safety " Content attributes can be divided into several parts:

**11.2.1 safely control**

" safely control " Mainly used to prevent misuse by the operator controls, currently offers two protection in unknown circumstances.

**[ Minimum key time]**

This set value of said control continuously pressed this time is not less than the set value in order to successfully operate the controls. Set as 0 Time,

They said they did not use this security feature. This set value is in seconds ( sec ). Setting a value of e.g. 3 It indicates pressing the control hold

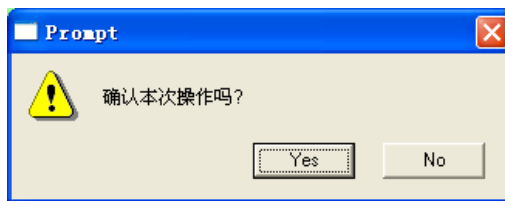
Duration of the 3 When the second, the operation of the control to be effective, otherwise invalid. This effectively prevents the occurrence of misuse.

**[ Before operating make sure]**

If this feature is checked, the next chart dialog box appears after pressing the control, in accordance with the actual needs of the user can confirm whether

Implementation of this action. More than [Wait Time for Confirmation ( sec)] After the set time has yet to decide whether to perform this action, the dialog box

Go away and cancel this action is performed.

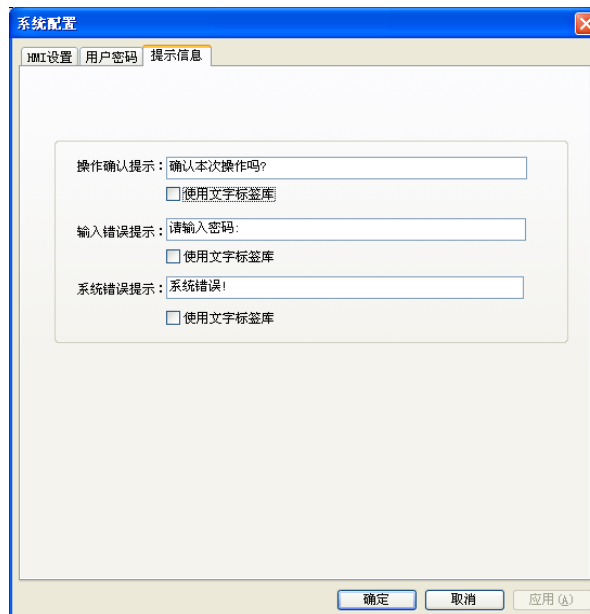


Dialog box prompts text (Pictured " Confirm your operation? ") Are defined in [prompted information], the user may use

[ The system prompts] dialog box, change the prompt text content. From the menu bar "Edit" to enter the "HMI System Configuration" will appear

[ System Configuration] dialog box, the contents of the third page where the first character is used as the operation confirmation prompt use, when a user password for the second

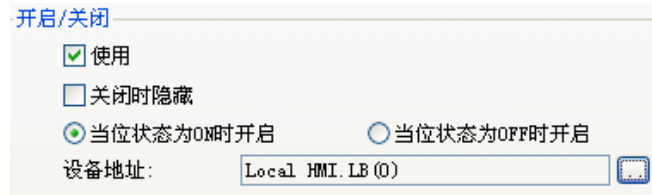
Enter the code when prompted errors, the last one for system errors.



**11.2.2 on off**

When control uses this function, this control is allowed to be operated, it will depend on the specific address (or called " on off " address)

status. " on off " Address must be Bit Address form, content address is determined by the following dialog box.




开启/关闭

使用

关闭时隐藏

当位状态为ON时开启  当位状态为OFF时开启

设备地址:  

For example, if a certain " Set Bit " Control the use of safety properties " on off " Function, and its " On / shut down " Address [ LB0] And select [when the bit status ON When turned on], you must [ LB0] State ON When allowed to operate this

Control, otherwise the operation is invalid. " on off " Provide the following settings:

**[ on off]**

Check this option to use this control " on off " security function.

**[ Hide closed]**

If checked, the control by using " on off " Function and " on off " The address control state does not meet the open condition ( ON or OFF ) , The controls will be hidden on the screen at this time will not see the control.

**[ When the bit state ON When open]**

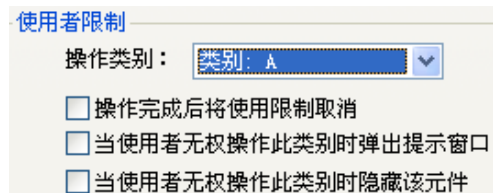
When checked, a control state is set to the address ON , The controls can be operated, or the power control It can be effective.

**[ When the bit state OFF When open]**


When checked, a control state is set to the address OFF , The controls can be operated, or the power control It can be effective.

**11.2.3 User restrictions**

This is a function that is " System parameters / User password " Use role in the operations category. In this setting controls the operation category, After setting operation type, the control operation by the user will only be allowed by the operation of this category. In the aforementioned example, " System parameters/ user password " Setting, a user 1 Operation type is A , C , E . If you choose to operate as a category here " category A " , Then use Household 1 After entering the correct password, you will have authority to operate the controls, or do not have permission to operate the controls. when " Control category " select " no " , It means any user Jieke operate the controls. This feature also provides the following settings:



使用者限制

操作类别:  

操作完成后将使用限制取消

当使用者无权操作此类别时弹出提示窗口

当使用者无权操作此类别时隐藏该元件

**[ After the operation is complete use restrictions were lifted]**

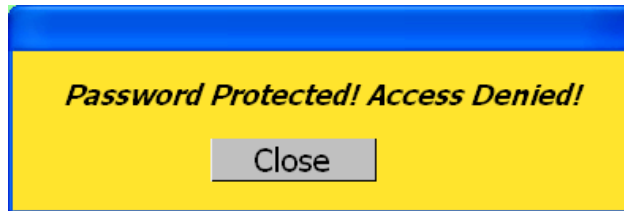
When the user is currently operating restrictions in line with the operating conditions once this control, this control operation will never stop doing class limit Check the system; that is to say even if the current user number has changed, or the wrong password is entered, it will not affect the operation of this control,

That category of the control operation at this time is " no " .

**[ When the user's authority to operate this category pop-up prompt window]**

When the user of the current operating status can not meet the operating conditions of this control, press this control warning dialog box will appear, such as

The following figure.



InoTouch Editor use 2005 No window appears when insufficient privileges as the operating status alert dialog box, users can

Design their own content warning dialog window.

**[ When the user's authority to operate the hidden element category]**

When the user of the current operating status of this category can not meet the operational control, the control is hidden. I.e. user operation type

When not in line with the type of operation of the control set, the control on the screen is not displayed.

**11.2.4 Beep**

The controls can be set separately whether to use the buzzer. InoTouch Editor Also provides a system register [ LB9019] As Bee

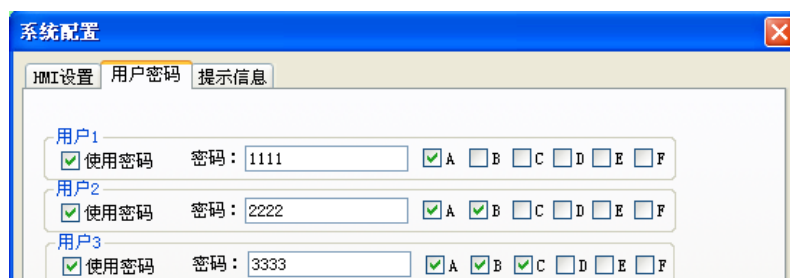
Total switching buzzer when [ LB9019] The state OFF When the buzzer can be used. When reboot, InoTouch Editor

The previous state of the buzzer setting will be used.

**For example** Control of safety instructions:

Step one: the establishment of a new project file, and the [System Configuration] of [User Password] to enable the user to set three pages, and set up

Set password and operational control of each user category. As shown below:



At this point can be found " user 1" You can operate category A Controls, " user 2" You can operate category A versus B Controls, " user 3 "

It can operate category A , B versus C Controls.

Step two: in the "original page" control design as shown below:

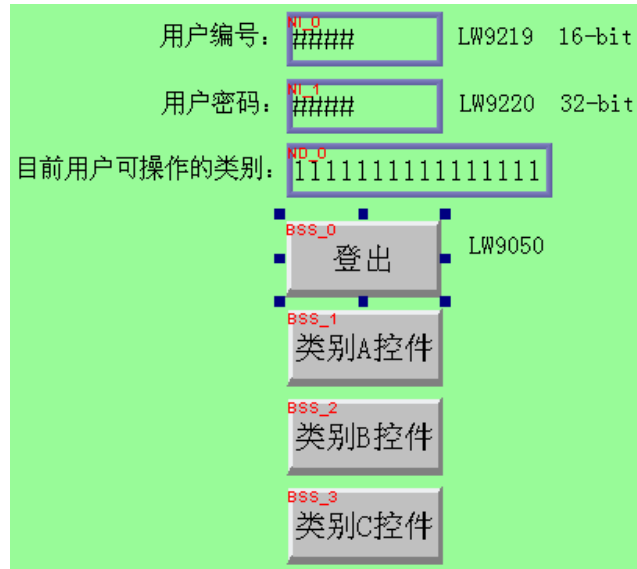
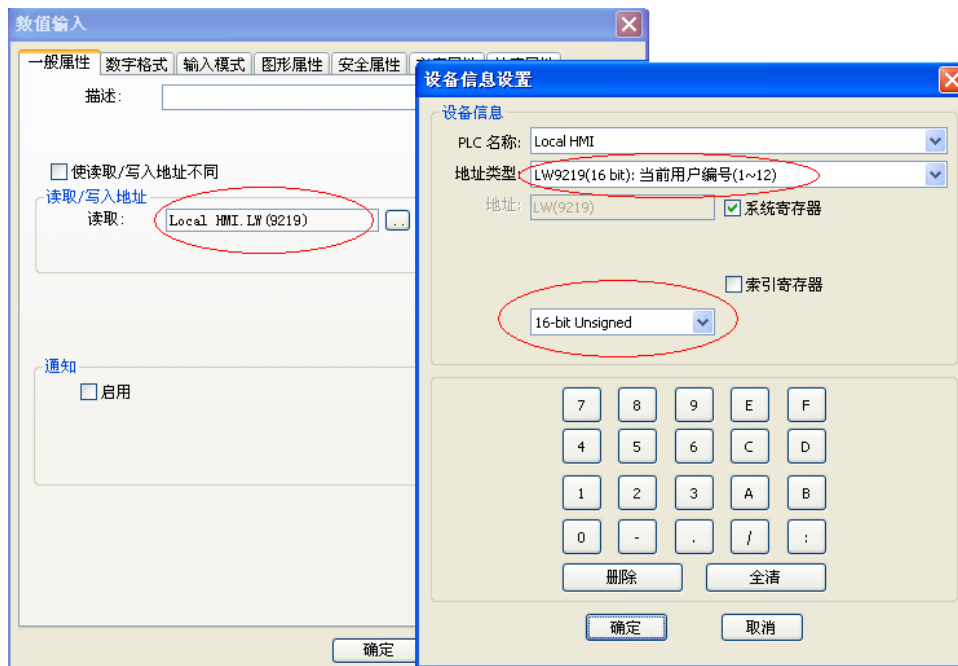
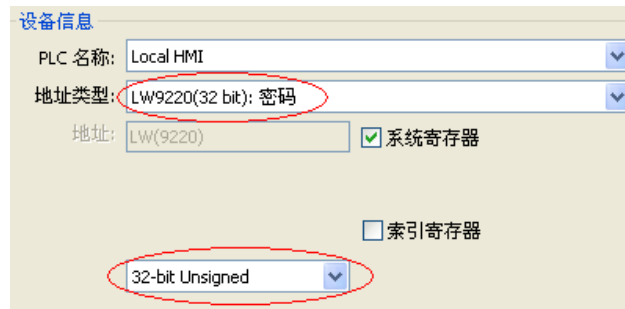


FIG on the [ NI\_0] versus[ NI\_1] Are all numeric input control, address [ LW9219] versus[ LW9220] , Are used to input user Number and user password. Wherein the system register [ LW9219] It is used to enter a user ID ( 1 ~ 12) A length of 1 More word ,therefore This control must be selected 16-bit Unsigned Data formats, as shown below:



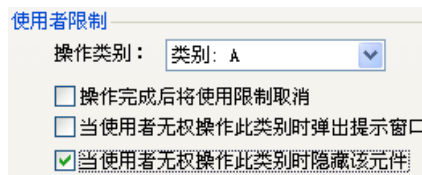
System security register [ LW9220] It is used to enter a user password with 2 More word Therefore this control must be selected 32-bit Unsigned Digital format, as shown below:



[NO\_0] for "Numerical display" Control, address [LW9222]. User operable to display the current category. This control must select 16-bit Binary Digital format.



[BSS\_1] ~ [BSS\_3] for "Bit status is set" Controls, which controls three deliberately chose a different type of operation, but have chosen [when Hide the element] When the user's authority to operate this category. among them [ BSS\_1] Operating category "A" , [ BSS\_2] Operating category "B" , [BSS\_3] Operating category "C". The following figure [ BSS\_1] Operation type setting content.

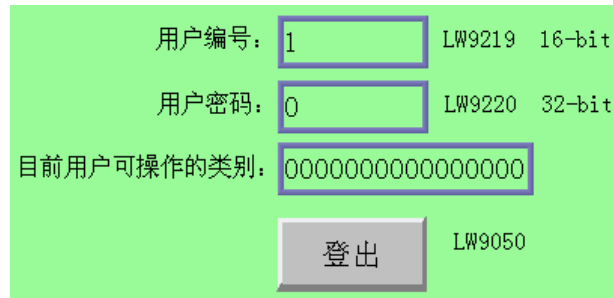


Moreover a screen is also designed "Bit status is set" button( BSS\_0, LB9050) , Of use as the user logs out, with reference to the following figure.



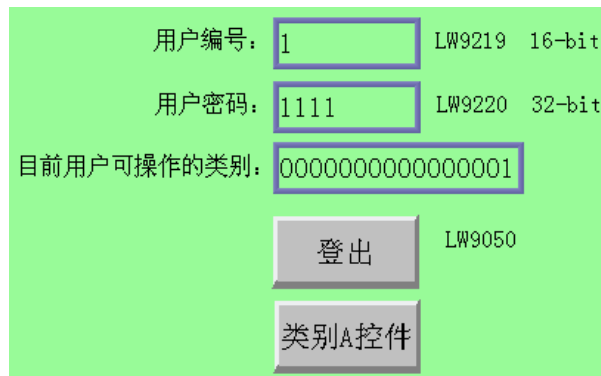
Step 3: Set a good save page, you can perform offline simulation function after compilation.

Offline simulation below shows the starting picture, at this time because no password has not been entered, the [ NO\_0] Control displays "00000000000000", Said the current user can only use category " no " Controls, and because [ BSS\_1] ~ [BSS\_3] Controls are belong to the category "A" ~ "C" And select [hide the element when the user's authority to operate category], so that [ BSS\_1] ~ [BSS\_3] It is hidden by the system.



用户编号: 1 LW9219 16-bit  
 用户密码: 0 LW9220 32-bit  
 目前用户可操作的类别: 0000000000000000  
 登出 LW9050

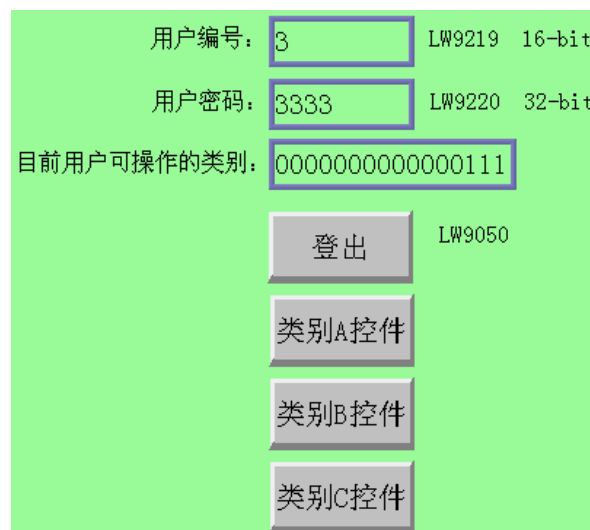
The user can then enter a user 1 Password ( 1111) After completion of the input picture as follows:



用户编号: 1 LW9219 16-bit  
 用户密码: 1111 LW9220 32-bit  
 目前用户可操作的类别: 0000000000000001  
 登出 LW9050  
 类别A控件

Because the original plan " user 1" It allows the use of category belong A Controls, so in this case [ BSS\_1] Controls will appear and allow the user to operating. At this time, it may be found in [ LW9222] of bit 0 It has become 1 , Represents in this case the user allows the use category belongs A Controls.

The user can then enter a user 3 Password ( 3333) After completion of the input picture as follows:



用户编号: 3 LW9219 16-bit  
 用户密码: 3333 LW9220 32-bit  
 目前用户可操作的类别: 0000000000000111  
 登出 LW9050  
 类别A控件  
 类别B控件  
 类别C控件

It can be found from the figure, " user 3 " It is planning to allow the use of category belong A, B, C Controls. at this time[ LW9222] of bit

0 ~ bit 3 Are changed 1 , Represents in this case the user is allowed to use categories does A ~ C Controls.

At this time, such as pressing [ BSS\_0] Forcing the user to log off, the system can find a reply to the initial state, and at this time the operator can operate

As a category " no " Control of.

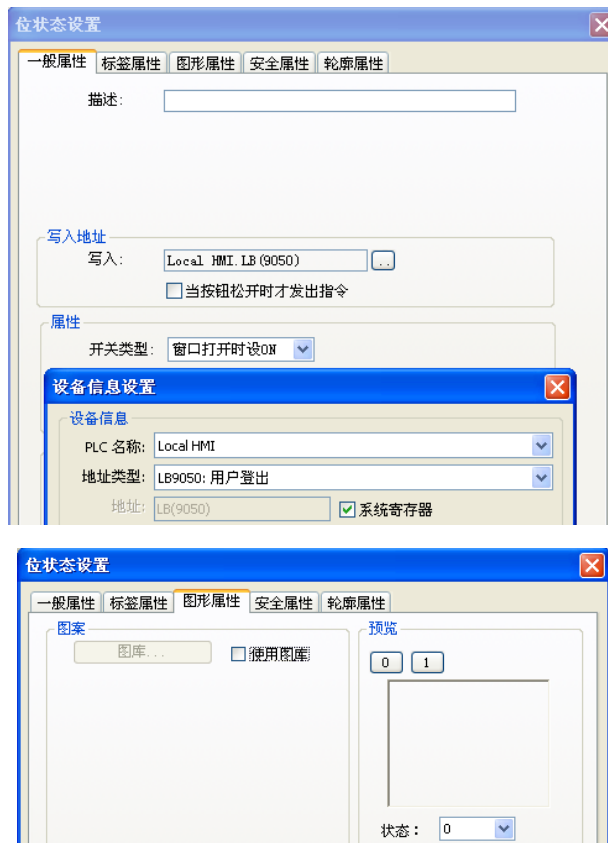
Note: After the correct user name and user password, you can control the operation of the corresponding category. But often the operator

When used, the operation is completed, logout forget that others without authority is also possible to operate the controls should not operate. to this end,

When editing the project screen, it is recommended to add a password input window " Bit status is set " Controls, write to the address fill

"LB9050" , Property to " When you open the window set ON " , That is, as long as the login password input window to automatically log off state.

The following properties are set, while " Graph " Do not use any graphics, is about the control does not appear on the screen.



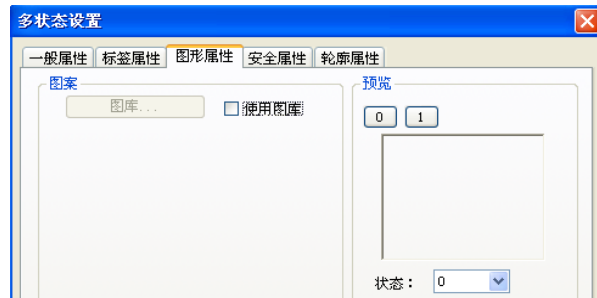
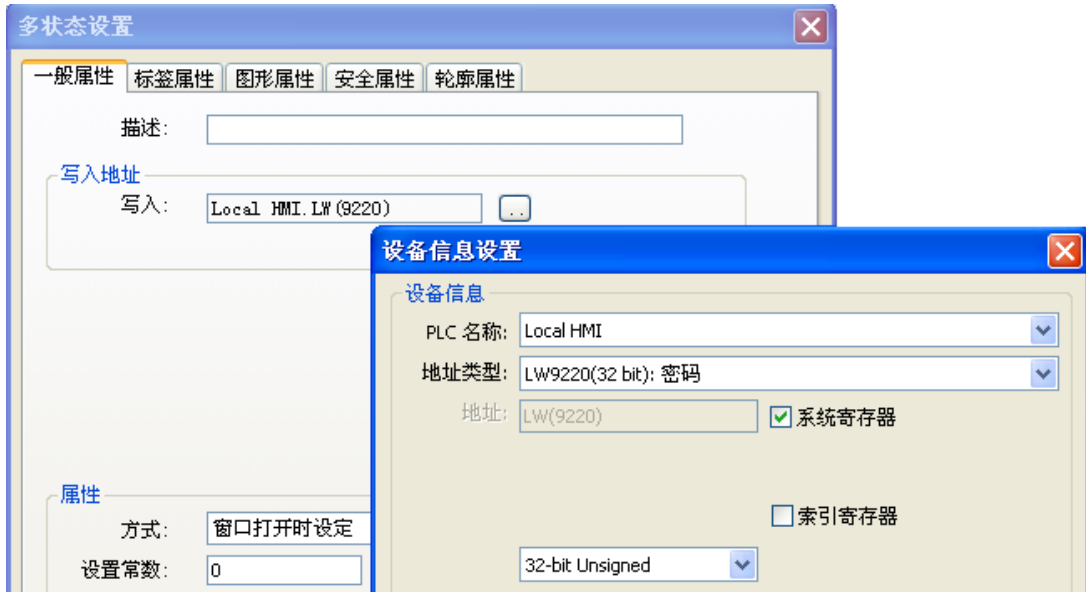
In addition, when users enter the wrong password, the system will automatically log off state, therefore, can increase a " Multi-state

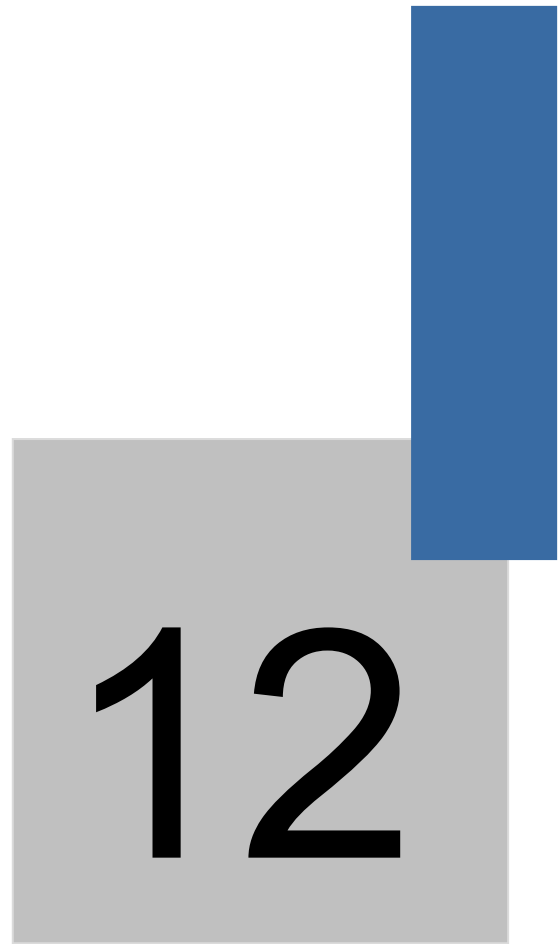
Set up " Controls, " Write address " Set as "LW9220" The data format "32-bit unsigned" ,in " Attributes " Select " Window fight

When set to open " ,in " constant " Fill items "0" . They also do not use any image, an original hidden, so you can lose entering

Enter the password window, the system will automatically log off state. Set content can refer to FIG.







**Index register**

---



## Chapter XII Index register

Index register is InoTouch Editor Software for indexed addressing registers. With the index register, with

The user can control without changing the contents of the address, the picture is running, on the man-machine interface can be modified control online

**Read and write address. InoTouch Editor Software provides a total 32 Index registers, respectively, 16 More 16-bit Index**

**register, 16 More 32-bit The index register.**

32 Address index registers are:

INDEX 0 [LW9200] (16-bit)

INDEX 1 [LW9201] (16-bit)

INDEX 2 [LW9202] (16-bit)

INDEX 3 [LW9203] (16-bit)

.....

INDEX 14 [LW9214] (16-bit)

INDEX 15 [LW9215] (16-bit)

INDEX 16 [LW9230] (32-bit)

INDEX 17 [LW9232] (32-bit)

.....

INDEX 30 [LW9258] (32-bit)

INDEX 31 [LW9260] (32-bit)

INDEX0 ~ INDEX31 Address label instructions, the latter system register is the address of the real index register. its

in INDEX 0 ~ INDEX 15 for 16-bit The index register, INDEX 16 ~ INDEX 31 for 32-bit Index register. because

this INDEX 0 ~ INDEX15 The maximum of the range can be addressed 65536 words , INDEX 16 ~ INDEX 31 Can be addressed

The range 4G words .

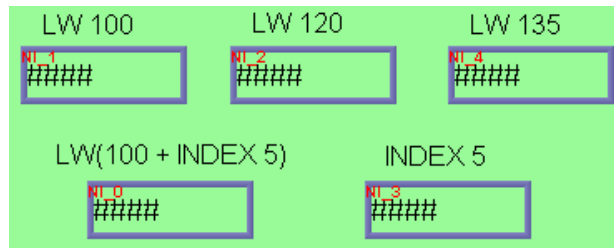
After the index register is used, the type of address used by the device " Set constant value address + the selected index register "

To decide. Index registers are available to the list of all devices created project screen system parameters, and to bit Format and word grid

Style addresses are valid.

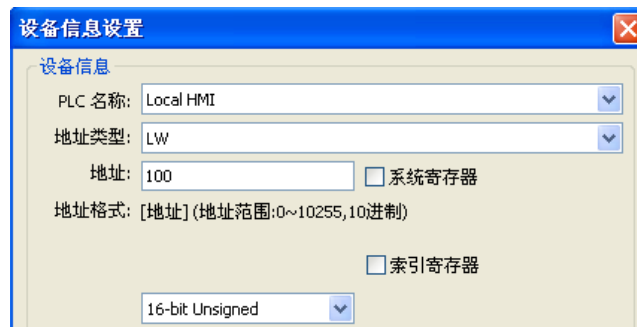
Illustrates the use of index-register:

Step a: Production following screen:

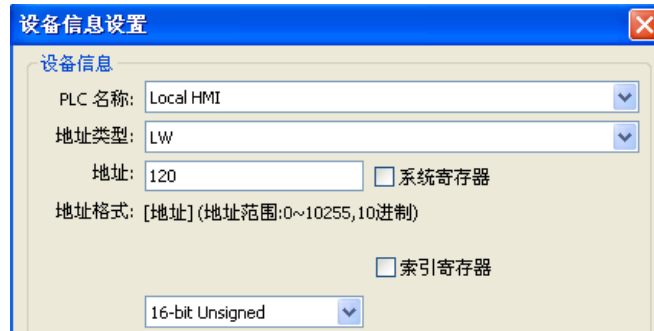


Step Two: Setting Control Properties

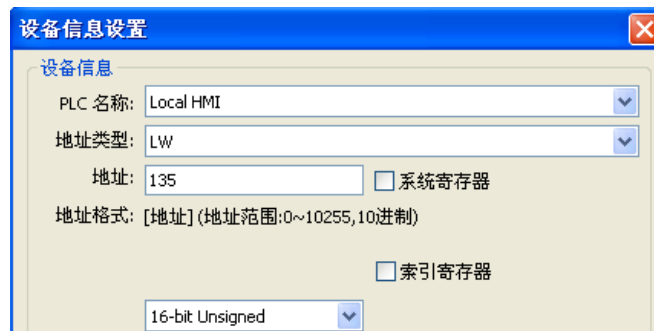
LW100 Unchecked [Index registers] option, then the read address is [ LW100] .



LW120 Unchecked [Index registers] option, then the read address is [ LW120] .



LW135 Unchecked [Index registers] option, then the read address is [ LW135] .

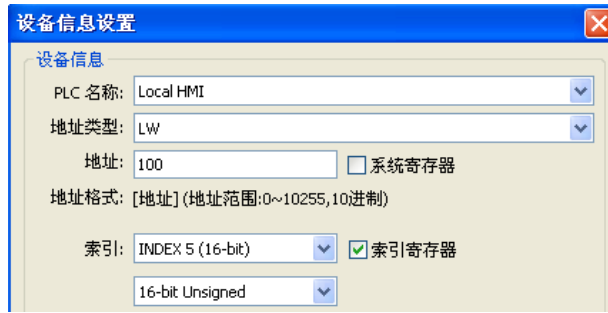


LW (100 + INDEX 5) [ Index registers] option is selected, and the selected index register INDEX5 Read at this time

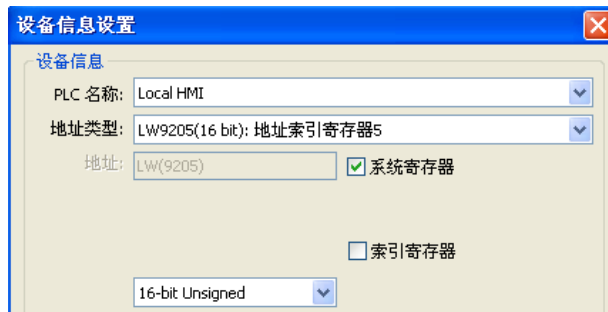
Take address becomes [ LW (100 + INDEX 5)] ,one of them INDEX 5 It indicates the index register 5 Or [ LW9205] Data address.

E.g [ LW9205] Data address is 20 , The read address of the next FIG becomes [ LW (100 + 20)] , That Reads LW120

The data.



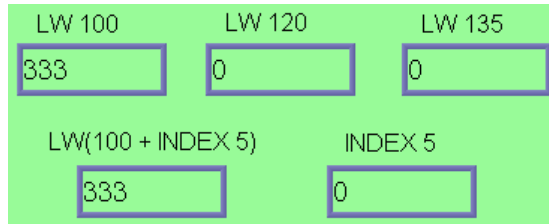
INDEX5 unchecked [Index registers] option, then the read address is [ LW9205] (Or address index register 5 ).



Step three: Save, compile and offline simulation.

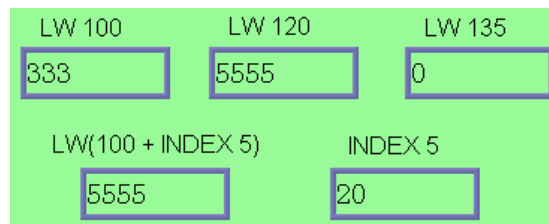
The following figure shows, this time INDEX5 for 0 , Which is [ LW9205] Data address is 0 Then read [ LW100 + INDEX3]

The read equivalents [ LW100] Content.



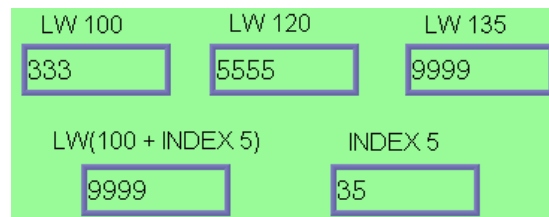
If at this time INDEX5 The content is set to 20 , Reading LW (100 + INDEX5) The read equivalents LW120 Content,

As shown below.



As if INDEX5 The content is set to 35 , Reading LW (100 + INDEX5) The read equivalents LW135 Content,

As shown below.



Summary: After the above description, the index registers actually learned a register indexed addressing, through the index register

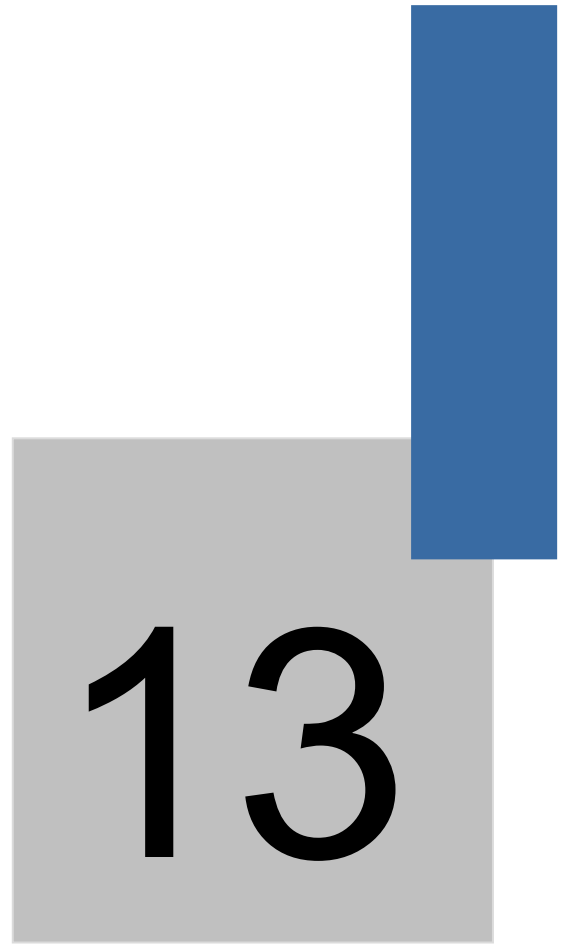
It is possible without changing the address of the device, simply by changing the data in the index register can be changed by the same control

Reading or writing data of a different address. Thus, different regions can be achieved or the address of the transfer data exchange functions.

**We used " formula " Transfer and save feature is the use of this feature to perform the index register. related " formula " instruction of,**

Please refer to the relevant sections.

**note: PLC Address yet support the index register.**



**Controls**

---

### Chapter XIII Controls

Controls are required in order to achieve certain functionality and design. In general, a control implements a function. Support control stack

Plus, the controls are effective after the superposition. Some controls must be used with other controls together, be able to achieve the functionality required in the following table

Fig.

Controls	Related controls	With instructions
Numeric input control	Function keys	We need to create a keyboard function keys
Text Input	Function keys	We need to create a keyboard function keys
Indirect Window	window	Window display must exist
Direct Window	window	Window display must exist
Event / alarm display	Event / alarm log in	In the pre-need " Event / alarm log in " Log in information
Trend	Data sampling	Must first establish " Data sampling "

The controls described below are associated with the setting, the setting refer to unexplained " Control general properties set " middle

Instructions.

### 13.1 Bit Lamp Control ( bit lamp)

" Bit Lamp " To display PLC in bit Stateful address. State ON It is displayed using a graphical status 1 ;

State OFF It is displayed using a graphical status 0 .



turn on InoTouch Editor Software menu " Control / status indicator / status indicator bit " Icon on or toolbar

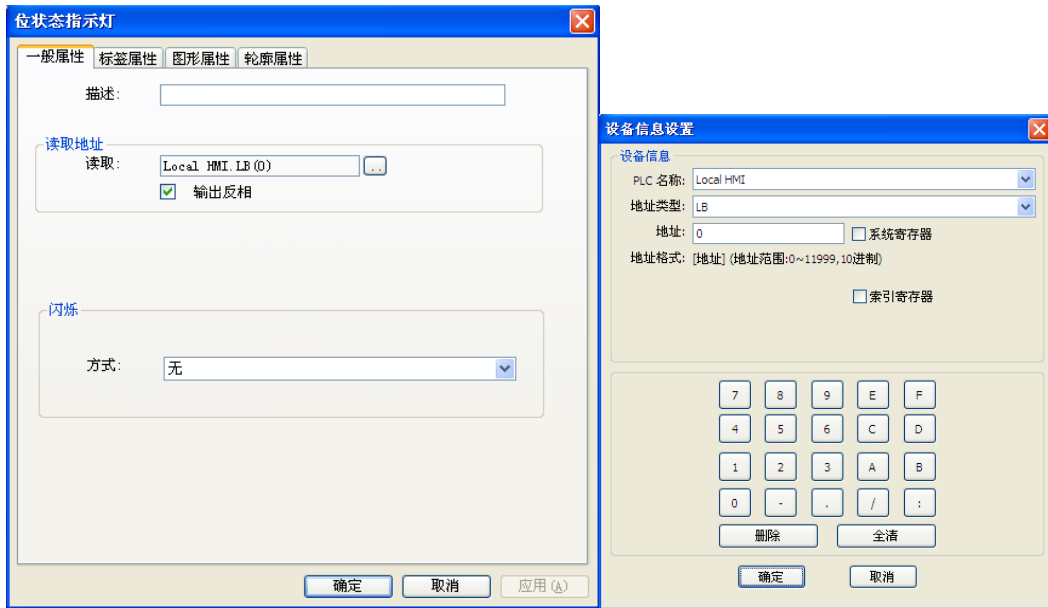


Click the left mouse button in the window, on the establishment " Bit Lamp " Control, as shown in FIG.



select " Bit Lamp " Double-click or right-click to select " Attributes " Edited, as shown below:





[ description]

Control Description. General comments written text for easy reading.

[ Read address]

Set the device information.

[PLC name]

Select the operation PLC Or a touch screen.

[ Address Type]

According to the recently selected "PLC name " To select read bit address.

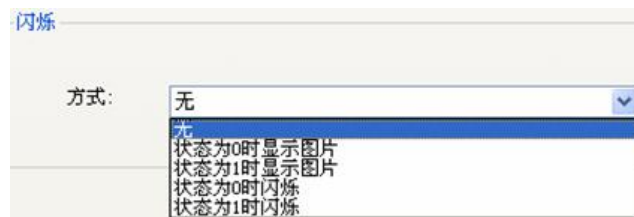
[ The output of inverter]

If checked, the state can be read as reverse video, for example, to read the status OFF But the control on screen will significantly

Show ON Graphics.

[ Flashing]

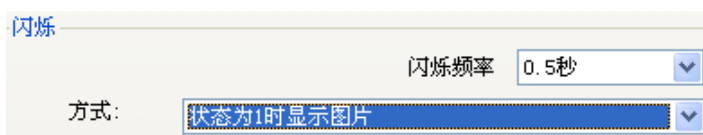
Set flashing mode control.



[ mode]

Flashing mode	Flashing way
no	Do not blink
State 0 Display pictures	State OFF When using graphics 0 And graphics 1 Flash alternately
State 1 Display pictures	State ON When using graphics 0 And graphics 1 Flash alternately
State 0 Blinking	State OFF When, graphics 0 Appearance and disappearance of the interaction
State 1 Blinking	State ON When, graphics 1 Appearance and disappearance of the interaction

When flicker effect, [flicker frequency] is used to select the time period of the flicker frequency.



### 13.2 Set the control bit status ( set bit)

" Set Bit " Provide manual and automatic control operation performs two types of operations. use " Manual operation " Mode, the user can use " Set Bit " Control defines a touch area on the window, pressing this area can be selected PLC Like bits of address State is set to ON or OFF . Including: Set ON , Set OFF , The switch, return type.

If you use " Automatic execution " Mode, under certain conditions defined automatically performed control operation, such an operation mode using Type, upon pressing touch area defined for the control, the control will not be any reaction. Comprising: a switch cycle, provided window opens

ON When the window opens set OFF When the window is closed set ON When the window is closed set OFF Set, when the backlight is opened ON Backlight Light is set to open OFF Set, when the backlight is turned off ON Set, when the backlight is turned off OFF .

turn on InoTouch Editor Software menu " Control / status setting / status bit is set " , Or icon on the toolbar,



Window, click the left mouse button on the establishment of " Bit status is set " Control, as shown in FIG.



select " Bit status is set " Double-click or right-click to select " Attributes " Edited, as shown below:



[ Write address]

To write the definition of which specific bit address

[ When the button is released only instructs]

Use this setting means that after pressing the control, you must fully release the pressing action, control defines the mode of operation will be executed.

If you do not use this setting, just a touch this area, will perform the action of the control immediately. However, if the selected operation mode Momentary

(Momentary) Switch, will not support this feature.

Attributes

[ Switch Type]



Operation mode selection control, selectable items are as follows:

Set ON	After the touch area defined for the control, indicated positioned state will be set to the address ON .
Set OFF	After the touch area defined for the control, indicated positioned state will be set to the address OFF .

Switch	Switching switch. After each defined area of the touch control, the state indicated location addresses will be inverted. That is, by the state OFF Changes to ON Or by the ON Changes to OFF , This cycle.
Momentary	Momentary. Each time the touch area defined for the control, address indicated positioned state is set to the first ON But left the touch area, the status will be set to OFF . That is defined as a dip switch.
Switch cycle	Periodically switching on switch. State will be referred Locator ON versus OFF Periodic inter-cut In other words, in this mode does not provide manual operation. Drop-down dialog box can be selected in the following figure shows the Switching period. 
When you open the window set ON	State position where the control window is opened, the positioning indicated address is automatically set to ON .
When you open the window set OFF	State position where the control window is opened, the positioning indicated address is automatically set to OFF .
When set to close the window ON	State position where the control window is closed, meaning positioning address is automatically set to ON .
When set to close the window OFF	State position where the control window is closed, meaning positioning address is automatically set to OFF .
When the backlight is set to open ON	When the backlight is opened, the state indicated location addresses will automatically be set to ON .
When the backlight is set to open OFF	When the backlight is opened, the state indicated location addresses will automatically be set to OFF .
Is set off backlighting ON	When the backlight is turned off, the state indicated location addresses will automatically be set to ON .
Is set off backlighting OFF	When the backlight is turned off, the state indicated location addresses will automatically be set to OFF .

### 13.3 Toggle Switch control ( toggle switch)

" Toggle Switch " for " Bit Lamp " Control and " Bit status is set " A combination of controls. In addition to this control can be used to significantly

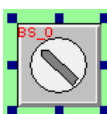
Bit address outside the specified state diagram, this control can also use a touch area is defined on the window, this area may be set pressing

State is referred Locator ON or OFF .

turn on InoTouch Editor Software menu " Control / Status switch / switch status bits " , Or an icon on the toolbar,



Left-click in the window, on the establishment " Toggle Switch " Control, as shown in FIG.



select " Toggle Switch " Double-click or right-click to select " Attributes " Edited, as shown below:



[ Read address]

Read address state. Bit address set here, as it comes from PLC When there is a change in the read state, the pattern is also used

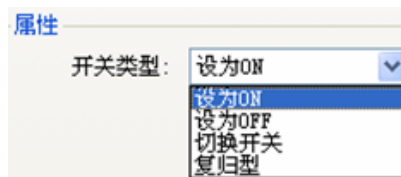
That will change the display state, regardless of whether there is a touch of the controls.

[ Write address]

Write address state, and this bit address " Read address " Are the same or different specified bit address.

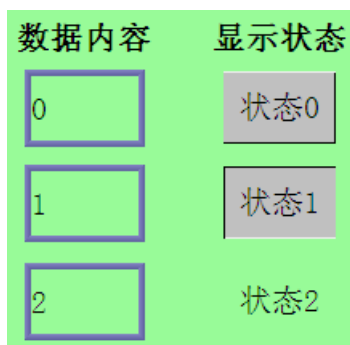
[ Attributes]

Operation mode selection control, selectable items comprising " Set ON ", " Set OFF ", " Switch ", " Momentary ", can reference " Bit status is set " Description of the control.



## 13.4 Word Lamp Control ( word lamp)

" Word Lamp " Using the data within the register control, the state corresponding to the display pattern ( InoTouch Editor most stand by 256 States display).



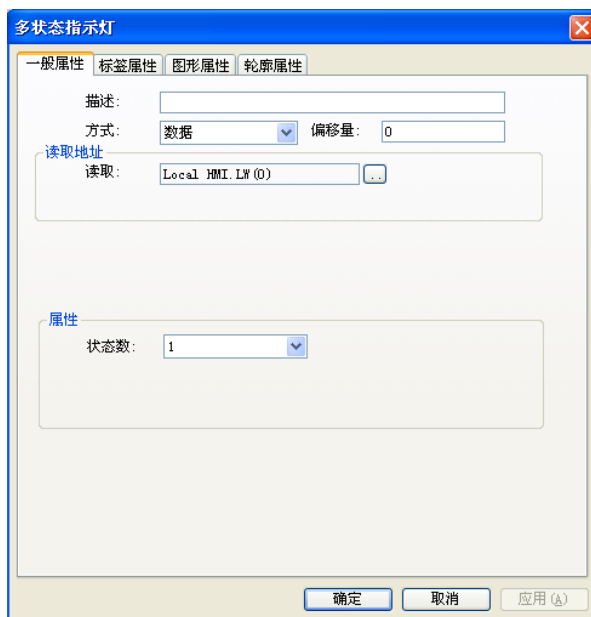
turn on InoTouch Editor Software menu " Control / status indicator / multi-state indicator " , Or an icon on the toolbar,



Left-click in the window, on the establishment " Word Lamp " Control, as shown in FIG.



select " Word Lamp " Double-click or right-click to select " Attributes " Edited, as shown below:



[ the way]

" Word Lamp " Mode control provides the following three options:

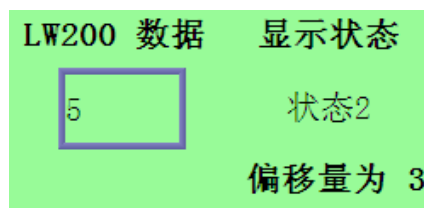
a , " data " Display Mode

Direct use of the result of subtracting the data within the register [offset] set value, as the current state of the control. For example following a increase

New " Word Lamp " [Offset] control, the control content is set as shown below, note that this control is 3 .



therefore [ LW200] As for the data in the 5 Will display the status 2 (= 5-3) , With reference to the FIG.



**b , "LSB" Display Mode**

This first pattern data in the register will be converted to 2 Hex, then use is not 0 The lowest bit determines the current control

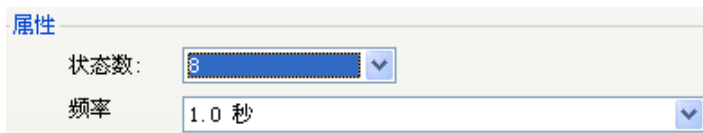
status. To address [ LW200] Data in the address, for example:

Decimal	2 Ary Status display
0	0000 Complete bit Are all 0 , The status display 0
1	0001 It is not 0 The lowest bit bit 0 In this case the display state 1
2	0010 It is not 0 The lowest bit bit 1 In this case the display state 2
3	0011 It is not 0 The lowest bit bit 0 In this case the display state 1
4	0100 It is not 0 The lowest bit bit 2 In this case the display state 3
7	0111 It is not 0 The lowest bit bit 0 In this case the display state 1
8	1000 It is not 0 The lowest bit bit 3 In this case the display state 4

c , " Cycle transition state " Display Mode

Regardless of the state register control, fixed frequency control will sequentially transformed state. Users can use [frequency] like

Frequency state change.



[ Read address]

Read address state. That is, to read PLC State or a touch screen in which the register

Attributes

[ Number of States]

The number of state control, from the state 0 Starting number, so as to show the maximum state [state number] Save 1 . For example, the number of states

Head for 8 State, the display is sequentially 0 , 1 , 2 , ... , 7 . When a display request exceeds state [state number] - 1 Time, InoTouch

Editor It displays the last state.

### 13.5 Multi-state setting controls ( set word)

" Multi-state settings " Controls provided " Manual operation " versus " Automatic execution " Two modes of operation. use " Manual operation " Mode, the user usable " Multi-state settings " Control defines a touch area on the window, pressing this area may be set within a specified register data. Including: Set ON , Set OFF , The switch, return type.

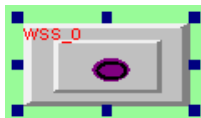
If you use " Automatic execution " Mode, under certain conditions defined automatically performed control operation, such an operation mode using Type, upon pressing the touch area defined for the control, the control will not be any reaction. Comprising: a switch cycle, provided window opens

ON When the window opens set OFF When the window is closed set ON When the window is closed set OFF Set, when the backlight is opened ON Backlight Light is set to open OFF Set, when the backlight is turned off ON Set, when the backlight is turned off OFF .

turn on InoTouch Editor Software menu " Control / status set / multi-state settings " , Or icon on the toolbar,

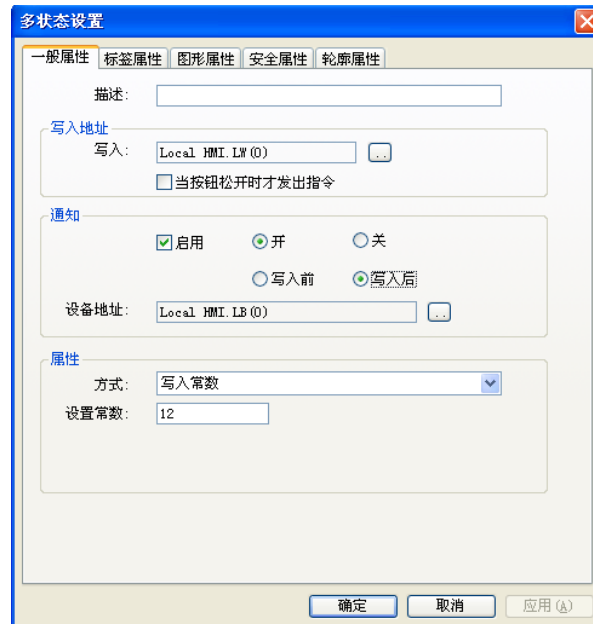


Window, click the left mouse button on the establishment of " Multi-state settings " Control, as shown in FIG.





select " Multi-state settings " Double-click or right-click to select " Attributes " Edited, as shown below:



[ Write address]

Write address data. Set a specific operation PLC Data register or a touch screen.

[ When the instruction is issued only when the button is released]

Use this setting means that after pressing the touch controls defined area must be completely out of control in this area will be the implementation-defined action. If you do not use this setting, as long as a contact with this area, will perform the action defined for the control immediately.

[ Notice]

Use this setting, then use " Manual operation " Mode, the operation after the completion of this setting item can be referred to jointly positionally

State address, use [ ON] versus[ OFF] Select the state to be set.

[ Enable]

Choose whether to turn on this feature.

[ Before writing]

Before writing the state of operation of the positioning referred to previously set address.

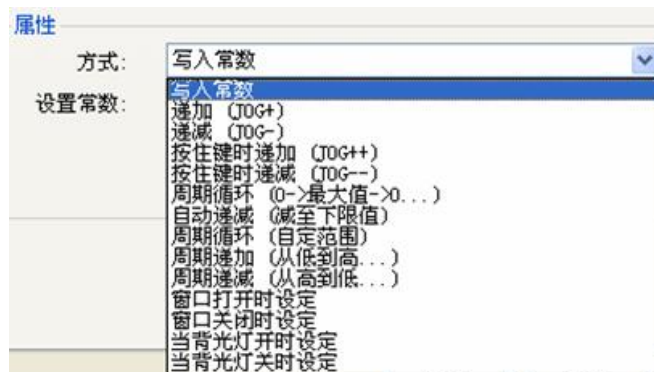
[ After writing]

In the write operation is completed after setting the address indicated positioned state.

Attributes

[ mode]

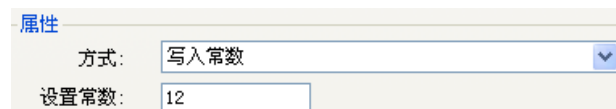
Operation mode selection control, the following modes can be selected:



#### a , " Write constants "

Set constant function. Each time control is pressed, [constant setting] will set value written into the designated register. Constant type

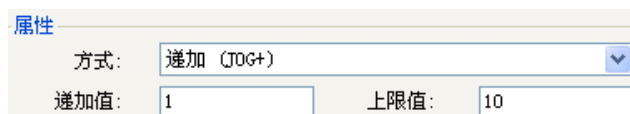
Can 16-bit BCD , 32-bit BCD , ... , 32-bit float And the like, data format " Write address " Project decisions.



#### b , " Sliding scale ( JOG +) "

Value-added features. Each time control is pressed, the data within the register plus the delta value [handover value] set specified, but the increment

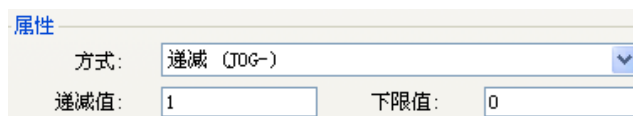
The results will not exceed the set value [upper limit value] in.



#### c , " Decreasing ( JOG-) "

Impairment of function. Each time control is pressed, the data within the register designated by subtracting the decrement value [decremented value] set, but the reduction

Result value does not fall below a set value [lower limit value] in.

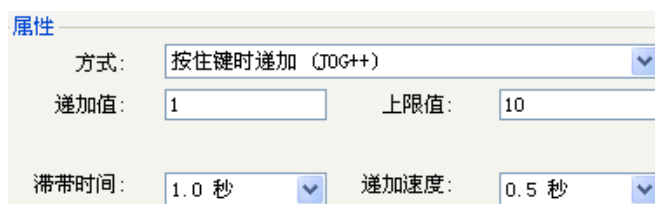


#### d , " When holding down a sliding scale ( JOG ++) "

A sliding scale function hold the button. If control over the pressing [lag time] of the set time, then the data within the register will be designated

[ Acceleration delivery set speed], each increasing increment value [handover value] set, but the resulting value will not exceed a limit value [on] in

Setting.



e , " Decreasing while holding the key ( JOG-- ) "

Decrement function by pressing the button. If control over the pressing [lag time] of the set time, then the data within the register will be designated

[ Delivery acceleration] set time intervals, decremented by decrement value [decremented value] is set, but the result does not fall below impairment [lower limit value]

The set value.

属性

方式: 按住键时递减 (JOG--)

递减值: 1      下限值: 10

滞带时间: 1.0 秒      递加速度: 0.5 秒

f , " Cycles ( 0-> Maximum -> 0 ... ) "

Periodically incrementing function. " Set word " Controls use [frequency] cycle [handover value] set increment value, from

Setting value data within the register specified incremental motion, but the resulting value will not exceed the [upper limit value] in. After increases to a maximum, and then

And increments from zero to a maximum, and so forth cycle.

属性

方式: 周期循环 (0->最大值->0...)

递增加值: 1      上限值: 10

频率: 1.0 秒

g . " Auto decrement (Reduced to the lower limit) "

Periodically decreasing function. " Set word " Controls use [frequency] cycle, the data within the register automatically designated

Subtracting [decrement value] set decrement values, but the results will not decrement below the set value [lower limit value] in.

属性

方式: 自动递减 (减至下限值)

递减值: 1      下限值: 10

频率: 1.0 秒

h , " Cycles (From a given range) "

Periodic circulation. " Set word " Controls use [frequency] cycle, each time the data within the register designated

Added to the setting value [handover value] is, until the data within the register equal to the [upper limit value]; followed by the same cycle, the register

Subtracting the set value data [handover value] is, until the data within the register is equal to [lower limit value]. Again and again, so that data has been

**Maintain the dynamic changes. The following diagram, for example, the data will be made 0 , 1 , 2 , ... , 9 , 10 , 9 , 8 , 7 , ... , 1 , 0 , 1 , 2..... of**

Cyclical changes.

属性

方式: 周期循环 (自定义范围) ▾

下限值: 0 上限值: 10

递加值: 1

频率: 1.0 秒 ▾

i, " Cycle sliding scale "

Stepping function. " Set word " Controls use [frequency] cycle, each time the data in the specified register plus [Delivery

Setpoint value] is, until the data within the register is equal to [maximum value], then the data in the register will return to the value [Min],

And then repeat the action, so that data remains dynamic changes. The following diagram, for example, the data will be made 0 , 1 , 2 , ... , 9 , 10 , 0 ,

1 , 2 , ..... Cyclical changes.

属性

方式: 周期递加 (从低到高...) ▾

最小值: 0 最大值: 10

递加值: 1

频率: 1.0 秒 ▾

j, " Decreasing cycle "

Step back function. " Set word " Controls use [frequency] cycle, each time the data in the register designated by subtracting [Delivery

Impairment set value] is, until the data within the register is equal to [Min], and then the data in the register will return to the value [maximum value],

And then repeat the action, so that data remains dynamic changes. The following diagram, for example, the data will be made 10 , 9 , 8 , ... , 1 , 0 ,

10 , 9 , 8 , ..... Cyclical changes.

属性

方式: 周期递减 (从高到低...) ▾

最小值: 0 最大值: 10

递减值: 1

频率: 1.0 秒 ▾

k, " Is set to open the window "

When the control is open window position, it will be [the constant [] set point value is automatically written into the designated register.

属性

方式: 窗口打开时设定 ▾

设置常数: 10

l, " Setting Close "

When closing the window position control is on, it will be [the constant [] set point value is automatically written into the designated register.

属性	
方式:	窗口关闭时设定
设置常数:	5

m , " When the backlight is set to open "

When the original is in a closed state of the backlight, if restored to the on state, will be [the constant [] set point value is automatically written into the designated Register.

属性	
方式:	当背光灯开时设定
设置常数:	20

n , " When the backlight off setting "

When the backlight is in the original open state, if the backlight turned off, will be [the constant [] set point value is automatically written into the designated register Vessel.

属性	
方式:	当背光灯关时设定
设置常数:	5

### 13.6 Multi-state control switch ( multi-state switch)

" Multi-state switch " Controls for the " Word Lamp " Control and " Set word " A combination of controls. In addition to this control can benefit

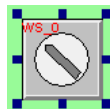
Show different states in the data register, this control can also use a touch area is defined on the window, pressing this

The data area can be set within the register specified.

turn on InoTouch Editor Software menu " Control / status switches / multi-state switch " Icon on or toolbar



Click the left mouse button in the window, on the establishment " Multi-state switch " Control, as shown in FIG.



select " Multi-state switch " Double-click or right-click to select " Attributes " Edited, as shown below.



[ the way]

provide " data " versus "LSB" Display mode, reference " Word Lamp " Description of the control.

[ Offset]

Use selected " data " When the display mode, the reference " Word Lamp " Description of the control.

[ Read address]

Read address state. That is set to read PLC Data which status register.

[ Write address]

Write address data, that is, to go PLC Which specific register write data. Can and " Read address " Defined

The same or different registers.

[ Instructs] When the button is released when

Please refer to this set " Set Bit " Description of the control.

[ Attributes]

Selecting the operation mode of the control.

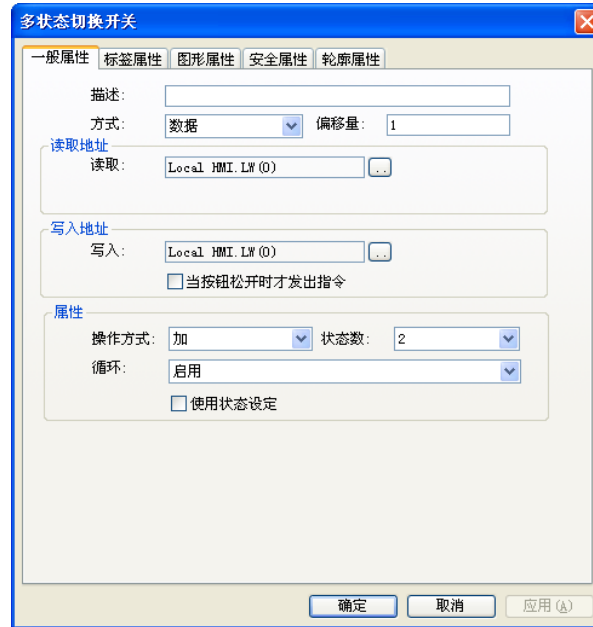
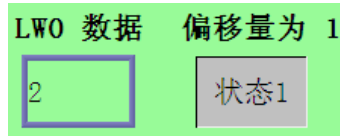
[ Operation mode]

Choose " plus( JOG +) " or " Less( JOG-) " .

The same as the read address, and select " data " When the display mode, the minimum value of the data register will equal [offset], this

State of the state 0 ; Maximum Data for  $([Number] - 1) + [Offset]$ , the status is displayed at this time  $[Number] - 1$  .

Refer to the diagram.

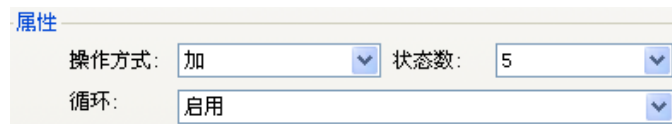


This picture shows the result of FIG. " Multi-state switch " Setting controls

a , " plus( JOG +) "

Each press controls, will " Write address " The data within the register specified plus 1 When selecting " data " When the display mode, If the result value is greater than or equal [Number] + When [offset] value, if the [Loop] Select " Enable " , The data within the register will It is reset to [offset], and display state 0 ; Otherwise, the data within the register will remain  $([Number] - 1) + [Offset]$ , and significant Shows a state  $([Number] - 1)$  . That is, at this time [offset] is displayed as a set value " status 0 " . Other states and so on.

Note: with " Word Lamp " the same, " Multi-state switch " Status data are all displayed within the register minus the [partial Shift amount].



b , " Less( JOG-) "

Each press controls, will " Write address " Subtracting the data within the register designated 1 When selecting " data " When the display mode, If the result is less than the impairment [offset] value, and the [Loop] Select " Enable " , The data within the register will be changed to  $([Number] - 1) + [Offset]$ , and display state  $([Number] - 1)$  Otherwise, the data will remain within the register [offset], and display state 0 .

### 13.7 And numerical value display control input ( numeric input and numeric display)

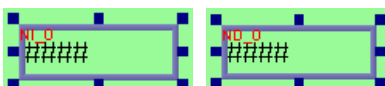
" Numeric Input " versus " Numerical display " Can be used to display all control registers are specified, wherein " Numeric Input " Control and

Can use the input keyboard value, change the data within the register.

turn on InoTouch Editor Software menu " Controls / values / character " select " Numeric Input " or " Numerical display " Or Toolbar

Icon on   Click the left mouse button in the window, on the establishment " Numeric Input " or " Numerical display " Control, as shown by

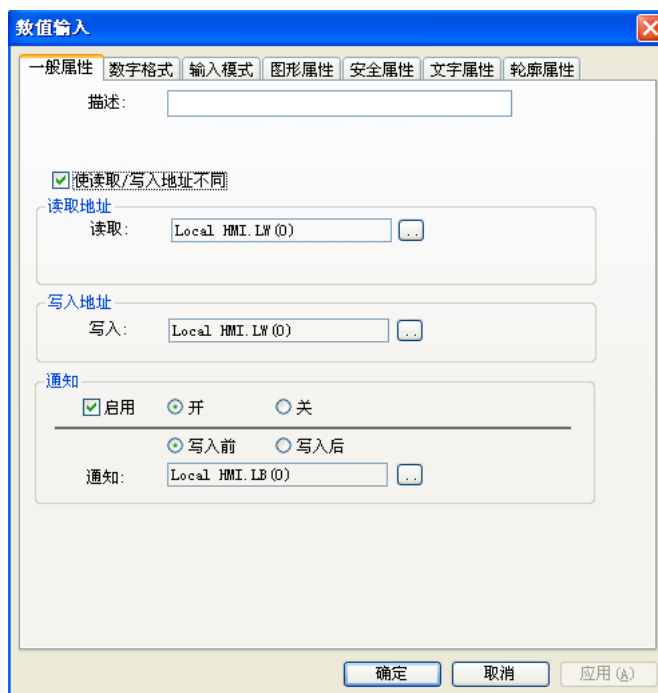
Shows.



select " Numeric Input " or " Numerical display " Double-click or right-click to select " Attributes " Editing, " The value of the input control properties

Dialog box " versus " Numeric Display Control Properties dialog box " Difference is that " Numeric Input " Increased control " Notice " versus " Keyboard settings " item

Head. The figure below shows " Numeric Input " [General Properties] tab control. As shown below:



[ Read address]

Value of the read address. Reading the address data.

[ Write address]

Write address values. Write data to that address.

[ Notice]

in " Numeric Input " Use this control set, when the value within the register successfully changed (input value must be defined in the vertical

Within the range defined reference " Digital format " Setting page description), can set this status indicated location addresses, using " open "(ON)



versus " turn off "(OFF) Select the state to be set.

[ Enable]

Choose whether to open " Notice " Features.

[ Before writing]

Before the data in the register set is changed to the first state where the position indicated address.

[ After writing]

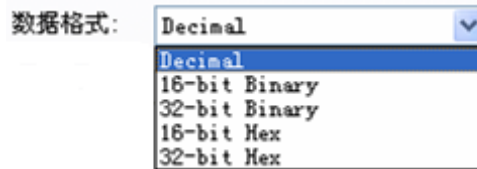
Data in the register is changed after setting the state indicated positioning address.

The figure below shows " Numeric Input " versus " Numerical display " Controls are included [number format] setting page for setting the display mode value.



[ Data Format]

Alternatives within the data register, each of the data types are selectable FIG.



The following table describes the data format of the above.

Data format	Format Description
Decimal	Decimal data type
16-bit Binary	16 Bit binary data type

32-bit Binary	32 Bit binary data type
16-bit Hex	16 Place 16 Decimal data type
32-bit Hex	32 Place 16 Decimal data type

[ password]

Checked, will be used when the value is displayed "" No. Instead of all numbers, and set aside the color warning function.

[ Before the decimal digits]

Display digits before the decimal point.

[ Decimal places]

Display digits after the decimal point.

[ Scale conversion]

Data shown is the use of the original data register after the conversion formula obtained. Select this function must be set [than

**Example Min, [the ratio of the maximum value] and " limit " [Enter the lower limit] project, [enter the upper limit].**

**Assuming that the original data usage A is represented, the data shown use B To represent the data B The following terms may be used well**

Obtained by:

$$B = [ \text{Scaling min} ] + ( A - [ \text{Enter the lower limit} ] ) \times \text{Scaling factor}$$

$$\text{Wherein the proportionality coefficient} = ( [ \text{Maximum ratio} ] - [ \text{Scaling min} ] ) / ( [ \text{Input High} ] - [ \text{Input Low} ] )$$

The following setting map as an example, when the original data is 15 When, after the value is obtained by converting + 10 (15 - 0) x (50 - 10)

/ (20-0) = 40 Numerical On the display device 40 .

[ limit]

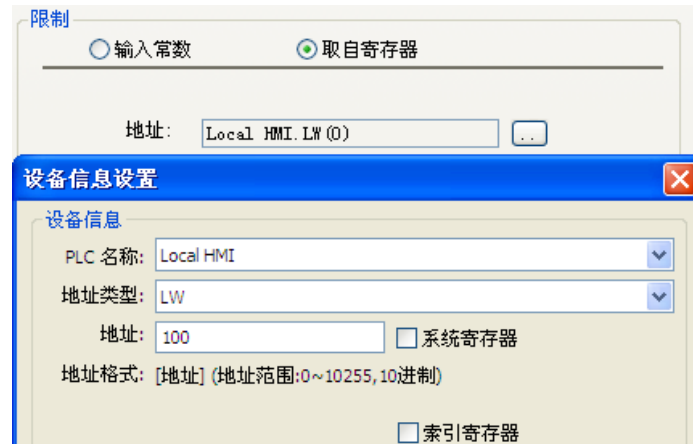
An input for setting a lower limit value of the source, and the other is to set the warning color warning effect.

[ Input constant]

**Upper and lower limits of the input data, respectively, from " Enter the lower limit "(Input low) versus " Enter the upper limit "(Input high) The set value.**

If the range of input values is not defined within the upper and lower limits, will not change the value of the register.

[ Taken from the register]



Designated registers from the lower limit of the input data. At this time, the data length register must exist and control the display

The data types related. For example, the upper limit of the FIG from [ LW100] In this case the address stored upper and lower limits as follows:

① If the data type is displayed "Decimal" ,then

[LW100]                      The lower limit of storage address (decimal)

[LW100 + 2]                 The upper limit of storage address (decimal)

② If the data type is displayed "16-bit Binary" ,then

[LW100]                      The lower limit of storage address ( 16-bit Binary)

[LW100 + 1]                 The upper limit of storage address ( 16-bit Binary)

③ If the data type is displayed "32-bit Hex" ,then

[LW100]                      The lower limit of storage address ( 32-bit Hex)

[LW100 + 2]                 The upper limit of storage address ( 32-bit Hex)

Use caution color

[ The lower limit]

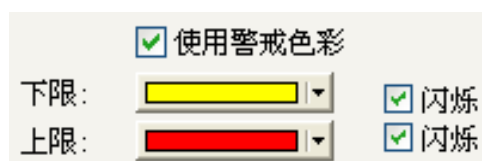
When the value of the input register is less than the lower limit set value, the control will use this setting to display color values.

[ The upper limit]

When the value of the register is greater than the upper limit value, the control will use this value to display color setting.

[ Flashing]

When the value of the register than the lower limit or greater than an upper limit value, the control will be alert scintillation effects.



If the setting as shown above, when the value is smaller than the register read " Lower limit " When the data set, the value will be displayed " yellow " ,

And scintillation; when the register value is greater than the " Upper limit " When the data set, the value will be displayed " red " And blinking.

The figure below shows " Numeric input "[Mode] control settings page, setting numerical keyboard input to set input.



[ Enter the order]

When a plurality of input control values on the same screen, the current touch operation is required to modify the control data,

Keyboard pops up, enter after the keyboard disappears. Then the data needs to be modified and then touch a control, then the pop-up keyboard, input

After completion, the keyboard and then disappear. So the cycle. Thus, in a plurality of data registers to be modified when such operation efficiency

not tall. InoTouch Editor provided " Enter the order " Function use this function, the input control can be divided into a plurality of packet sequence

Not sequentially input, then the pop-up keyboard to enter a complete input control value and press "Enter" After, it will not disappear, but light

Standard automatic jump to the next input control value. When the input control value modifications are completed, press on the keyboard "ESC" button,

Keyboard disappears. In this way, we can greatly improve the efficiency of the modified value.

[ Enable]

When checked " Enable " When expressed using " Enter the order " Features.

[ Enter the order]

Setting the input order when the modified data. Modify data sequentially in ascending numerical order to modify.

[ Groups]

The group number is set in the input control value. When a plurality of values on the screen of input controls which input will be in a different order

of " Groups " In order to enter.

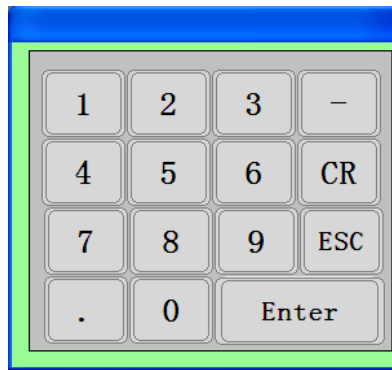
	群组1		群组2
输入次序1	123	输入次序1	321
输入次序2	456	输入次序2	654
输入次序3	789	输入次序3	987

[ keyboard]

use " Numeric Input " When control, allowing a user to select the type of keyboard used, and set the start position of the keyboard appears.

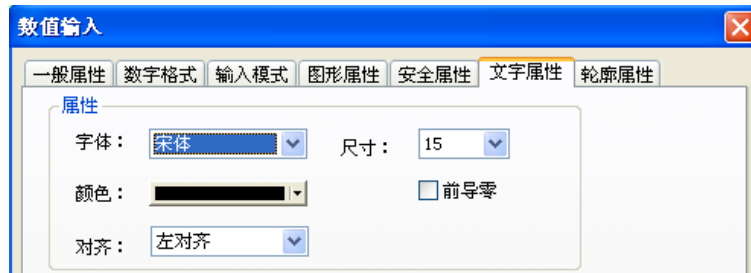
Selecting required presence keyboard window, as long as the touch is performed to " Numeric Input " Control, keyboard will appear automatically. Further details can participate

Test "design of the keyboard and use the" this chapter.



The figure below shows " Numeric Input " versus " Numerical display " [Text Properties] control setting page for setting the font used for displaying numerical values,

Size and color, further including a digital-aligned manner.



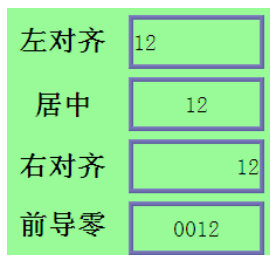
[ Colour]

When the value in the range of upper and lower limits of the defined color display. At this time, the data is represented within the normal range.

[ Align]

Offers four digital alignment: " Left "(Left) , Center ( centered ) , " Align Right "(Right) , " Precursor

zero "(Leading zero) Using different alignment performance behavior may refer to the FIG.



### 13.8 Character input and character display control ( ASCII input and ASCII display)

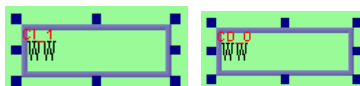
" Character input " versus " Character display " Use the controls ASCII Encoded data displayed in the specified register, " Character input "

And control input values can be a keyboard, change the data within the register.

turn on InoTouch Editor Software menu " Controls / values / character " select " Character input " or " Character display " Or tool

Icon on the toolbar   Click the left mouse button in the window, on the establishment " Character input " or " Character display " Controls, as shown below

Fig.



select " Character input " or " Character display " Double-click or right-click to select " Attributes " Edited. " Character input " versus " Character display

Show " Difference control properties dialog window, that " Character input " Controls increase " Notice " versus " Keyboard input function set " project. The figure below shows

" Character input " [General Properties] tab control. As shown below:



[ use UNICODE]



Check the Use "UNICODE" After, you can use your own definition "UNICODE" Keyboard to input characters to customize. package

Including Chinese characters. When entering Chinese characters, this must have these characters in the project file, or can not be displayed. For example, now uses

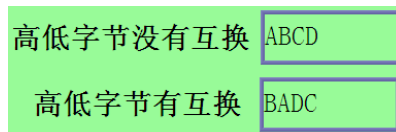
**Define yourself UNICODE Keyboard input " touch screen " Three words, then " touch screen " These three characters must be in the current screen**

The existence of the project, no matter which screen is in, whether it is the manner in which there is, in the words you enter here will be displayed properly,

Or it can not be displayed.

[ High byte / lower byte swap]

After checked, it will read over the high and low byte characters to display upside down. As shown below.



[ Read address]

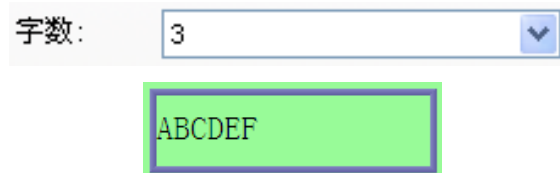
Reads the address character. But also modify the character data to that address.

[ Words]

Select the text can display up to the data length in word , Selectable minimum value 1 . Because each ASCII Characters long

Of one byte ( byte) , So every time a minimum of two characters will be displayed. The following chart set, for example, controls can display up to 3 \* 2

6 = Characters.

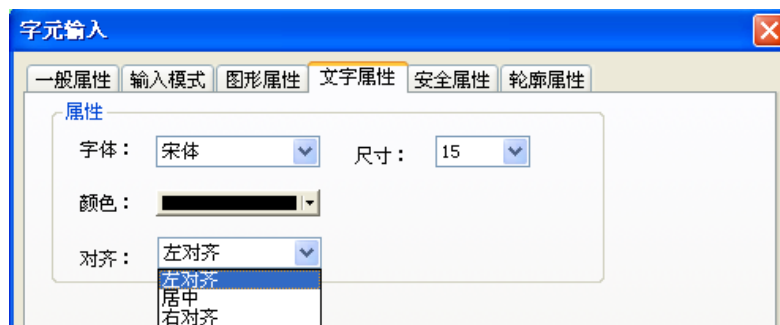


[ Notice] [ Enter the order] [ keyboard]

Please refer to " Numeric Input " instruction of.

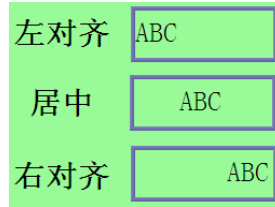
The figure below shows " Character input " versus " Character display "[Text Properties] control setting page, set the font used to display the characters used,

Size and color, but also includes additional text alignment manner.



[ Align]

It provides three text alignment: " Left ", " Center ", " Align Right " Using different alignment performance behavior may refer to the FIG.



Note: Direct window controls ( direct window) / Indirect window controls ( indirect window)

Please refer chapter "window."

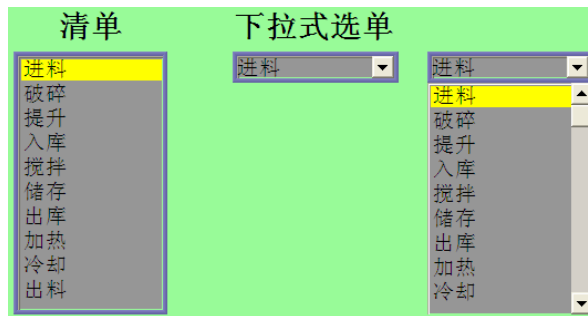
### 13.9 Project menu ( Option List)

#### 13.9.1 summary

Project menu control can display various items into a list, Users can take this to view and select the desired item. Once the user selects an item, Items corresponding to the set value is written in the register.

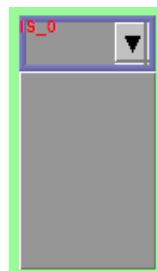
Project menu, there are two display modes: Lists and drop-down menu. A complete list can display all the items, and the current

The selected projects marked. however, Drop-down menu to display only the currently selected item. However, when the user clicks on the drop down menu, the All complete project (display method is similar to the list) system is listed as follows:



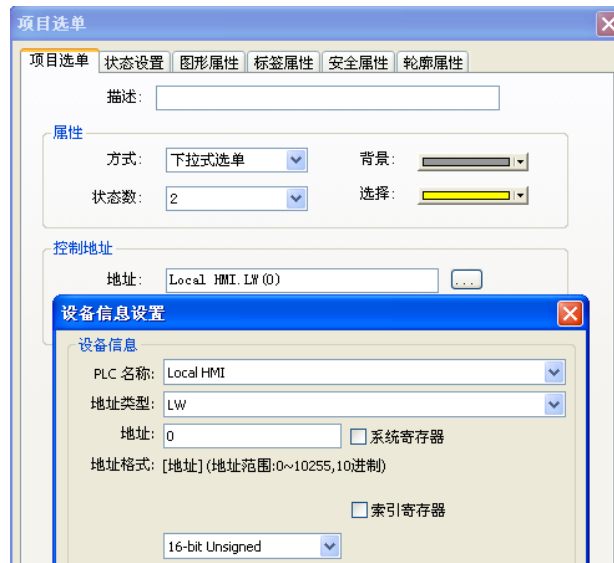
#### 13.9.2 Structure set

turn on InoTouch Editor Software menu " Controls / menu item ", Or icon on the toolbar, click the left mouse button in the window, on the establishment " Menu items " Control, as shown in FIG.



select " Menu items " Double-click or right-click to select " Attributes " Edited, as shown below:

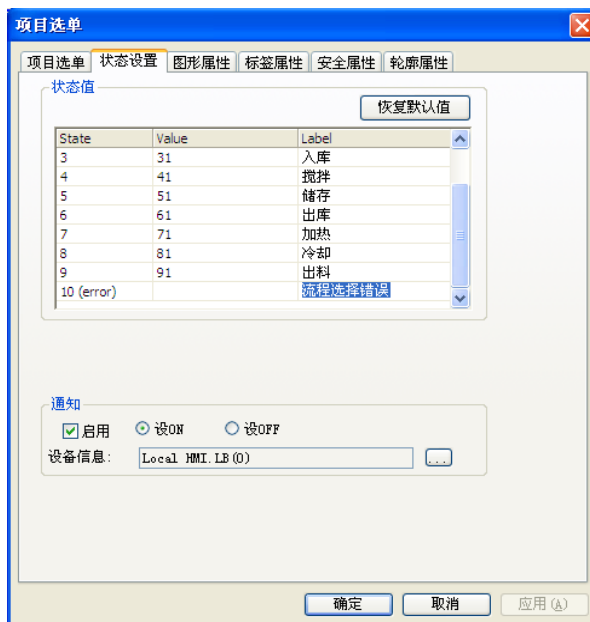




Project menu settings page

set up	description
Attributes	<p><b>[ the way]</b> Select the object display: list or drop-down menu.</p> <p><b>[ Number of States]</b> Set number of state of this object. Each state represents a program and is displayed on the list, this item may be written to the value [Control Address].</p> <p><b>[ background]</b> Select the background color of the control.</p> <p><b>[ select]</b> When the setting item is selected background color marked.</p>
Control Address	<p>Select register [ PLC Name], [address type], [address], and to control the object display system status values are written. That choice Address " Sources and specific address.</p>
When the button is released before the issue of command	<p>Unchecked</p> <p>When the user touches an item, the value is written to the system [Control Address]. Check</p> <p>When the user touches an item and release the button, the value is written to the system [Control Address]. Note:</p> <p>This option only has effect in the list mode.</p>

State settings page



Set up set	description
<p>Status is set</p>	<p>This setting displays the status of all page / options with text and values. If you want to change the number of states, please [page setting item menu] from • [Attributes] • [States] modified.</p> <p>[ status]</p> <p>The system will list all current state use. Each state represents a project and will appear in the list. This field is read-only.</p> <p>[ Value]</p> <p>Users can set the value for each project, subject to the following two specifications:</p> <p>[ Read] If the system detects [Control Address] any changes in content, target content and its value will control and select the first item anastomosis. If the project does not fit, it will jump to the error status bit and trigger notifications (If set).</p> <p>[ Write] When the user selects an item, the value is written to the system [Control Address].</p> <p>[ Text]</p> <p>The user can set the text for each project. Object menu item will display the text of all items users to view and select from the list for reference.</p> <p>[ Error Status]</p> <p>As shown above, when the [Number] to 10 , The state 10 It is the error status. Similarly, if the [Number of States] is set to 11 That state 11 It is the error status.</p> <p>When an error condition occurs, the mode will remove the list " select " Marked to indicate no item is selected, and the mode drop-down menu will display the text of the error status.</p> <p>Text error state can only be used in the drop-down mode, list mode can not use the wrong status text.</p>

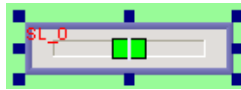
Restore Defaults	All status value is set to a default value, e.g., set state 0 for 0 ,status 1 for 1... and many more.
Notice	<p>[ Enable]</p> <p>When an error occurs, the system will set up a specific bit ON / OFF . This notification bit registers can be used to trigger an action to correct the error.</p>

### 13.10 Slide switch control ( slide object)

Slide switch control is used to display and modify the specified value in the linear registers.

turn on InoTouch Editor Software menu " Control / slide switch " , Or an icon on the toolbar, click in the window

The left mouse button on the establishment of " Slide switch " Control, as shown in FIG.



select " Slide switch " Double-click or right-click to select " Attributes " Edited, as shown below:



[ Write address]

You need to modify the address data.

[ Notice]

This setting item designated by the register state, using " open "(ON) versus " turn off "(OFF) Select the state to be set.

[ Enable]

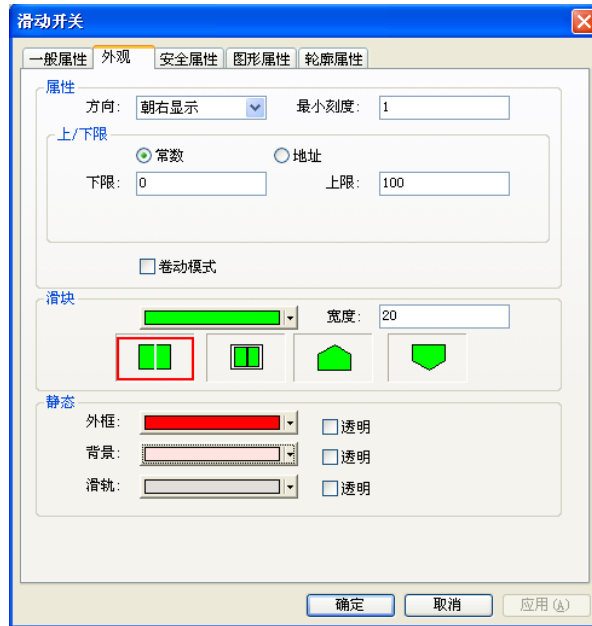
Choose whether to turn on this feature.

[ Before writing]

Data in the register before being changed to the first status register is set as specified.

[ After writing]

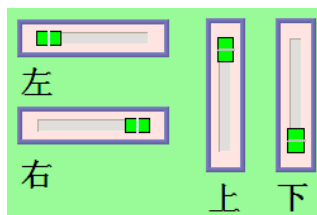
Data in the register set is changed after the state of the designated register.



Attributes

[ direction]

Slide switch control can be displayed in four directions (rightward display up display, The left display, display facing down)



[ Minimum scale]

Filled in accordance with the minimum scale value is displayed, e.g. N Is the minimum time scale, when

**N = 10** The value displayed for every display are based on 10 It scales to change, and is arbitrary 10 Multiple

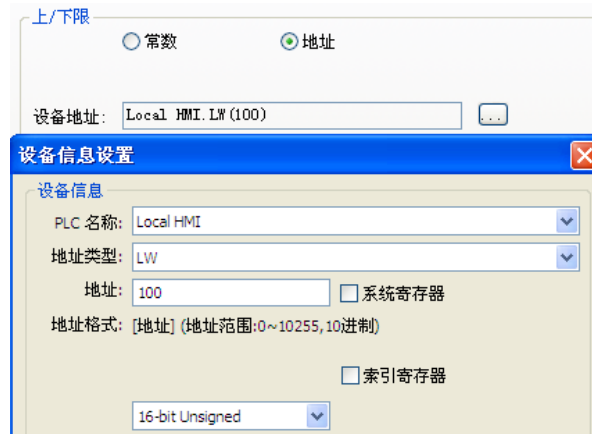
**N = 5** , Value is displayed for every display are based on 5 It scales to change, and is arbitrary 5 Multiple

**N = 1** , Value is displayed for every display are based on 1 It scales to change, and is arbitrary 1 Multiple

[ The lower limit] & [upper]

In this setting the lower limit of modified data. If you check " address ", Based on the data set in the register as the

Limit lower limit. If the setting is as shown here:



Indicates that the lower limit value of the register LW100 The data determined by the upper limit value of the register LW101 The data decision. Here

Specific address registers lower limit and the upper limit address register address is determined by the data format.

[ Scroll Mode]

According to the setting value in the scroll mode, the control will slide switch, so incremented or decremented to a set value.

[ Slider]

There are four sliders styles to choose from, but also to adjust the width of the slider.

[ Frame] [Background] [rails]

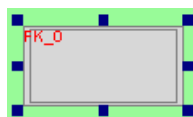
Alternatively frame, background, color slide.

### 13.11 Function keys Control ( function key)

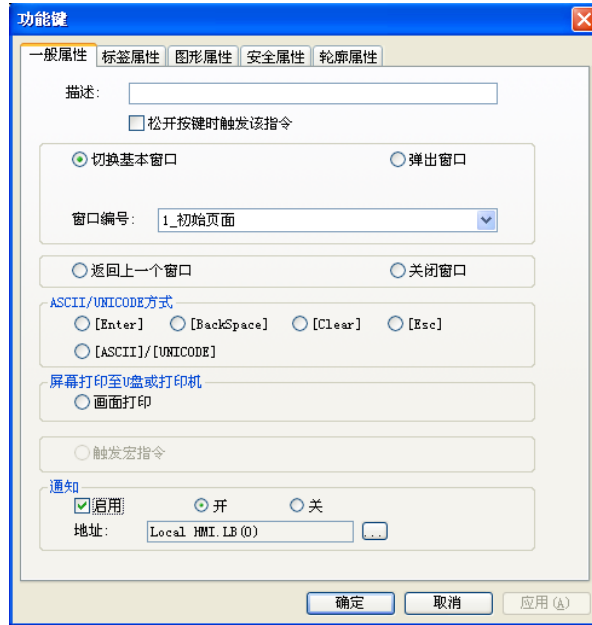
" Function keys " Provide a window control switch, a popup window, close the window functions can also be used to design the keys of the keyboard.

turn on InoTouch Editor Software menu " Controls / function keys ", Or icon on the toolbar, click the mouse in the window

Mark left on the establishment of the " Function keys " Control, as shown in FIG.



Select "function key" Double-click or right-click and select "Properties" to edit, as shown below:



" Function keys " Controls provides the following operation modes:

[ The trigger command key is released]

Use this nature must be represented, the selected action will be executed in the press release after the control action. This property is not selected, then

After the touch control to immediately perform the selected action, for example, switching window.

[ Change Window]

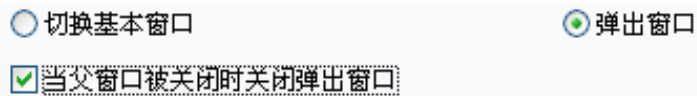
Change Window. After the switch will close the current window and displays the target window.

[ pop-up window]

Other pop-up window. At this point the pop-up window must be on top of the base window. Use this feature to select whether to use [when a parent

Close popup window is closed], with reference to the FIG. Select this attribute is the pop-up window will disappear automatically in the event of feed movement,

Otherwise, the user must own design [Close] function key to close the window on the pop-up window.



[ Window Number]

This item is used to select the " Change Window " , " pop-up window " Window to use when.

[ Returns to the previous window]

Back to previous page basic window. For example, when a " window 10 " Switch to " window 20 " When using this function can return " window

10 ". This function is only available for basic window.

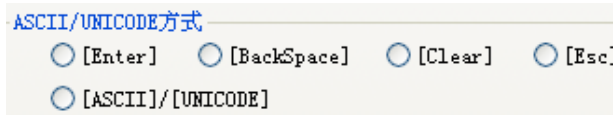
[ close the window]

Close on the base of the window pop-up window, including system message window.

[ASCII mode]

ASCII Keyboard mode is used as input signal, mainly used in " Numeric Input " versus " Character input " Controls need to use the keyboard

The occasion to enter numbers or characters. A more detailed description can be referred " The design and use of the keyboard " Sections.



[Enter]

And keyboard input ( Enter) The same action.

[Backspace]

Back to the keyboard Delete ( Backspace) The same action.

[Clear]

Clear currently " Numeric Input " versus " Text character input " Control of information has been entered.

[Esc]

With [Close] the same functionality, the keyboard can be used to close the popup window.

[ASCII] / [UNICODE]

Set to " Numeric Input " versus " Character input " Enter the characters control, optional 0 , 1 , 2 , ... Or the number keys a , b , c , ...

And other ASCII code.

Notice

[ Enable]

Use this set, after completion of the setting operation can be set to the item referred to jointly address the positioned state, the [ON] ( ON)

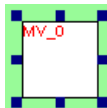
And [OFF] ( OFF) Select the state to be set.

### 13.12 Mobile graphical controls ( moving shape)

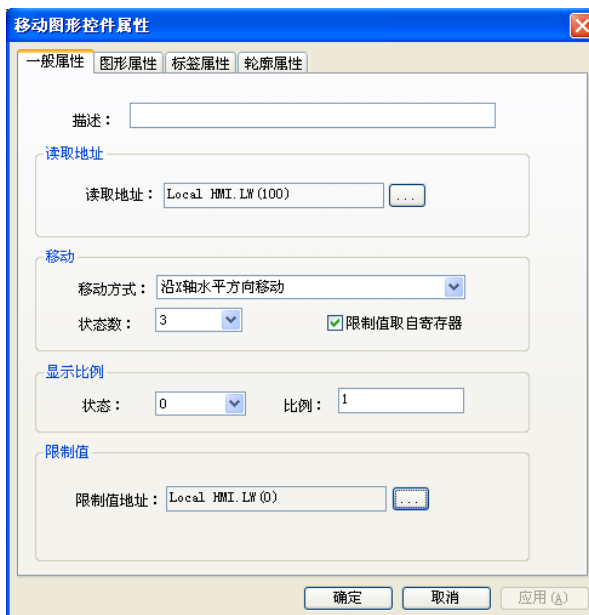
" Mobile Graphics " Will use the data in the control register, determines the movement distance of the control state of the control.

turn on InoTouch Editor Software menu " Controls / mobile graphics " , Or an icon on the toolbar, click in the window 

The left mouse button on the establishment of " Mobile Graphics " Control, as shown in FIG.



select " Mobile Graphics " Double-click or right-click to select " Attributes " Edited, as shown below:



[ Read address]

Read address control state and the movement distance. At this time, the read address control state of the moving distance of the table are summarized as follows. Table

address It indicates a read Taking the address of the register values, for example, the read register for the [ LW100] Time , address equal 100 .

Variable type Control	state read address X Axial direction	moving distance of the read address Y Axial direction	moving distance of the read address
16-bit BCD	address	address + 1	address + 2
32-bit BCD	address	address + 2	address + 4
16-bit Unsigned	address	address + 1	address + 2
16-bit Signed	address	address + 1	address + 2
32-bit Unsigned	address	address + 2	address + 4
32-bit Signed	address	address + 2	address + 4

For example, if the read register is set to [ LW100] And variable type use "16-bit Unsigned" ,then[ LW100] Deposit

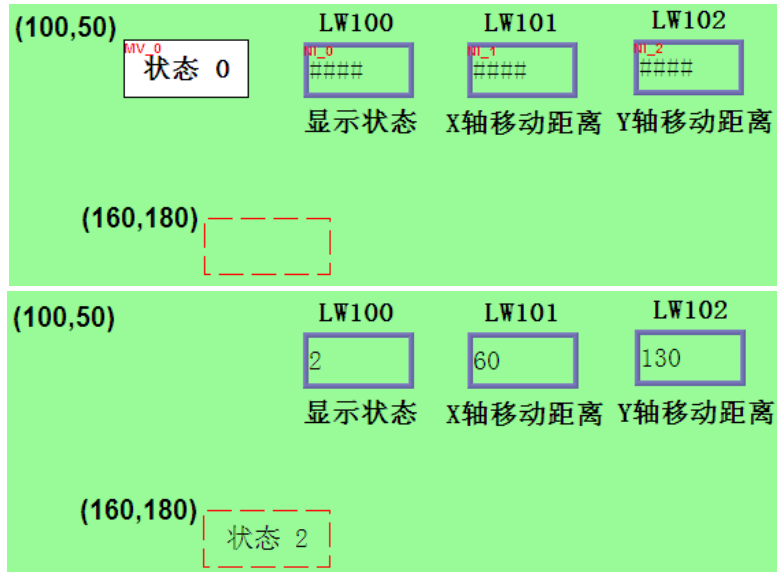
Put state control, [ LW101] Deposit X Axial direction moving distance, [ LW102] Deposit Y A moving distance of the axial direction.

The following diagram, for example, the address of the control to [ LW100] And start address ( 100 , 50) , If you want to move now to the controls ( 160 ,

180) And display status 2 Graphics, the [ LW100] To be set 2 , [ LW101] = 160-100 = 60 , [ LW102] = 180-50

= 130 .





[ Moves]

a ,along X The horizontal axis direction

Allowing only controls along X Horizontally moving axis direction. A moving range [ X Coordinate axis Lo] and [ X Axis coordinate limit] is determined.

**移动**

移动方式: 沿X轴水平方向移动

状态数: 1  限制值取自寄存器

---

**显示比例**

状态: 0 比例: 1

---

**限制值**

X坐标下限: 0 X坐标上限: 799

b ,along Y Direction perpendicular to the axis

Allowing only controls along Y Axis direction moving vertically. A moving range [ Y Coordinate axis Lo] and [ Y Axis coordinate limit] is determined.

**移动**

移动方式: 沿Y轴垂直方向移动

状态数: 1  限制值取自寄存器

---

**显示比例**

状态: 0 比例: 1

---

**限制值**

Y坐标下限: 0 Y坐标上限: 479

c , Which can make X Direction Y Movement direction

Allows control along X Axis Y Axis. A moving range [ X Coordinate axis Lo], [ X Axis coordinate limit] and [ Y Coordinate axis Lo],

[Y Axis coordinate limit] is determined.

**移动**

移动方式：同时沿X轴Y轴方向移动

状态数：1  限制值取自寄存器

---

**显示比例**

状态：0 比例：1

---

**限制值**

X坐标下限：0 X坐标上限：799

Y坐标下限：0 Y坐标上限：479

d ,along X Shaft, moved in the horizontal direction as the ratio

Allowing only controls along X Axis scale for horizontal movement. Suppose register and X Data relating to the displacement axis

data ,then X The amount of displacement of the shaft may use the following formula:

$$X \text{ Axial displacement} = (\text{data} - [\text{Enter the lower limit}]) * ((\text{Maximum scale} - \text{The lower limit of the ratio}) / ((\text{Input High}] - [\text{Enter the lower limit}]))$$

**移动**

移动方式：沿X轴按比例水平移动

状态数：1  限制值取自寄存器

---

**显示比例**

状态：0 比例：1

---

**限制值**

输入下限：0 输入上限：799

比例下限：0 比例上限：479

For example, only allows for control 200 to 500 The size of the displacement, but the size of the data range register 300 to 1000 , Then you can

The [input lower limit] is set to 300 , [Input limit] is set to 1000 , [The ratio of the lower limit] is set to 200 , [Upper limit of the ratio] is set to 500 ,

That will move the control in the required range.

e ,along Y Axis direction in proportion to movement vertically

Allowing only controls along Y Axis scale for vertical movement, Y Axis displacement amount conversion formula and " along X Axis scale for water

Moving the horizontal direction " the same.

f ,along X Shaft, moved in the horizontal direction is in inverse proportion as the

This function " along X Shaft, moved in the horizontal direction as the ratio " The same, but opposite direction.

g ,along Y The shaft, in inverse proportion as the vertical movement

This function " along Y Axis direction in proportion to movement vertically " The same, but opposite direction.

[ Zoom]

Pattern in each state controls the display can be set separately graphics scaling, with reference to the FIG. " label " The text does not

It will be scaled in proportion.



[ Limit address]

In addition to the display area of the control may be directly set [ X Coordinate axis Lo], [ X Axis coordinate limit] and [ Y Coordinate axis Lo], [ Y Sit shaft

Standard upper limit] is determined, the data may be determined using the register. Assumed that the display area by the address Data in the address

**Decision [ X The axis coordinate limit ], [ X Axis coordinate limit] versus [Y Coordinate axis Lo], [ Y Axis coordinate limit] is read take Address shown in the table .**

Variable type	[X Coordinate axis Lo] Read address	[X Axis coordinate limit] Read address	[Y Coordinate axis Lo] Read address	[Y Axis coordinate limit] Read address
16-bit BCD	address	address + 1	address + 2	address + 3
32-bit BCD	address	address + 2	address + 4	address + 6
16-bit Unsigned	address	address + 1	address + 2	address + 3
16-bit Signed	address	address + 1	address + 2	address + 3
32-bit Unsigned	address	address + 2	address + 4	address + 6
32-bit Signed	address	address + 2	address + 4	address + 6

### 13.13 Animation Control ( animation)

" Animation " Control is a pre-defined movement track animation, using the data within the register changes, the control state of the control and

Position control on the movement locus previously defined.

To increase " Animation " Control to open InoTouch Editor Software menu " Controls / Animation " Icon on or toolbar



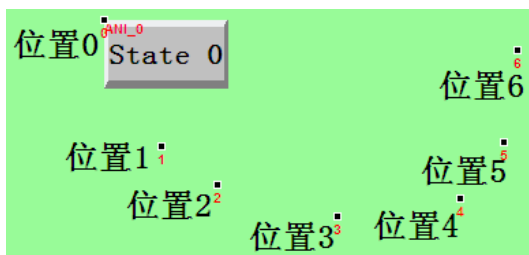
After, in place, click the left mouse button, you can define a new mobile location, move the mouse to another location

And click the left mouse button, and then define the position of a track. The first position is defined track, which number 0 Next to 1 ,

And so on. Once defined all the mobile location, right button of the mouse to complete the movement trajectory planning and add a new

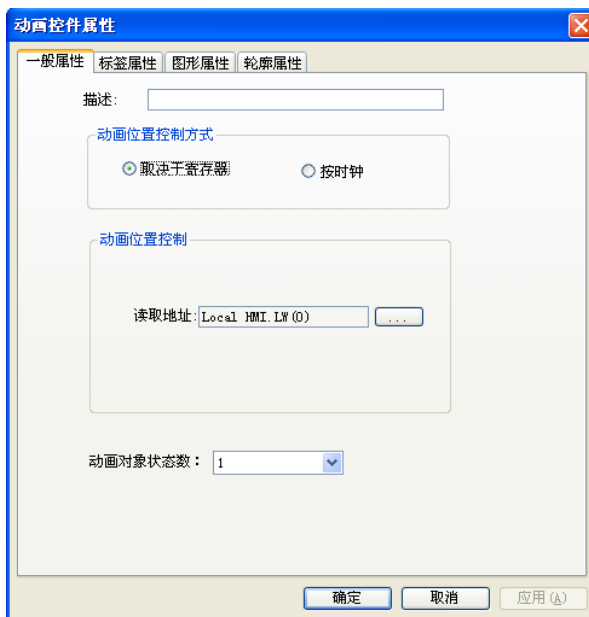
of " Animation " Control, with reference to the FIG.





To change the control's properties, you can use the left mouse button double-click " Animation " Control or right-click to select " Attributes " Editing,

The figure below shows " Animation " General Properties page control setting.



[ State the number of animated objects]

The total number of states to set control.

[ Animation position control mode]

If you choose " Depending on register " , The state is determined by the position of the control data register.

[ Read address]

If the status is determined by the position of the control data register, a read address must be set in the correct position control state.

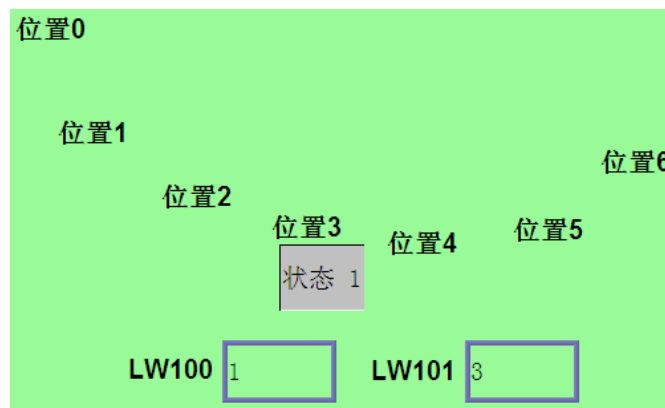
Reads the address table discussion follows. Table address Value indicates the address of the register, such as register [ LW100] Time, address

equal 100 .

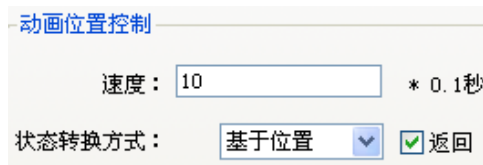
Variable type	Control state read address	Control location address read
16-bit BCD	address	address + 1
32-bit BCD	address	address + 2
16-bit Unsigned	address	address + 1

16-bit Signed	address	address + 1
32-bit Unsigned	address	address + 2
32-bit Signed	address	address + 2

Example: If the register is [ LW100] And variable type use "16-bit Unsigned" ,then [ LW100] Storing state control, [LW101] Store display position control. The following diagram, for example, [ LW100] = 1 , [ LW101] = 3 , The control displays status 1 , And appear in position 3 .



If the control is not selected " Depending on register " Selected " Press the clock " Varies, the control will automatically change the display position of the status, " from Movement control position " Item is used to set the display position change mode state.



The screenshot shows the '动画位置控制' (Animation Position Control) interface. It includes a speed input field set to 10, with a multiplier of \* 0.1秒. The state transition mode is set to '基于位置' (Based on position) with a dropdown arrow, and a '返回' (Return) checkbox is checked.

[ speed]

Change the speed position, the unit is 0.1 second. For example set 10 , Then control every 1 Converting a second position.

[ return]

Assume control has 4 Positions, respectively a position 0 ,position 1 ,position 2 ,position 3 . If you do not select this setting, when a mobile To the last position (position 3) After the move to the initial position 0 And repeat to change the way the original position, move the position of finishing In the following order:

**position 0-> position 1-> position 2-> position 3-> position 0-> position 1-> position 2...**

If you select this setting, when moving to a final position, using the reverse moves, moves to the initial position 0 ,

Repeated changing the way the original position, moving the position of finishing the following order:

**position 0-> position 1-> position 2-> position 3-> position 2-> position 1-> position 0 ...**

[ State transition]

State change mode can be selected "Based on location" versus "Based on time". select "Based on location" It represents a change in position, the state With the change. If you choose "Based on time", Showing a state fixed frequency automatic conversion, frequency conversion is set in the [conversion cycle], the Referring next to FIG.

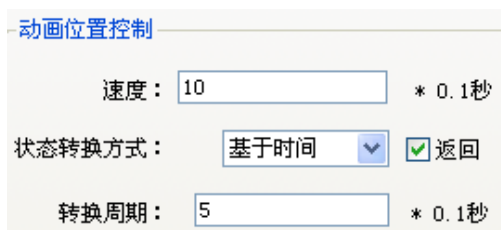
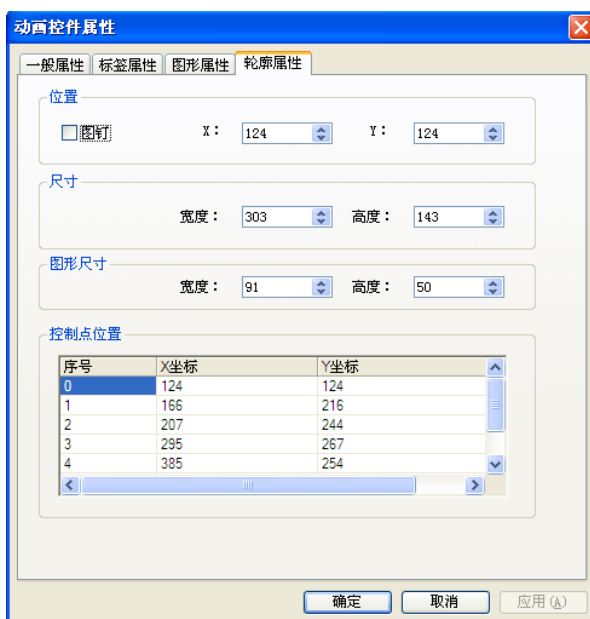


FIG dialog box to set the "Animation" Overall size of the control, also using the mouse double-click "Animation" Controls can occur.



[ Image size]

Animation control is used to set the size of the displayed graphics.

[ A control point position]

For setting the coordinate position of each point on the moving track.

**on " Mobile Graphics " with " Animation " The difference between the two controls**

By the above description, you can understand " Mobile Graphics " with " Animation " The implementation process.

" Mobile Graphics " Using contents of the address register continuously to the moving object displayed on a screen from one place to another.

Outside a local, state, and its graphics can follow the changes. Its position can only be moved along X Axis, or Y axis. Or both

Down X Shaft and Y To move the shaft from moving fully register values determined.

" Animation " According to the data register is defined continuously to effect movement of the graphic object, the process according to the registered mobile

's data may change the state of the graph. And except that, " Animation " The movement is a pre-defined transport position

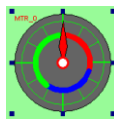
Move, can not go beyond the scope of pre-defined position, can only appear in these pre-defined location is good place.

### 13.14 Hands control ( meter display)

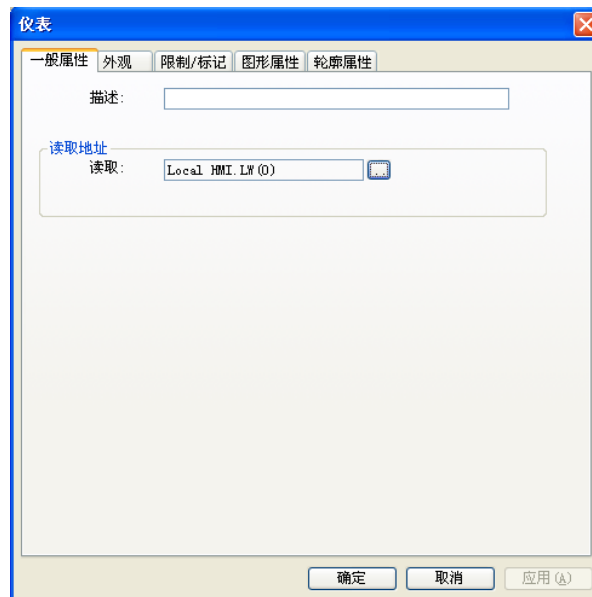
" Hands " FIG manner using the instrument will control, the current instruction data register.

turn on InoTouch Editor Software menu " Controls / hands ", Or an icon on the toolbar, click the mouse in the window

Left, on the establishment " Hands " Control, as shown in FIG.

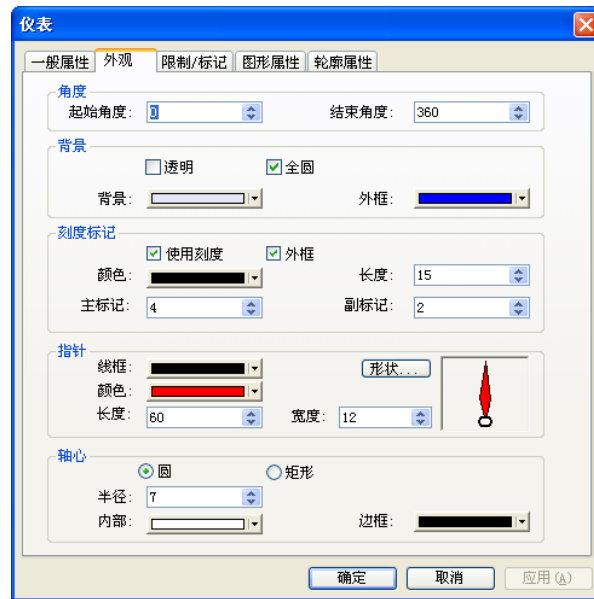


select " Hands " Double-click or right-click to select " Attributes " Edited, as shown below:

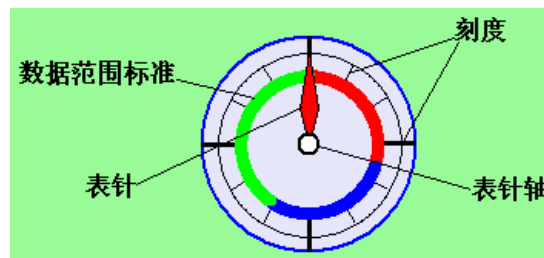


[ Read address]

Hands to set the read address of the control data.



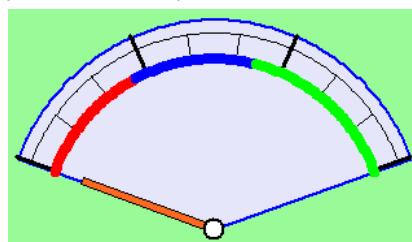
Setting dialogue box is used to set the map " Hands " Appearance of the control, the name of each part illustrated in Figure 17.



[ angle]

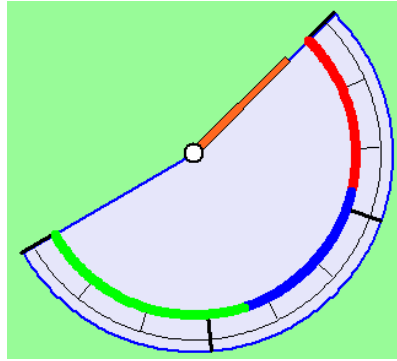
Used to set the control start angle and end angle, the angle can be set range are all 0 ~ 360 degree. Different settings for controls

Effect of appearance, can be reference to the following several different settings.

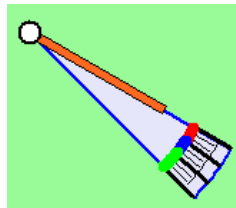


[ Start angle] = 290 , [End angle] = 70

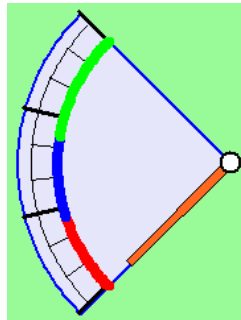




[ Start angle] = 45 , [End angle] = 240



[ Start angle] = 120 , [End angle] = 135



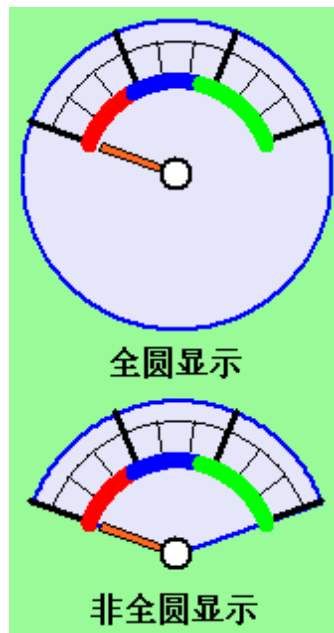
[ Start angle] = 225 , [End angle] = 315

[ background]

Setting the color of the background of the circumference of the control.

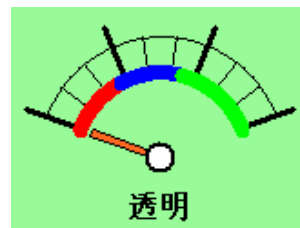
[ Full circle]

select " Full Circle " , Control displays a full circle, or display only the range of angles defined with reference to the following figure.



[ Transparent]

select " Transparent " , Control will not display the color of the background and the circumference, with reference to the following figure.



[ Tick mark]

Set the number of tick and color control.

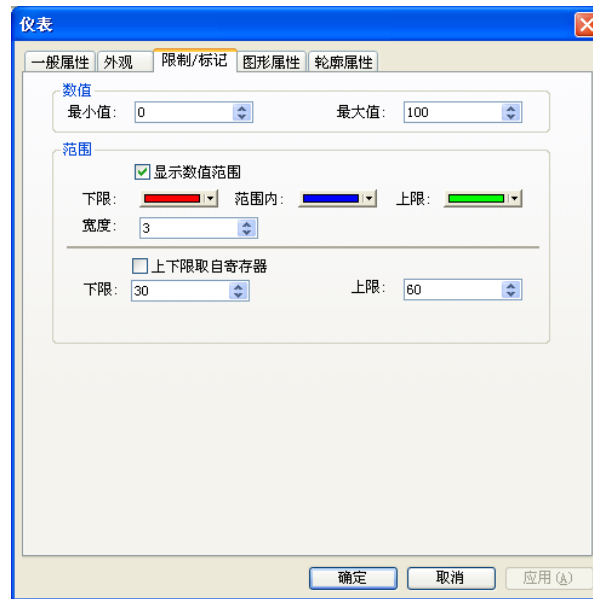
[ pointer]

Set pointer control style, length, width and color.

[ Axis]

Setting control pointers axis of styles, colors and radius.

The figure below shows the dialog box to set upper and lower limits.



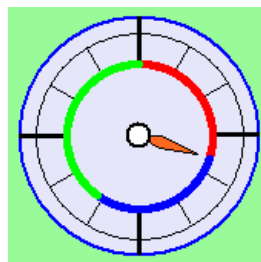
[ Value]

Setting the control range of values to be displayed. " Hands " Controls will use [Min] setting content [maximum value] and read by [ Numerical address] read, indicating the position of the pointer conversion. For example, if [minimum value] = 0 , [Maximum value] = 100 If at this time Data is read 30 And [start angle] = 0 , [End angle] = 360 , The pointer indicates the angle (in [End angle] is greater than [ The starting angle] case):

$$\{(30 - [ Min]) / ([maximum value] - [ Min])\} * ([End angle] - [start angle]) =$$

$$\{(30-0) / (100 0) -\} * (360 0) - = 108$$

Pointer indicates 108 Degree position, with reference to the FIG.



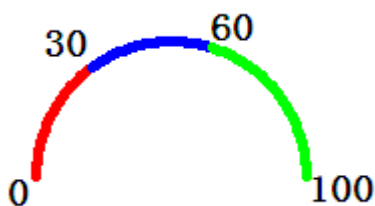
[ range]

The set upper and lower limit, the lower limit of the display color of the mark width.

[ Display color different numerical range]

The lower limit flag is displayed on the selected

FIG using the low limit flag was set above the displayed value.



That data is smaller than 30 When, in the red region indicating hands inside, greater than 30 Less than 60 Range, in the blue region where the pointer Surface, is greater than 60 Less than 100 The pointer in the green region.

[ From upper and lower registers]

unselected " Upper and lower values from the register ", The high and low limit is a fixed value, set directly from the content, with reference to the following figure.

At this time, the upper limit value 60 The lower limit value 30 .

上下限取自寄存器

下限:  上限:

If you choose " Upper and lower limits taken from the register ", The upper and lower limit value determined by the value of register, with reference to the following figure.

上下限取自寄存器

地址:

Finishing the reading position in the table, the lower limit, wherein "Address" Value indicates the address of the register, such as register [ LW100]

Time, "Address" equal 100 .

Variable type	High limit read address	Lower limit of the read address
16-bit BCD	address	address + 1
32-bit BCD	address	address + 2
16-bit Unsigned	address	address + 1
16-bit Signed	address	address + 1
32-bit Unsigned	address	address + 2
32-bit Signed	address	address + 2

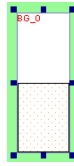
### 13.15 Bar graph control ( bar graph )

" Stick Figure " Percentage of control using the bar graph, the display data register.

turn on InoTouch Editor Software menu " Controls / bar graph ", Or an icon on the toolbar, click the mouse in the window



Left, on the establishment " Stick Figure " Control, as shown in FIG.



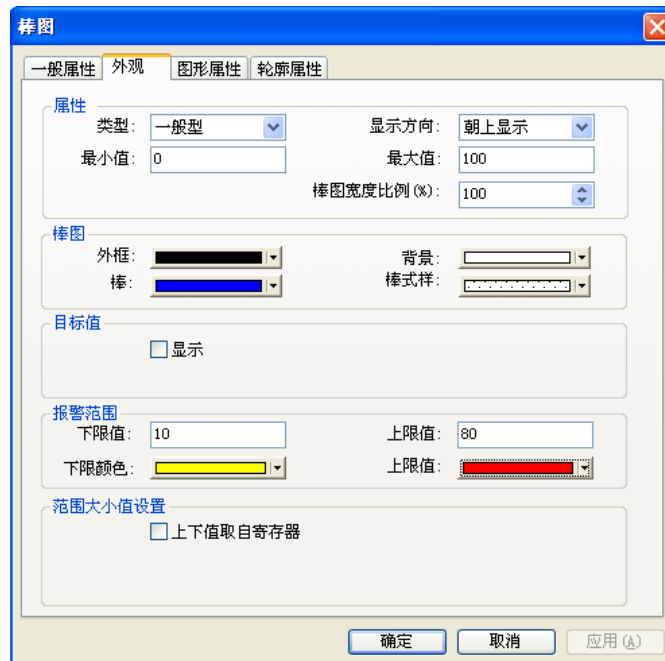
select "Stick Figure" Double-click or right-click to select "Attributes" Edit The following figures "Stick Figure" General Properties page control setting.



[ Read address]

Reads the address data. I.e. setting state display bar graph data sources.

The figure below shows "Stick Figure" Appearance of the control settings page.



Attributes

[ Types of]

can choose "General Type" versus "Tolerance Type". When the type selection bias, needs to set the home position, with reference to the FIG. The place of its origin

Position data in the register = 5 .



[ Display direction]

Bar graph to display the selected direction can be selected " Up display ", " Down display ", " To the right display ", " Left display " .

[ Min], [maximum]

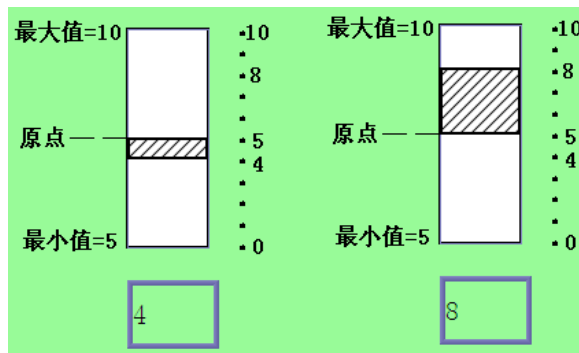
FIG bar filling percentage may be obtained by using the following conversion formula:

$$\text{FIG bar fill area percent} = (\text{Data Register} - [\text{Min}]) / ((\text{maximum value}) - [\text{Minimum}]) * 100\%$$

But when the type selection bias, if (data register - [ Origin position]) is greater than 0 , The bar graph by [origin position] to fill up a position

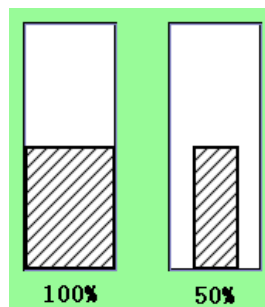
Charge; if (data register - [ Origin position]) is less than 0 , The bar graph by [origin position] filled down position. The figure below shows the [Original

Position] is set to 5 , [Maximum value] of 10 , [Min] to 0 When using different data, the case is filled bar graph.



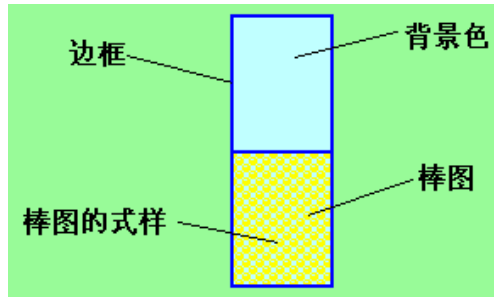
[ FIG bar width ratio (%)]

Setting bar graph shows the percentage ratio between the width and the width of the control, using the following figure shows the situation of two different setting values.



Bar color / style project

FIG frame bar is used to specify the background color and pattern and color fill area, with reference to the following figure.

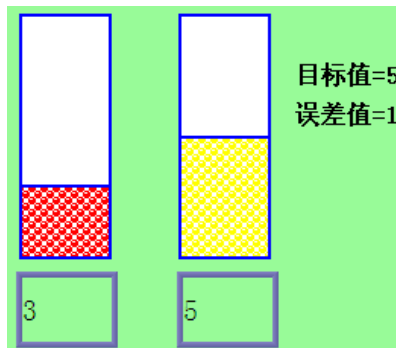
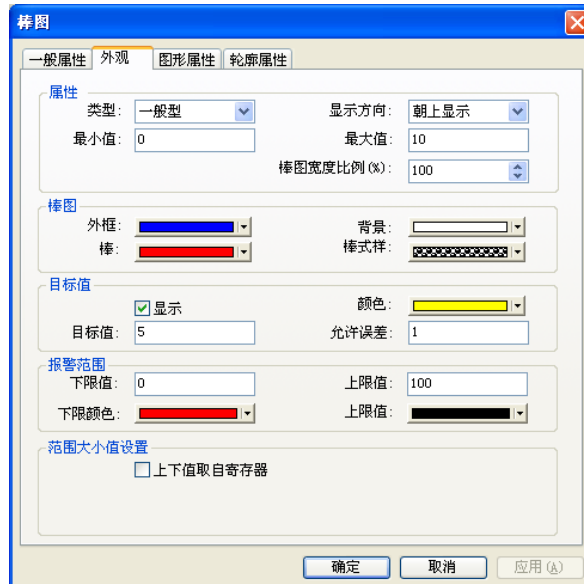


[ Target]

When the data within the register meets the following conditions, the color can change the color of the filled area defined for this project.

$$[\text{Target}] - [\text{Allowable error}] \leq \text{data within the register} \leq [\text{target}] + [\text{Tolerance}]$$

Referring next to FIG, when [target] = 5, [Error] = 1, The value of the register is greater than or equal to  $5 - 1 = 4$  And less than or equal to  $5 + 1 = 6$  Partially filled area will change as " Target color " .



[ Alarm range]

When the data is greater than the [upper limit value], the color of the fill area may be changed to [upper color] defined color; when the data is less than if the

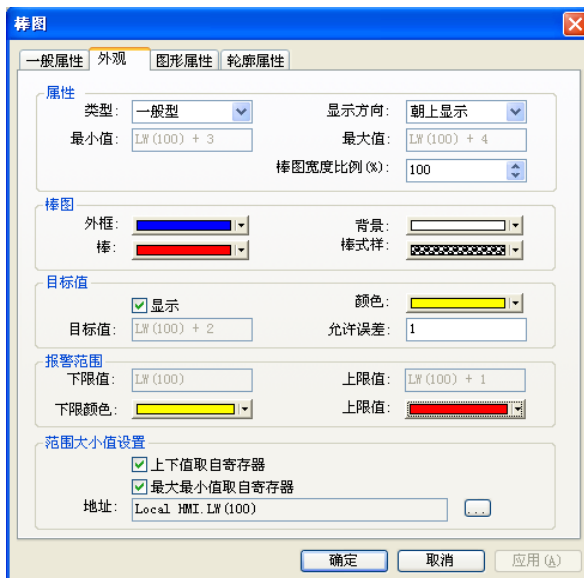
[ When the lower limit value], the color of the filled area may be changed to [lower limit Color] defined color.

[ Size range value]

When [the upper and lower values from the registers], " Range alarm " Used [lower limit value], [upper limit value] and " Target value " The [target value]

It is read from the specified register. If both checked " The maximum / minimum value from register " , The same maximum and minimum values provided

Value determined by the set data register. Referring next to FIG.



Finishing the reading position in the table with upper and lower limits of the target value, wherein "Address" Represents a register address value, for example, register

[LW100] Time, "Address" equal 100 .

Variable type	[ Alarm limit value] read address	[ Alarm limit value] read address	[ Target] read address	[ Min] read address	[ Maximum] <u>Read address</u>
16-bit BCD	address	address + 1	address + 2	address + 3	address + 4
32-bit BCD	address	address + 2	address + 4	address + 6	address + 8
16-bit Unsigned	address	address + 1	address + 2	address + 3	address + 4
16-bit Signed	address	address + 1	address + 2	address + 3	address + 4
32-bit Unsigned	address	address + 2	address + 4	address + 6	address + 8
32-bit Signed	address	address + 2	address + 4	address + 6	address + 8



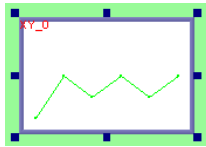
## 13.16 XY Curve ( XY Plot)

Two successive data registers, data registers, respectively, X Shaft and Y Coordinate axis, the coordinates formed by the Spot / pattern is formed, it is XY curve. XY May be a point or a curve-line curve, it may also be formed to X axis or Y Axis projection, forming a new curve.


XY Curve can simultaneously display a maximum of 16 The group of curves, thereby allowing the user to observe and compare the respective mode registers funded Material, negative numbers may also be used.

turn on InoTouch Editor Software menu " Controls / XY curve ", Or an icon on the toolbar, click in the window 

The left mouse button on the establishment of "XY curve " Control, as shown in FIG.

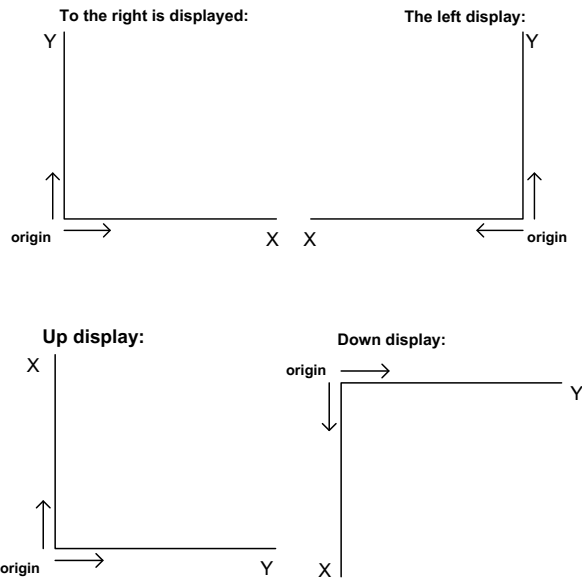


select "XY curve " Double-click or right-click to select " Attributes " Edited, as shown below:



[ General Properties]

direction: Display selection rightward, left display, the display up or down the display. Direction shown below, are X Axis direction is positive.



[ Channel number]

Setting [channel number]. The number of channels is used to set users want to observe XY The number of patterns.

通道数目:

For example, the figure shows the number of channels is set to 2 , The user can display two XY Graph.

**set up " Control Address "**

[ Control Address]

" Control Address " It is used to control and clear graphics display; assumptions " Control Address " set as LW10 ,then " The number of data site " for LW (10 + 1) , which is LW11 . XY Displaying procedure clears curve and " Data group " Curve Control Display and clear

The same process, namely:

**a . " Control Address " Data 1 When displayed XY curve**

[Control Address] Write "1" ( This address bit 0 set as ON) ;at this time InoTouch Editor We will polyline drawing the eye

The contents of the register before (And retain the previous graphic). InoTouch Editor Upon completion of the operation in the preceding paragraph [Control Address] Write "0" .

**b . " Control Address " Data 2 When, clear display of the current XY curve**

[Control Address] Write "2" ( This address bit 1 set as ON) ; Clears the previously displayed XY curve. InoTouch

Editor Upon completion of the operation in the preceding paragraph [Control Address] Write "0" .

**c . " Control Address " Data 3 When, Clear display XY And displaying new curve XY curve**

[Control Address] Write "3" ( This address bit 0 versus bit 1 It is set to ON) ;at this time InoTouch Editor Will first

previous XY Clear curve, then the data in the current address to form a new XY curve. InoTouch Editor Before completing action items

It will be made after the [Control Address] is written "0" .

**d . " Control Address " Data 4 When cleared of all previous command**

**[Control Address] Write "4" ( This address bit 0 versus bit 1 It is set to ON ) ; It will clear all previously entered**

Command has not been executed, the stop execution, but has been drawn (part of) the curve is not clear.

**After the control address is set, InoTouch Editor Automatically setting the number of data addresses. For example, if LW10 = Controlled**

**Address; This address is used to clear the display and the control curve; LW11 It will automatically be set to the number of data address, i.e. the address points;**

This address is used to store the number of data (number of points) is displayed.

**The point here say, it is defined by X Axis data and Y Coordinate axis data points is formed. For example, points to 3 When, a total of Data X Axis data ( X0 , X1 , X2) , Y Axis data ( Y0 , Y1 , Y2) Dot thus formed is the ( X0 , Y0) , ( X1 , Y1) , (X2 , Y2) A total of three " Count " . That is to be read 3 More X Axis data, 3 More Y Axis data. And so on.**

[ Address data number]

Sets the designated XY The number of data to be displayed graph; each channel is less than the number of points 1024 point( 1 to 1023) .

[ aisle]

To set used to specify which of the XY Property curves.

The lower limit of the range of the read address and

[PLC name]

Select the data source of the graph.

[ Read address]

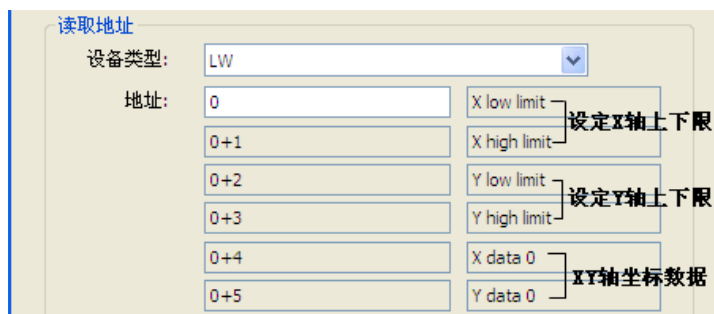


**Unchecked "X Axis data and Y Axis data from a different address " But checked " Upper and lower limits taken from the register " When the setting key is pressed,**

Sets the displayed dialog channel data source, the user can set the equipment type and data format, the right half is substantially box

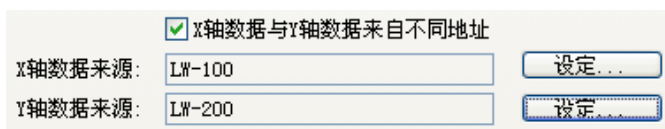
**It illustrates the meaning of each data address, comprising X axis, Y Axis minimum and maximum values of the data, and X axis, Y Axis coordinate data to read**

site. FIG right below the text description.



When checked "X Axis data and Y Axis data from a different address", You need to set their own X Shaft and Y Source axis, and

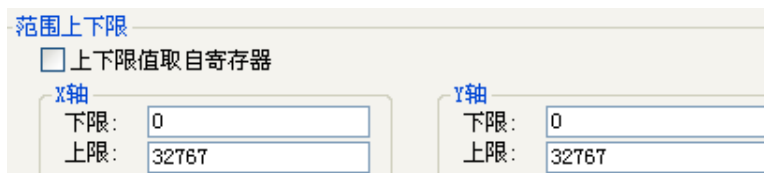
XY The upper and lower limits need to be set each separately.



[ Range upper and lower limits]

About setting XY Upper and lower limits, when checked " Upper and lower limits taken from the register " Time, X Shaft and Y Setting upper and lower limits as axis data of FIG.

Fig. If not checked, it can be set separately on their own limits.



Upper and lower limits by X with Y The calculated percentage axis, e.g. X or Y Percentage = ( X or Y Read value - lower limit) / (upper - lower)

When unchecked "X Axis Y Axis data from a different address" Time, X Shaft and Y Axis is assigned based on the data set X Axis coordinate the

Address and data formats to dispatch.

For example:

1 word (16-bit signed , 16-bit unsigned):

读取地址

设备类型: LW

地址: 100	X low limit	n+0
100+1	X high limit	n+1
100+2	Y low limit	n+2
100+3	Y high limit	n+3
100+4	X data 0	n+4
100+5	Y data 0	n+5

地址格式: [地址] (地址范围:0~10255,10进制)

索引寄存器

16-bit Unsigned

It can be seen from the figure, when the data format is 1 Words, and checked "Upper and lower limits taken from the register" When the address set

Show X The lower limit of axis data, the following data were X Axis data limit, Y Data lower shaft, Y Axis data limit, X Number of axes

according to 0 , Y Axis data 0 .... , I.e., when the selection is LW100 , Then LW100 At this point representation X Minimum shaft, LW101 Show X

Axis maximum value, LW102 Show Y Minimum shaft, LW103 Show Y Axis maximum value, LW104 Show X Axis data 0 , LW105

Show Y Axis data 0 And so on and so on.

2 words (32-bit Float):

读取地址

设备类型: LW

地址: 100	X low limit	n+0,n+1
100+2	X high limit	n+2,n+3
100+4	Y low limit	n+4,n+5
100+6	Y high limit	n+6,n+7
100+8	X data 0	n+8,n+9
100+10	Y data 0	n+10,n+11

地址格式: [地址] (地址范围:0~10255,10进制)

索引寄存器

32-bit Float

When the double word format setting data, e.g. 32 Bit floating point, at this time, LW100 , LW101 Show X Data lower shaft,

LW102 , LW103 Show X Axis data limit, LW104 , LW105 Show Y Data lower shaft, LW106 , LW107 table

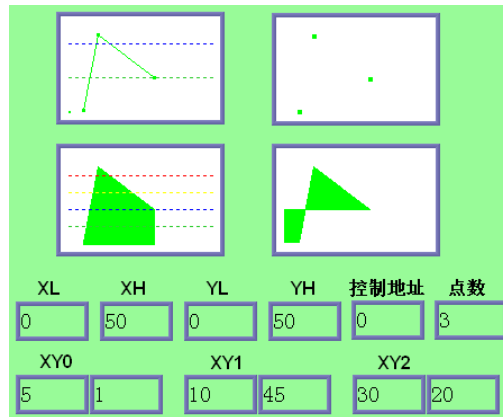
Show Y Axis data limit, LW108 , LW109 Show X Axis data 0 , LW110 , LW111 Show Y Axis data 0 And so on successively class

Push.

When checked use "Upper and lower limits taken from the register" , It can change in accordance with X Shaft and Y The lower limit on the shaft to achieve zoom in and out

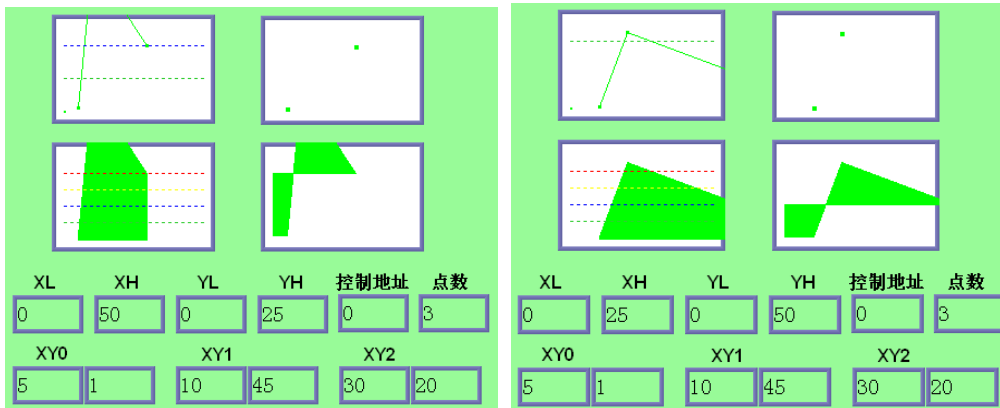
XY Function curve. , The original curve shown below shown below, and X Value of the axis is 0 The maximum is 50 ;same

of Y Value of the axis is 0 The maximum is 50 .



in X and Y Axis setting display range. ( XL = X The lower limit of the shaft, XH = X The upper limit of the shaft, YL = Y The lower limit of the shaft, YH = Y axis

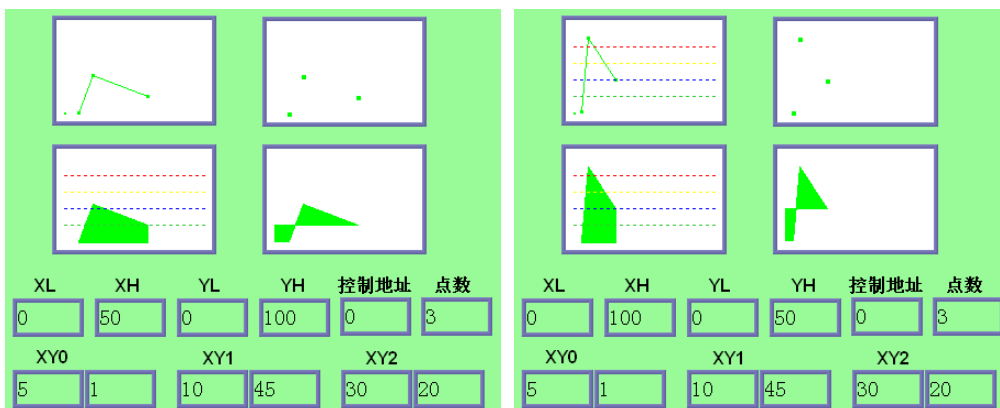
The upper limit)



change Y axis(X The upper limit of the shaft) can allow users to observe Y axis(X axis) 0 to 25 Range data, amplifying effect can be achieved

fruit. As shown in FIG. will Y axis(X Axis range) is changed 0 to 25 Range, the curve vertical (horizontal) corresponds to the magnified 2

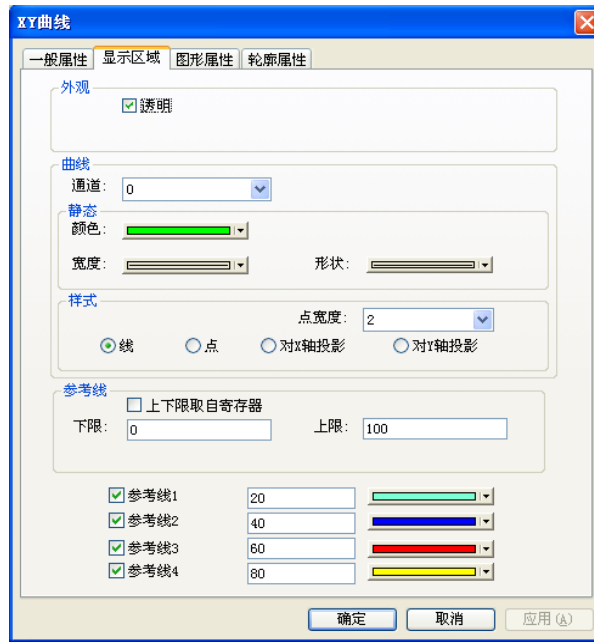
Fold effect.



change Y axis(X Upper axis), the effect of reduction can be achieved. As shown in FIG.

[ Display area]

Click XY Curve dialog " Display area " Page, as shown below will appear.



[ Exterior]

Check transparent appearance, no any background color; in accordance with the selected color is displayed when the outer frame and the background is not checked.

[ curve]

This may be provided for each channel to be displayed graph properties, line color, width.

[ style]

set up XY In the line, the point of X Axis projection or Y Axis projection display.

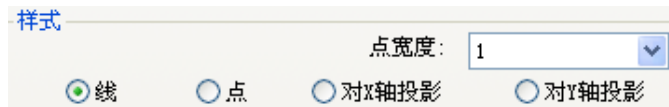
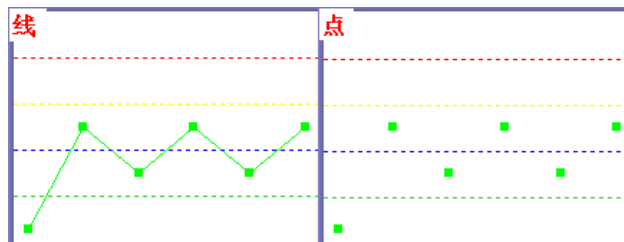
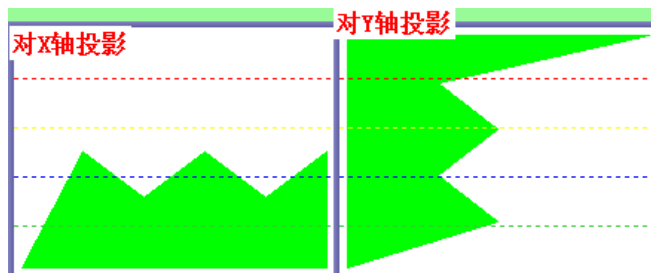


FIG lines and dots represent the following:



X Axis projection and Y Axis projection is shown below:



In use Y Projection the shaft, the pattern is formed by each point and obtaining X The origin plus, Y The first and last point

Point to draw from.

Here's an example of X And on-axis projection Y Axis of projection process:

Please refer to the following example X and Y DESCRIPTION axis projection, Suppose there are six points by the P0 To P 5, in X The axis of projection step

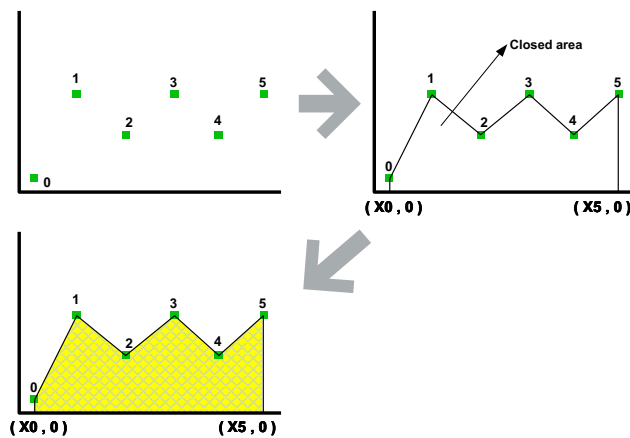
under:

a The system automatically X Calculating two-axis projection point ( X0 , 0) with ( X 5, 0) .

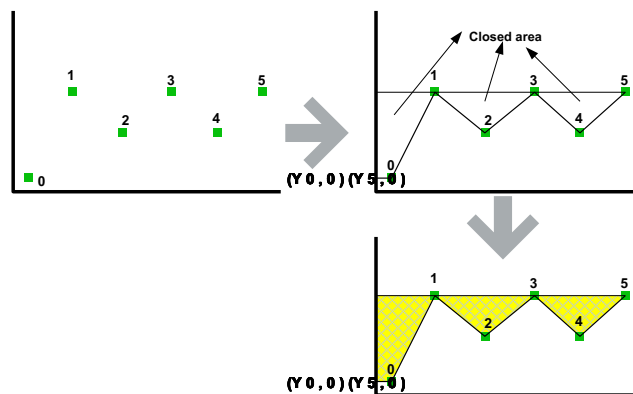
b , According to the sequence ( X0 , 0) , P0 , P1 ... P 5, ( X 5, 0) And finally back ( X0 , 0) , Will connect the dots.

c Fill all enclosed area.

X Axis projection:



Y Axis projection likewise:



[ reference line]

Up to four reference line drawn on the graph, the user can select the color of the lines and the reference value itself, and based on


The set value is displayed on the screen.




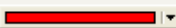
参考线


上下限取自寄存器

下限:  上限:

参考线1  

参考线2  


参考线3  


参考线4  


If checked "Upper and lower limits taken from the register", A read address is required to set the reference line.

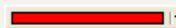
参考线


上下限取自寄存器

地址:  

参考线1  

参考线2  

参考线3  

参考线4  

### 13.17 Data group show ( data block)

It refers to a group of data of the data set of consecutive addresses, e.g. LW12 , LW13 , LW14 , LW15 Wait. Significant data group

Illustrates a plurality of controls can display the contents of data groups, such as a display while LW12 ~ LW15 versus RW12 ~ RW15 Two data

Group, whereby the user can observe and compare mode information in each register.

That is, data group data is used to display a graph or more sets of consecutive registers is formed. With this special

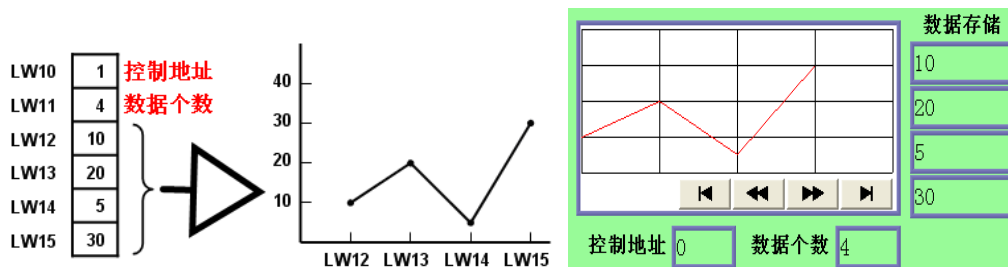
Property, in the practical application may compare the actual and expected data actually obtained data can be used to compare the two curves.

For example, temperature control in the boiler, is set in advance of an expected set of data, the data in the actual boiler operation, with the pre-acquired

Comparison of the data, using a graph to compare the two group display, to understand where the actual differences, in order to better

Control operation of the boiler. The screenshots below show data group control to display a single data group LW12 ~ LW15 The data. the following

DETAILED DESCRIPTION using the group of data.

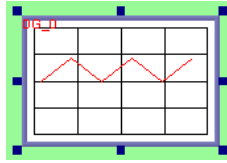


The actual results of the implementation

#### 13.17.1 New controls, and property settings

turn on InoTouch Editor Software menu " Control / data group ", Or an icon on the toolbar, click in the window 

The left mouse button on the establishment of " Data group " Control, as shown in FIG.



select " Data group " Double-click or right-click to select " Attributes " Edited, as shown below:

#### General Properties

Setting [channel number]. The number of channels used to set the number of sets of users want to observe data group, i.e. how many curves show the most

More can be displayed simultaneously 12 Curve.

通道数目:

For example, a data group in FIG display is set to 2 , Then the user can observe the contents of two different types of addresses simultaneously.

Are set for each group of data read address, and the format pattern of high and low limit.



[ aisle]

Address control is used to specify which channels to be set.

[ Control Address]

" Control Address " And it is used to control the display of the clearance curve;

0 = No action (Default value)

1 = Depicts a curve

2 = Clear Curve

3 = Clear and redraw the curve

After execution of the above instructions, the address value of the control system will set 0 .

When completed " Control Address " When set, InoTouch Editor Automatically calculated to produce " The number of address data " versus " Since data storage Start address " Address disparities are all 1 . When not in use " Address offset " When the function, if " Control Address " set as LW10 ,then " data

The number of address " versus " Data storage start address " Will respectively LW (10 + 1) versus LW (10 + 2) , That is, LW11 versus LW12 .

[ Address data number]

Source address is the number of data " Address control address + 1"

The number of data sets the designated group of data to be displayed, i.e. number of points.

[ The data storage start address]

If the " Using the address offset " Is not selected, the start address of the source data storage is " Address control address + 2"

The actual data reading start address. Continuous curve data is a plurality of registers starting from the address formed.

[ Using the address offset]

If checked " Using the address offset " , Then [the data storage start address] is [using the address offset] + [Control Address] address, i.e., [Control Ltd. Address] + 2 .

[ type of data]

Setting data format. E.g LW12 The starting address of the data, when the data format is set to 16 bit Unsigned Time, LW12 for Data 1 , LW13 for Data 2 ,So on and so forth.

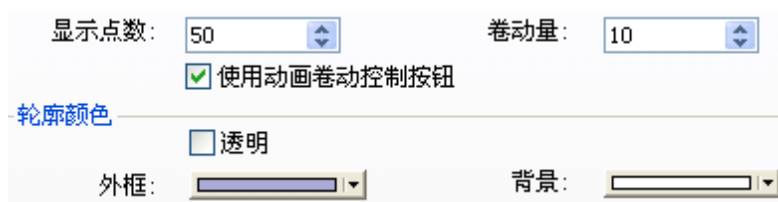
However, when the data format set 32 bit Unsigned Time, LW12 for Data 1 , LW14 for Data 2 ,So on and so forth.

[ limit]

Pattern of high and low limit settings for the display. I.e., the curve of minimum and maximum values can be displayed.

Display area

A graphical display that can be set the maximum number of data (number of points), and move around the border points, the background color.



Animation and scrolling control button "Trend" The same button functions, please refer to the "Trend" The instructions.

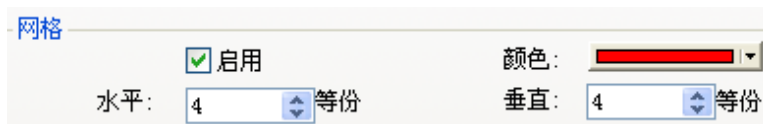
Groups set display frame color and background color contour control. If checked "Transparent", Then the outline color and background color-free

It needs to be set, and does not use "Graph".

Control group setting display grid

The group display control that is horizontally and vertically divided into aliquots and the color of the grid, as shown in FIG. Such as

If the effect does not require a grid, not check "Enable".



Setting each data group pattern line color, width and type.



After setting the above good properties, you can set up the read data displayed on a screen in a curved manner.

### 13.17.2 Work process control data group

#### 1 Content data group, show how

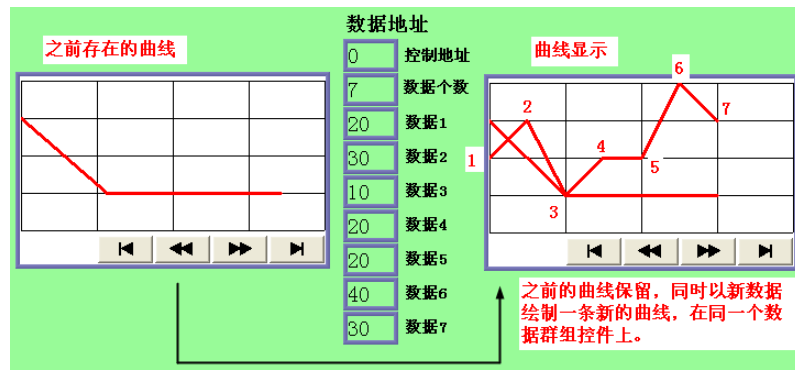
a In [the number of data Address] write data items to be displayed.

b In the [data storage start address] content data sequentially filled.

c , [Control Address] Write "1" ( This address bit 0 set as ON) ;at this time InoTouch Editor We will polyline drawing

The current contents of the register (Graphic before and reserved).

d , InoTouch Editor Upon completion of the operation in the preceding paragraph [Control Address] Write "0" .



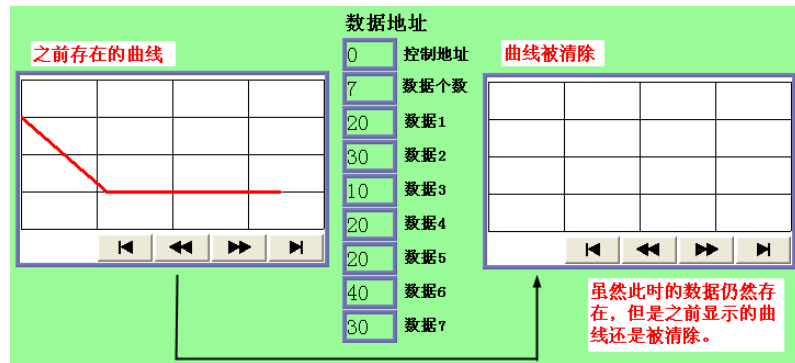
Note: In the operation c with d Between, do not change the [Control Address], [the number of data address] and [data storage start address]

Content, or it may produce unexpected results.

2 How to clear the display of graphics

a , [Control Address] Write "2" ( Or this address bit 1 set as ON) ; Clear the painting line previously in FIG.

b , InoTouch Editor Upon completion of the action before the item will be [Control Address] is written "0" .



3 Curve, has been shown to clear the graphics and display data is formed in a new

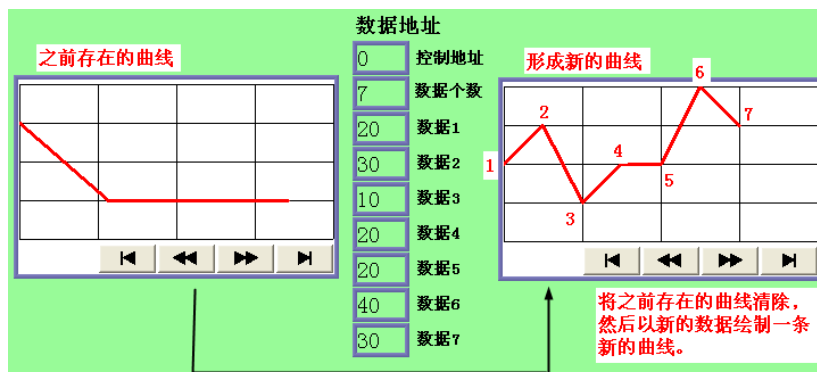
a In [the number of data Address] write data items to be displayed.

b In the [data storage start address] content data sequentially filled.

c , [Control Address] Write "3" ( This address bit 0 versus bit 1 It is set as ON) ;at this time InoTouch Editor Will first

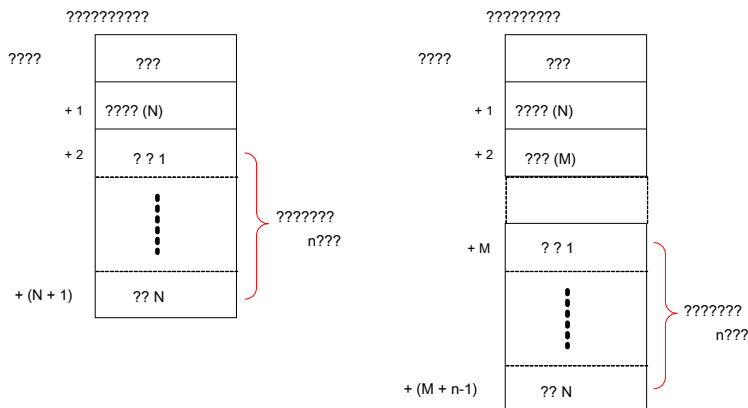
Curve previously cleared, then new data to the current address which is formed a new curve.

d , InoTouch Editor Upon completion of the action before the item will be [Control Address] is written "0" .



4 , The address offset mode

If checked [Address Offset] mode, the original [data storage start address] becomes [data storage offset address], please refer to the FIG.



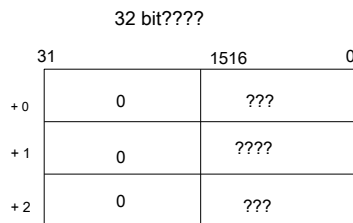
Left unchecked by [Address Offset] mode, this mode [data storage start address] is the [Control Address ( Designated address)] + 2 .

However, in the address offset mode, the original [data storage start address] to [data storage offset address], used to store data  
 The storage address offset value, assuming the value of m, can push [data storage start address] to [Control Address] + m.

Note: [Control Address], [the number of data address] and [data storing offset address] is fixed to 16 Bit unsigned data format, the control Properties dialog to the selected data type is a data type for the required curve.

- When the specified register address data 32 When bits, only the lower 16 Bits have an effect, the higher place 16 Digital content

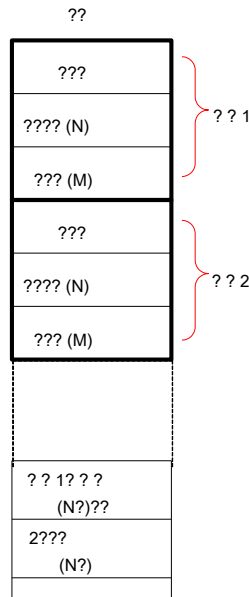
Set 0 .



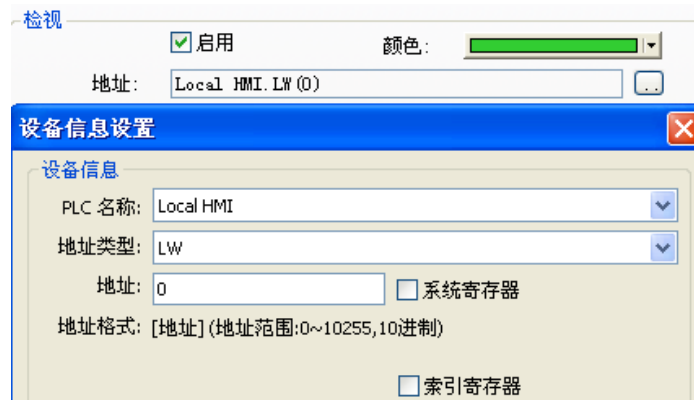
- Continuously read control after the establishment of [Control Address], [the number of data address] and [data storing offset address] content, but only

There [Control Address] bit 0 for ON When the offset address to read the inside data.

- When two or more specified channels, and each channel uses the same type of device, the address offset mode is recommended. See FIG under test: the two channels [Control Address], [the number of data address] and [data storing offset address] is set to successive addresses, In the first communication system to cycle the entire read back, can effectively enhance the efficiency curve drawing.



### 5 Data View functionality ( Watch)



**Data View function, that is, data viewing. It works like speaking in front of "Trend" middle "View" Function is the same.**

In addition to comparing the user by pattern data group, you can also use [Data View] function, data of each drawing view points. open

**When this feature is enabled, the user simply generated on the touch screen curve, InoTouch Editor The sequence will currently viewing "Data compiled**

**number " Sequentially written to the specified address and the data of each channel, and then display the actual content read by the control value. Each channel number written**

The original data format of each channel is defined in accordance with the data format of the data.

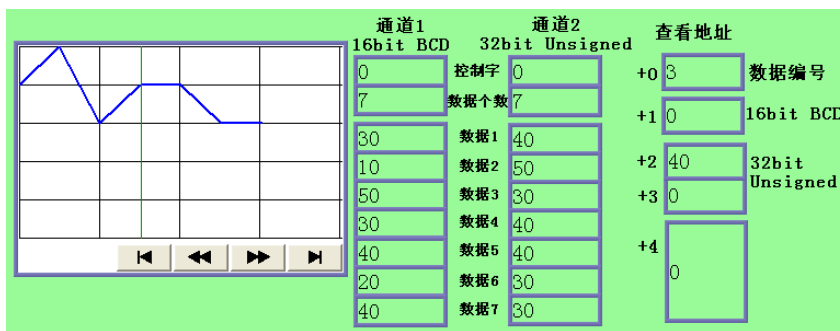
**For example: In group two sets of data show, for example, the channel 1( Data group 1) for 16 bit BCD Format, channel 2( data Groups 2) for 32 bit Unsigned Format; when viewing data 4 , The control will be sequentially numbered data (data number from 0 Start, That is, data view 4 Value, the data will be numbered 3) Two sets of data and data group 4 Content sent to the designated address, its Written in the channel 1 Data usage 16 bit BCD Channel written; 2 Data usage 32 bit Unsigned .**

**Note: When using 32 bit Unsigned , The control data set and the address or number of 16 bit Unsigned , Writing Data address 32 bit Unsigned (Control Address + 2 + 4 + 6 And so on, and so on).**

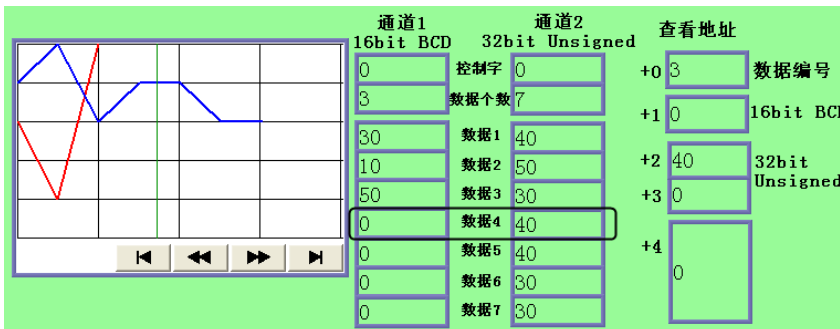


- [Data Number]: from 0 Started 16 Bit unsigned integer; if the specified register is 32 When bits, only the lower 16 Bits have an effect.
- The channel may be a [Control Address] is set to 1 To display the data content in different points of time, but viewing output Content value of each channel to display the last time, when the value of the previously displayed can not be view (view).

- As shown, when the passage 1 Be cleared before viewing (or is not already displayed), to view its data 0 instead.



- As shown, when the passage 1 Just 3 Data, when the viewing data 4 When (insufficient number of data), the data to its view 0 instead.



[ limit]

- 1 ) Maximum number of channels 12 That a group of control data can show up 12 Curve.
- 2 ) Curve is the upper limit of the number of refreshed 32 ; After reaching the upper limit, no longer accepts display command.
- 3 ) Each channel can show up 1024 point.



### 13.18 Backup Control ( backup)

You can use the backup control recipe data, event logs or the specified data sampling record is copied to the specified device ( U plate),

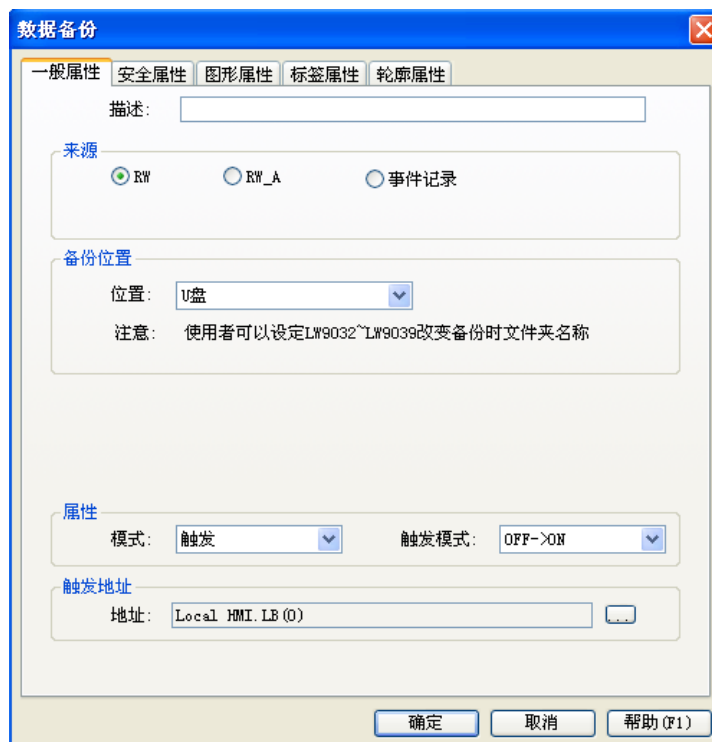
And you can specify the time range of backup. For example, an event record is stored in the original U Disc, data can be displaced into a computer built into Further analysis or printing. At the same time, it can also be stored in the display or U plate, SD Card inside information to back up the Saved on your computer.

When the backup operation of the system reserved bit [ LB9039] Status will ON status. Described below " Backup " Controls USE.

turn on InoTouch Editor Software menu " Controls / Backup " , Or an icon on the toolbar, click the mouse in the window Left, on the establishment " Backup " Control.



select " Backup " Double-click or right-click to select " Attributes " Edited, as shown below:



[RW] , [ RW\_A] ,[record]

These options are used to select the source you want to copy.

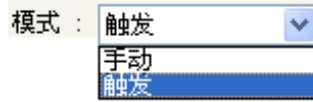
[ Backup location]

Copy the file location can be selected [ U plate] When the source data and copy the same position, control will not perform any replication action

Make.

[ Attributes]

Execution mode selection control, you can choose " Manually " versus " trigger " Modes, with reference to the FIG.



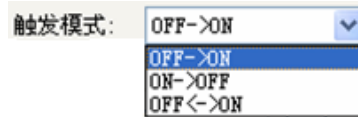
[ Manual]

Users only need to press the controls, you can perform data replication action.

[ trigger]

When the specified register state change trigger conditions are met, control performs data replication action. It contains the following trigger conditions

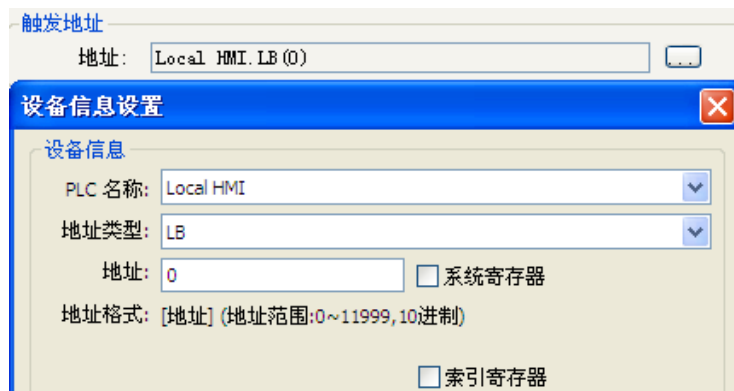
Ways:



[OFF-> ON]	When the status register specified by the OFF Changes to ON , Will perform the data replication operation.
[ON-> OFF]	When the status register specified by the ON Changes to OFF , Will perform the data replication operation.
[OFF <-> ON]	When the specified register change of state, will perform data replication action.

[ Trigger address]

When " trigger " Mode, the trigger address is used to specify which of the control register to use to trigger data copy operation.



### 13.19 LED Marquee Control



FIG control properties as follows: with the control in Displaying a set of moving lights, its movement and the moving speed of the operation of the register control, lighting, and color light-off display colors are alternately formed in the moving operation. Run Control Address: the address is an address bit, is when ON Marquee moved, OFF When, at this time to be determined by the position of the lights in real time the location address.

Real-time location: As described above, the data type is fixed for the 32 Bit unsigned integers. Interval Address: control led spinning speed, 0 The fastest, the greater the value, the slower the speed. The number of tail: the tail number is 0 The number of Lit is 1 When the number is tailing 1 When the quantity of lights 2 And so on.

Style: Style Mobile currently supports only circular movement



The screenshot shows a software window titled "LED跑马灯" (LED Marquee Control). It contains several configuration sections:

- 颜色 (Color):** Includes "亮灯颜色" (Light Color) set to green and "灭灯颜色" (Off Color) set to dark green.
- 控制地址 (Control Address):** Includes three fields: "运行控制地址" (Run Control Address) set to "Local HMI.LB (0)", "实时位置地址" (Real-time Position Address) set to "Local HMI.LW (0)", and "时间间隔地址" (Time Interval Address) set to "Local HMI.LW (2)". Each field has a "设置.." (Settings) button.
- 其它参数 (Other Parameters):** Includes "LED灯个数" (LED Light Count) set to 16, "LED灯半径" (LED Light Radius) set to 10, "拖尾个数" (Tail Count) set to 0, and "样式" (Style) set to "圆" (Circle).

At the bottom of the window are three buttons: "确定" (OK), "取消" (Cancel), and "帮助 (F1)" (Help (F1)).

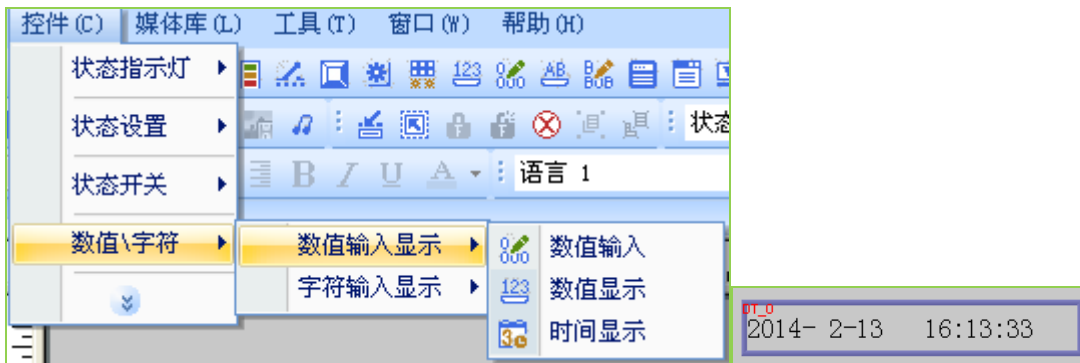
### 13.20 Time display controls

Time display controls are used to display the date and time controls.

Open InoTouch Editor software menu "→ Numerical Control \ character numeric input display → → time

Display ", or icon on the toolbar, click the left mouse button in the window, on the establishment of the " Show time "

Control, as shown in FIG.



Select "Show time" double-click or right-click and select "Properties" to edit, as shown below:



**[ Time Front]**

Time is displayed in front of the date.

**[ Date Format]**

0	Hide date	Date does not show up
1	yyyy-MM-dd	year month day
2	yyyy.MM.dd	year month day
3	yyyy / MM / dd	year month day
4	MM / dd / yyyy	Month / day / year
5	dd / MM / yyyy	Day / Month / Year
6	dd.MM.yyyy	May month. Year
7	MM / dd	Month Day
8	MM.dd	Month Day

**[ Time format]**

0	Time is not displayed	Time is not displayed
1	HH: mm: ss	Hours: minutes: seconds
2	HH: MM	Hours: minutes

**[ Read address]**

In the address read: default address Local HMI.LW (9022) , May be modified to address other. Read month

Address: default address Local HMI.LW (9021) , May be modified to address other. Read Day Address: default

address Local HMI.LW (9020) , May be modified to address other. When reading Address: default address Local

HMI.LW (9019) , May be modified to address other. Read points Address: default address Local HMI.LW (9018) ,

May be modified to address other. Read second Address: default address Local HMI.LW (9017) , May be modified

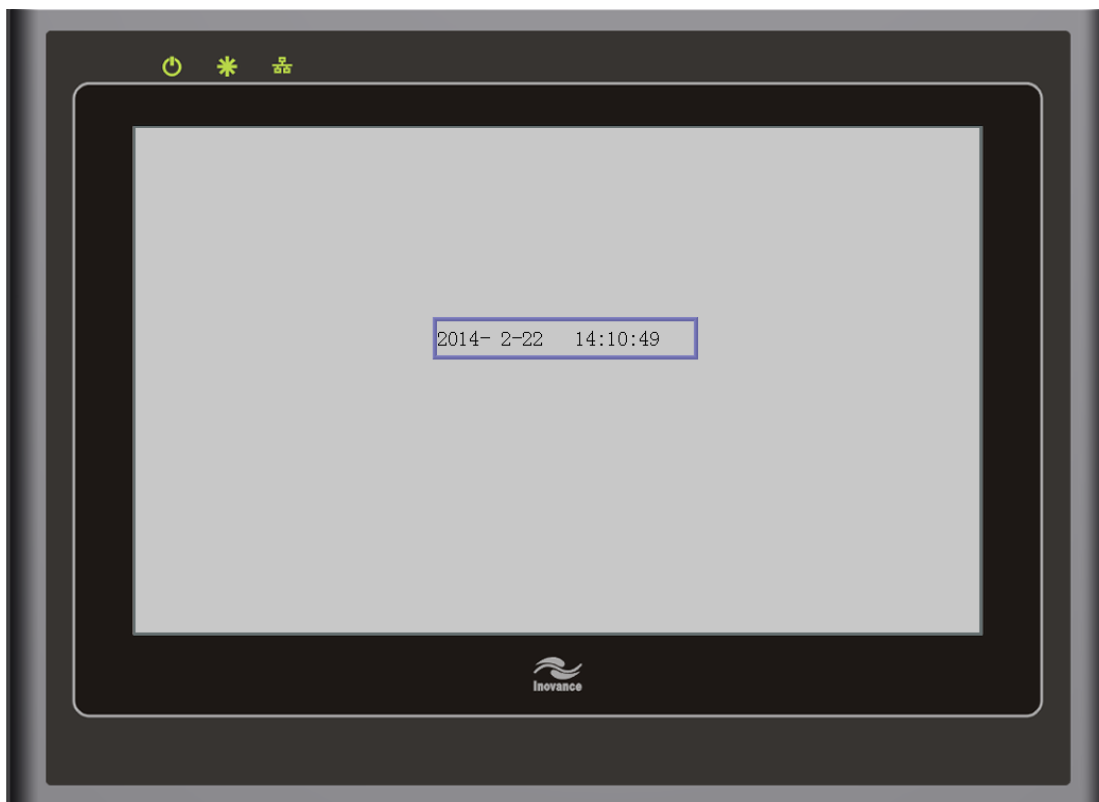
to address other.

**Default Address Example:**

**step 1** :turn on InoTouchEditor Software, the new display time control, time keeping display controls the default configuration,

Click the menu "Tools \ Compiler " "Tool \ offline simulation", obtain the time automatically according to the configuration

register system, the date, as shown below:



Modify Read Address Example:

step 1 : Reading the year, month, day, hour, minute, second address in order to Local HMI.LW (0) , Local

HMI.LW (1) , Local HMI.LW (2) , Local HMI.LW (3) , Local HMI.LW (4) , Local HMI.LW (5) ,As shown below:



step 2 : New 6 Numerical control input, the address set in sequence Local HMI.LW (0) , Local HMI.LW (1) ,

Local HMI.LW (2) , Local HMI.LW (3) , Local HMI.LW (4) , Local HMI.LW (5) , Just created program is stored, compiled and executed offline simulation, the effect is shown below:



Since no input any data, so the data are zero. Input to the input control value, respectively 2013,8,

23,3,4,59 displays the results shown below:





## 13.21 PLC Control ( PLC Control)

"PLC control " Controls are used to define PLC State of a bit in the data or the contents of the register and other conditions, conditions when full

When full, the implementation of specific actions defined in the control inside. For example, a screen switching operation and the like.

Click InoTouch Editor Under the left of Software Project Management "PLC Control object table " Will open "PLC control " Dialog box,

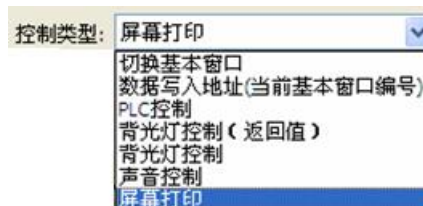
As shown below.



Attributes

[ Control type]

select PLC Control control control type, selectable items shown below.



The above function setting, respectively, as follows.

**a , " Change Window "**

Switching the base window. When [Trigger Address] in the data change, and the changed data is a valid window number,

The current window will close and switch to [Trigger Address] data specified window, and the window number written at this time after switching to the specified

The address (write address this see the description below). For example if the current window No. 10 And content controls, such as setting

The following figure:



when LW0 Data from the other data is changed 11 Time, InoTouch Editor In addition to the basic window will switch to the window 11

Outside will also LW1 Change data 11 .

When successful handover window, the window number of the write address after the handover with this [trigger address] set in the read address, the variable type

Jie-state relationship, the following table compiled object window number of the read address is to be switched, and the number of write address window after the handover. its

**in "Address" Expressed Storage Device The address value, for example, register [ LW100] Time , "Address" equal 100 .**

Variable type	The destination window number read address (trigger address) Switching	the write address window number
16-bit BCD	address	address + 1
32-bit BCD	address	address + 2
16-bit Unsigned	address	address + 1
16-bit Signed	address	address + 1
32-bit Unsigned	address	address + 2
32-bit Signed	address	address + 2

But the system reserved bit [ LB9017] The state is set to ON When, after switching window number will no longer be written to a specific address.

If [the paging address data to zero], then the window switching succeeds, the trigger data address zero.

When the backlight is turned off, If [the feed backlight on], then the switch will automatically open the window after a successful backlight.

In the " The backlight power saving time " Set to non 0 When the data that is used the backlight off function, check this suggestion.

**b , " Data is written to address (Current base window number) "**

When the Change Window, the number will be written to the basic window [Trigger Address] designated address.



**c , "PLC control "**

This feature may be utilized to provide user control data register PLC versus HMI Data transfer between the data transfer

Direction includes four types, with reference to the table of contents:

Data transfer type	Data transmission direction
1	PLC Data register -> HMI Up RW register
2	PLC Data register -> HMI Up LW register
3	HMI Up RW Recipe Information -> PLC Register on
4	HMI Up LW Register -> PLC Register on

When using this feature, InoTouch Editor The use of [Trigger Address] set in the start address, consisting of four consecutive registers

The data unit, determines data transfer type, the number of data transfer, the data transfer source address and the destination address of the data. Under exemplar

Significance of Data Register shown indicated. Wherein [trigger address] indicates that PLC Location register, for example, [Trigger Address] =

**D100 , That means use D100 ~ D103 Data were four registers to determine the content of the data transmission.**

address	USE	Explanation
[ Trigger address]	Storing type data transmission, and data transmission direction is determined.	This register is used to determine the type of data transmission, as described above, there are four types. When new data is written to the register, InoTouch Editor Namely implementation of the corresponding transmitting, after the data transfer is completed it will reset register is 0 .
[ Trigger address] + 1	Storing data to be transmitted The number of units of word .	
[ Trigger address] + 2	Storing data during transmission Address offset sources.	Source start address is transmitted: <b>[ Trigger address] + 4 + Offset</b> Kymmene to PLC For example, if set at this time [Trigger address] is D100 , In the register [Trigger Address] + 2 That is D102 The data is "5" , The start address of the data sources is transmitted D109 , among them = 109 (100 + 4) + 5 .
[ Trigger address] + 3	Storage of transit funding formula Register material ( RW) Or this The data register ( LW) The starting address.	Kymmene to PLC For example, if set at this time [Trigger address] is D100 ,and [Trigger Address] in the register + 3 That is D103 The data is "100" , The destination address of the transmission during operation is RW100 or LW100 Consecutive start address register.

Examples are as follows:

If now we need to use "PLC control " Features that will Kymmene PLC From D100 The beginning 16 words Data transfer

To lose InoTouch Editor Recipe memory RW200 Start address, the method implementation is as follows:

First, it is assumed by D10 Starting four registers to control the transmission of data, you should first establish a PLC Control controls,

Select the type "PLC control " Reads the address set D10 . As shown below.



Next, the size should be determined and the offset address of the operation data, the D11 set as 16 Large, denotes the transmission of data

Small as 16 words ;will D12 set as 86 , Source address data is represented D100 (100 = 10 + 4 + 86) ;will D13 Set up

Reference is 200 , It indicates the target address RW200 .

Finally, in accordance with the direction of data transfer, transmission type is set. Should be D10 set as 1 , It said it would transfer PLC register

The data to InoTouch Editor Up RW Register. If you set D10 Value 3 , The opposite direction of transmission.

The other two have a similar set of transmission methods, the only difference in InoTouch Editor Data memory into local

Data register LW .

d " Backlight control (return value) "

When the state [Trigger Address] by OFF Changes to ON Time, InoTouch Editor The backlight on and off, this will also [be triggered

Address] is set to state OFF . When the backlight is turned off, the user need only touch the screen at any position, i.e., the backlight will again open.

e " Backlight control "

When the state [Trigger Address] by OFF Changes to ON Time, InoTouch Editor The backlight on and off, but do not have " return value "

(Write back) State functions, will not at this time [trigger address] is set to OFF .

f " Sound Control "



When the state of [Trigger address] change trigger conditions are met, "PLC control " Control will play a pre-specified sound file. [touch

Hair embodiment] can be selected:

OFF-> ON By the state OFF Changes to ON	
ON-> OFF By the state ON Changes to OFF	

OFF <-> ON Simply	state change
-------------------	--------------

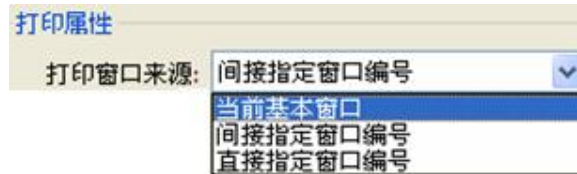
Note: At present, only the man-machine interface with Ethernet only audio output.

### g " Screen Printing "

When the state of [Trigger address] change trigger conditions are met, "PLC control " Controls will print the specified screen. Can trigger select:

OFF-> ON By the state	OFF Changes to ON
ON-> OFF By the state	ON Changes to OFF
OFF <-> ON Simply	state change

Can choose to print the picture, there are three ways to specify, with reference to the FIG.



[ Print this basic window]

"PLC control " Controls will print the current window screen human-machine interface display.

**Note:** The current can only save pictures to support U Disk mode, the printer supports direct printing yet

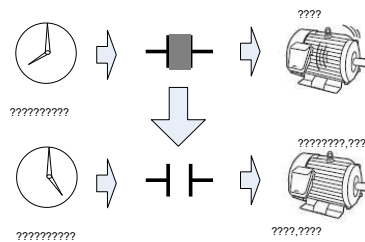
## 13.22 schedule ( Schedule)

Scheduling function is specified in the arrival time, performs the specified action. For example, specify Monday morning 8 : 00 The whole open Machines, Monday afternoon 17 : 00 Full shutdown. This is a simple " schedule " Features. Scheduling is a function of the particular Among more than specified bit or word register. It gives the specified bit Or the state change of the specified data register is written inside data. Schedule typically includes the following items, to the following case to illustrate the way " schedule " The method to use.

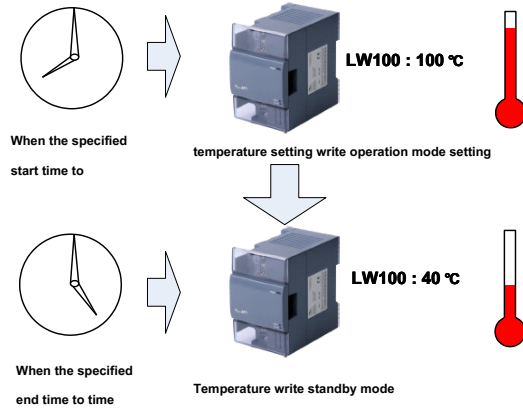
- 1 ) Set menu (or a certain work is required);
- 2 ) Opening / closing the motor at a particular time;
- 3 ) Changing the temperature at a particular time;
- 4 ) And scheduling an operation time setting process described;
- 5 ) limit

### 13.20.1 Settings menu

At a specified time on / off motor



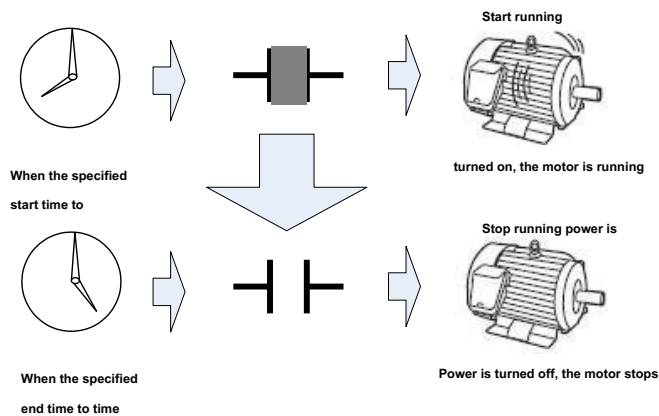
Varying the temperature at a given time



**13.20.2 Opening / closing motor at a certain time**

The motor (assuming Address: LB100) It has been running from Monday to Friday, by the time every morning 8 Pm to 5 point. in

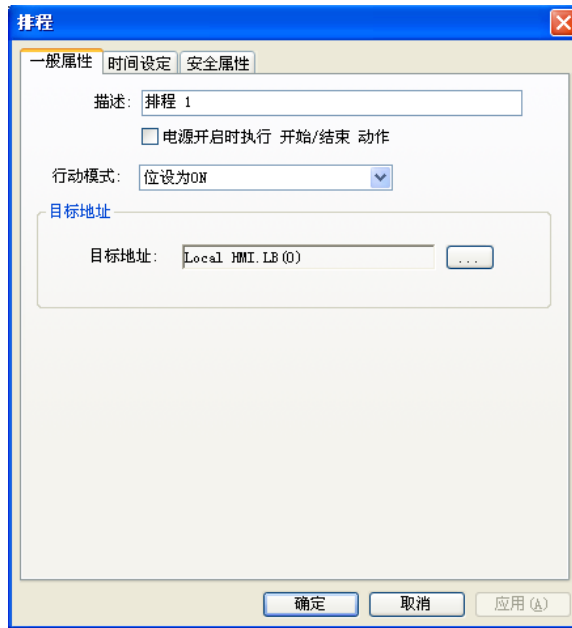
This program is set for introduction at the beginning of time (in the morning 8 Point) address LB100 Set ON At the end of time (afternoon 5 Point) will be site LB100 Set OFF .



Understand the above job requirements, then use " schedule " Control to set the work process.

Step one: Click InoTouch Editor Under the left of Software Project Management " Schedule object table " Will open " schedule " Dialog box,

As shown below.

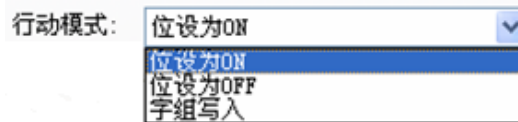


Step 2: Setting [General properties] p:

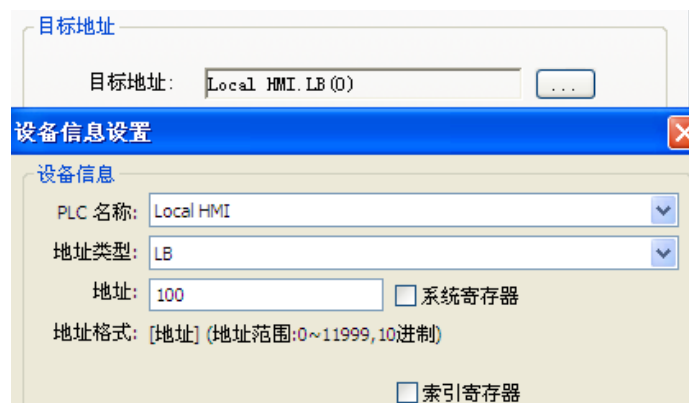
1 ) To decide whether to check [perform start / stop operation when the power is turned on].

电源开启时执行 开始/结束 动作

2 ) Selected [Action Mode] is set to [Bit ON] .

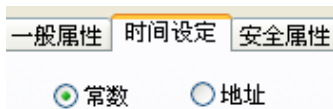


3 ) Setting [target address] (example: LB100) .



Step 3: Setting [Time Setting] on page:

1 ) Select [Time Setting] tab, followed by [constant].

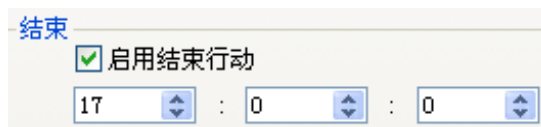


2 ) Set [start time and date]. The time is set 8 point 0 Minute 0 Seconds, then check Monday through Friday, cancel [set

A single date] check box.



3 ) Set [end time and date]. Check the [Enable End action] check box, set the end time 17 point 0 Minute 0 second.



4 ) Press the [OK] key.

Through the above steps, it is assumed LB100 Control bits to control the motor start / stop, after the setting, the " schedule " Work

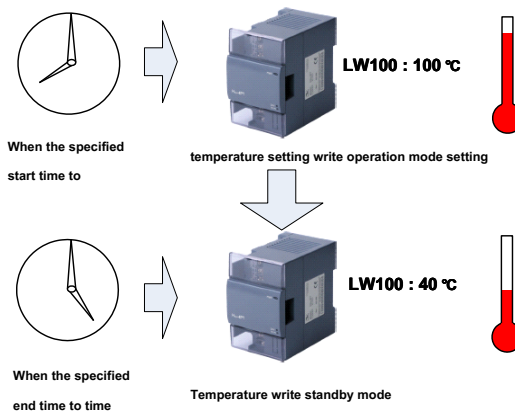
As the process is, every Monday to Friday morning 8 : 00 whole, LB100 State is set to ON , The motor starts running,

In the afternoon of 17 : 00 whole, LB100 The state is set to OFF , The motor stops, and so a week.

### 13.20.3 Specific time temperature change

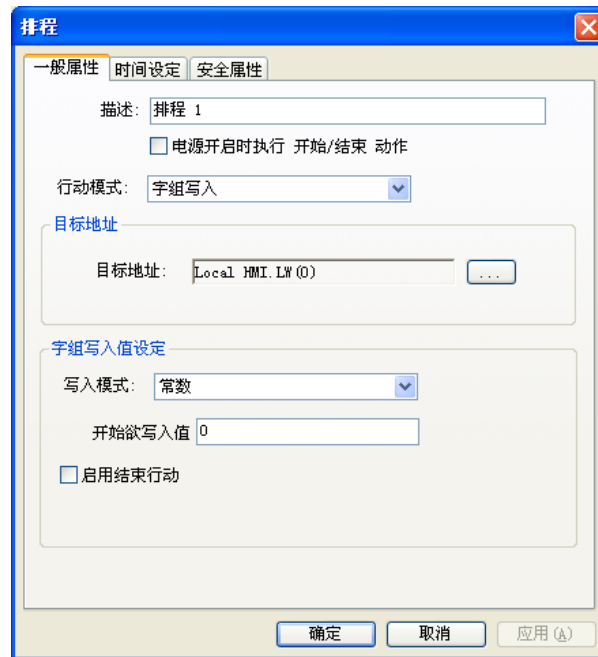
From Monday to Friday, at the start time 8 The temperature set point value 100 Write register of address LW100 , Then the system

Into the operation mode. At the end of time 17 The temperature set point value 40 Write register of address LW100 , Then the system enters a wait mode.



Step one: Click InoTouch Editor Under the left of Software Project Management " schedule " Will open " schedule " Dialog box, as shown below.





Step 2: Setting [General properties] p:

1) To decide whether to check [perform start / stop operation when the power is turned on].

电源开启时执行 开始/结束 动作

2) Selected [Action Mode] to [word written].



3) Set [Action Address] (for example: LW100) .



4) Select [value] sets [starts to be written value] of 100 .

字组写入值设定

写入模式: 常数

开始欲写入值 100

Step 3: Setting [Time Setting] on page:

1) Select [Time Setting] page, and then select [constant].

一般属性 时间设定 安全属性

常数  地址

2) Set [start time and date]. The time is set 8 point 0 Minute 0 Seconds, then check Monday through Friday. Cancel [single set date] check box.

设定为单一日期

开始

8 : 0 : 0

星期日  星期一  星期二  星期三  星期四  星期五  星期六

3) Set [end time and date]. Check the [Enable End action] check box, set the end time 17 point 0 Minute 0 second.

结束

启用结束行动

17 : 0 : 0

4) Back [General properties] p, set [end to be written value] of 40 .

字组写入值设定

写入模式: 常数

开始欲写入值 100

启用结束行动

结束欲写入值 40

5) Press the [OK] key.

Through the above settings, to complete a " schedule " Function, that is, every Monday to Friday morning 8 : 00 Whole, the 100

This data is written to LW100 This register, and then in the afternoon 17 : 00 Whole, in turn 40 This data is written to LW100

This register.

13.20.4 And scheduling an operation time setting process described

1 Action mode setting:

**排程**

一般属性 时间设定 安全属性

描述: 排程 1

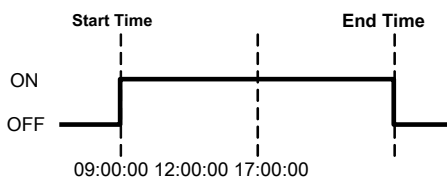
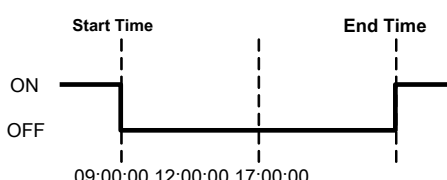
电源开启时执行 开始/结束 动作

行动模式: 位设为ON

目标地址

目标地址: Local HMI LB (0)

确定 取消 应用 (A)

set up	Action Description
Bit ON	<p>At the start, the specified bit is set ON . At the end, set OFF . For example: start time: 09:00:00</p> <p>End Time: 17:00:00</p>  <p>Start Time                      End Time</p> <p>ON</p> <p>OFF</p> <p>09:00:00 12:00:00 17:00:00</p>
Bit OFF	<p>At the start, the specified bit is set OFF . At the end, set ON .</p> <p>For example: start time: 09:00:00</p> <p>End Time: 17:00:00</p>  <p>Start Time                      End Time</p> <p>ON</p> <p>OFF</p> <p>09:00:00 12:00:00 17:00:00</p>
Written word	<p>At the start, the predetermined value [start value to be written] written to the specified register address data word, at the end, the writing [End value to be written]. For example: Register Address: LW100</p> <p>Start time: 09:00:00                      End Time: 17:00:00</p> <p>Start value to be written: 10                      The end of the value to be written: 0</p>

set up	Action Description
<b>Action Address Used to control the schedule specified address</b>	

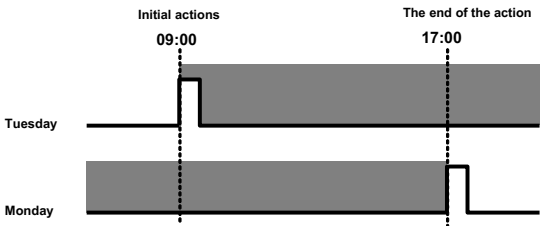
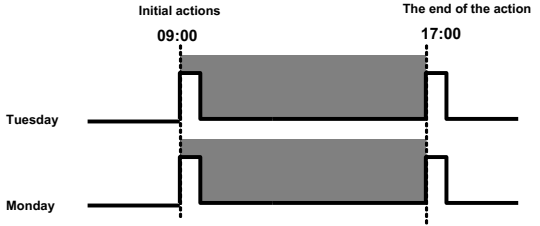
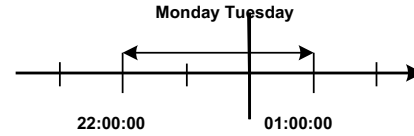
set up	Action Description
<p>When the power is turned on, the implementation of action has been set.</p> <ul style="list-style-type: none"> <li>Enabled</li> </ul> <p><b>if HMI The power supply is turned on in a scheduled interval, begin action will be executed. if HMI</b></p> <p>The power supply is turned on outside the scheduled interval, the end of the action will be executed.</p> <p><b>In the scheduling interval</b></p> <p>Scheduled start time power is turned on scheduled end time</p> <p>Start / end action</p> <p>schedule interval end outer</p> <p>The power is turned on scheduled start time End Time Schedule</p> <ul style="list-style-type: none"> <li>When disabled</li> </ul> <p>Later than the scheduled start time if the power is turned on, the operation does not start automatically. However, the end of the action will be executed automatically.</p> <p>Of course, if the termination operation is not set, the schedule interval can not be determined correctly, so the operation will not be executed.</p>	
<p><b>Bit Set ON / Bit Set</b></p> <p>OFF / Written word</p>	<ul style="list-style-type: none"> <li><b>Bit Set ON</b> will[ 0] Write to the specified location.</li> <li><b>Bit Set OFF</b> will[ 1] Write to the specified location.</li> <li>Written word The specified value is written to the data register specified address.</li> </ul>
<p>Initial value to be written When</p>	<p>the specified window is opened, an operation performed scheduling.</p> <ul style="list-style-type: none"> <li>Election [constant]</li> </ul>

	<p>Scheduling the start, the value to be written.</p> <ul style="list-style-type: none"> <li>Election [Address]</li> </ul> <p>When the schedule start address value to be written.</p>
The end of the value to be written	<p>When the specified window is opened, an operation performed scheduling.</p> <ul style="list-style-type: none"> <li>Election [constant]</li> <li>At the end of the schedule, the value to be written.</li> <li>Election [Address]</li> <li>At the end of the schedule, the address values to be written.</li> </ul> <p><b>note:</b> You have to [Set Time] tab, check [Enable End action] to use this option.</p>

2 , Set time (when the user selects [constant]).



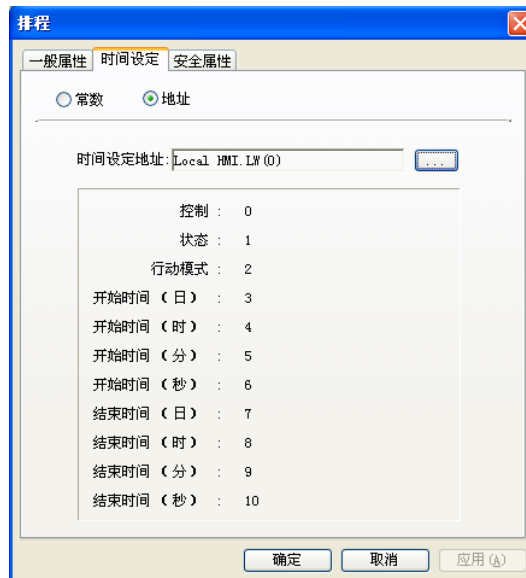
set up	Action Description
Constant / Address	<p>The method of selecting the set start time and end time.</p> <ul style="list-style-type: none"> <li>constant</li> <li>Specify a fixed time and date.</li> <li>address</li> <li>Specific address information storage time and date.</li> </ul>
Set a single date	<ul style="list-style-type: none"> <li>Enabled</li> </ul> <p>If the user wants to set a range of 2 More day schedule, you can check this option. But only a single set of single start time and end time.</p>

set up	Action Description
	<div style="text-align: center;">  </div> <p><b>注意:</b></p> <ul style="list-style-type: none"> <li>You must enter the start and end times.</li> <li>You can not enter exactly the same time and date at the start time and end time field.</li> <li>When disabled</li> </ul> <p><b>Time schedule must be defined within one day (start time and end time must be twenty four Within hours). Can select multiple</b></p> <p>start and end date in the schedule, certain actions may also be performed at the same time each day.</p> <p>When the user wants to specify an end time, check the [Enable End action].</p> <div style="text-align: center;">  </div> <p><b>注意:</b></p> <ul style="list-style-type: none"> <li>You can not enter exactly the same time and date at the start time and end time field.</li> <li>Such a time schedule applies only to scheduled within a day, so if you type the end time is earlier than the start time, the end of the action will wait until the next day will be performed.</li> </ul> <p><b>For example: Start Date:</b>  <b>Monday Start time: 22:00:00</b></p> <p><b>End Time: 01:00:00</b></p> <div style="text-align: center;">  </div>
Starting	<p>Select the starting time and date.</p> <p>When [set a single date] disabled, you can specify more than one day's date.</p>
End	<p>When [Enable End action] is enabled, to specify an end time. Date only [set a single date] is set to enabled.</p>

3 , Set time (when the user selects [address], i.e. the time is set by setting the data register, below)

If the " address " Is checked, the system set the start / end time and date via a device type of address. In addition, users can change

And set the schedule during the operation.

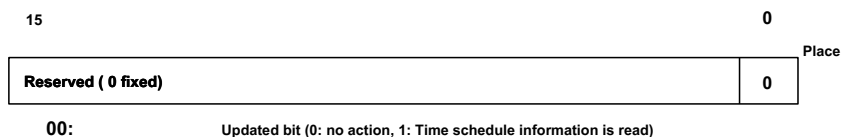


The following information length 16-bit Example. (When the designated register 32 When bits, only the lower 16 Bits have an effect)

set up	description
Time Setting Address	Specify a location within any device / PLC The starting address of the memory block, this block is used to set the storage time All the information.
control	Read required information, including the [Mode], [start time] and the [end time]. • Control (time setting address + 0)
status After the	[Control] time data read completion will change a bit is wrong, or the type of time data ON . • State (time setting address + 1)
Mode of action	Specify the [Enable End action] and [set a single date]. • Setting time (when [constant] is selected) • Mode (Time Setting Address + 2)
Start Time (days)	Specify the start date. • Start date (Start Date: Time Setting Address + 3)
<u>Start time (when)</u>	Specify the start time.
<u>Start time (minutes)</u>	• Start time (Start time: time setting address + 4 To + 6)
<u>Start time (seconds)</u>	
End Time (days)	Specify an end date. • End date (end date: Time Setting Address + 7)
End time (when)	Specifies the end time. • End Time (End time: Time set address + 8 To + 10)
End Time (min)	
<u>End Time (seconds)</u>	

**a. Control (time setting address + 0)**

When [Update Time Bit] is detected as ON (0-> 1) , Then read [Mode], [start time] and the [end time].

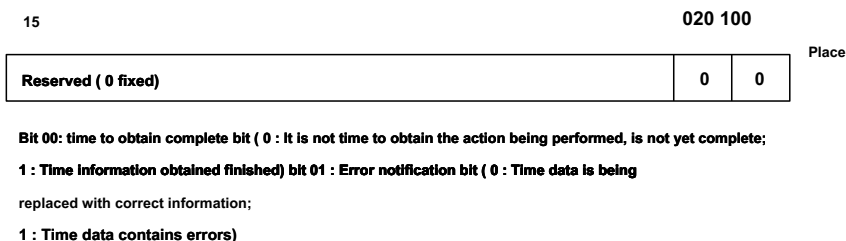


It can be seen from the " Control Address " of bit0 Set as ON , The update schedule time is set.

**注意:** • Setting the address from the time [Mode] (Address + 2) The [End Time (sec)] (Address + 10) Where the information will not be read out regularly. when HMI When the time corresponding set of data change, make sure the [control] the [time to obtain the required bit] set ON (0-> 1) .

**b. State (time setting address + 1)**

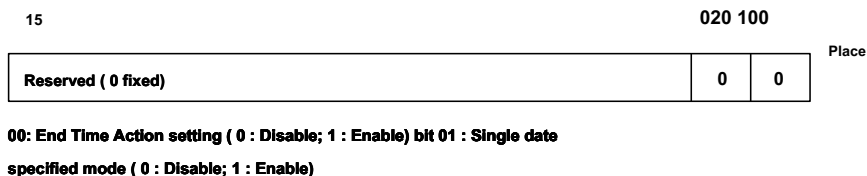
After the time data [control] is read is completed, HMI We will put [time to obtain complete bit] set ON (0-> 1) . Similarly, if the time information is entered incorrectly, [an error notification bit] will be set at the same time ON (0-> 1) .



**注意:** • Once the [time to obtain complete bit] is a trigger device / PLC Identified, make sure the [control] the [time to obtain the required bit] set OFF (1-> 0) . Once this bit is set OFF (1-> 0) , Then set the [state] of [time to obtain complete bit] and [Error Notification Bit] is set at the same time OFF (1-> 0) .

**c. Mode (Time Setting Address + 2)**

Enable or disable [End Time action set] and [Date specified single mode]. Whether [End Time Action setting] is how the state, the indirectly designated time data ([Time Setting Address] 11 A block address) will be read out.



**注意:** • If the [action to end time setting] input 0 ( Disabled), the end time data will be read but ignored. • If the [date specified single mode] Input 1( Enabled), make sure you enter the start and end time information. If there 2 More than one start / end dates bit is simultaneously set ON , An error occurs.

**d. Start / end dates (start date: Time Setting Address + 3 ; End date: Time Setting Address + 7)**

Specify a date used to trigger the start / end action.



15	07	506	040	03,020,100	Place				
Reserved ( 0 fixed)			Tue	Wen	Thu	Fri	Sat	Mon	Sun

Place 00 : on Sunday( 0 :no; 1 : Specified) Bit 01 : Monday(

0 :no; 1 : Specified) Bit 02 : Tuesday( 0 :no; 1 :

Specified) Bit 03 : Wednesday( 0 :no; 1 :

Specified) Bit 04 : Thursday( 0 :no; 1 : Specified)

Bit 05 : Friday( 0 :no; 1 : Specified) Bit 06 : on

Saturday( 0 :no; 1 : Specifies)

**e. Start / end time (Start time: time setting address + 4 To + 6 ; End time: Time Setting Address + 8 To +**

**10)**

Time: 0-23 ;Minute: 0-59 ;second: 0-59 . If the value exceeds the range you specified

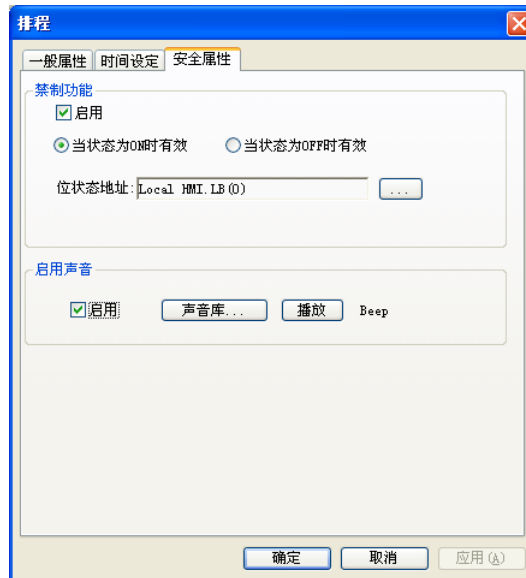
above, it will generate an error.

**注意:**

- Time data input by the user should be in binary format, the system does not accept BCD Time data format.
- End time depends on the [Mode] (Address + 2) set up. Similarly, [End Time Action setting] (bits 00) Effective depends on [Date single designation mode] (bits 01) usage of. Single date specified pattern

	USE	Do not use	
End Time Action setting	USE	Used	Not used

**4) Ban**

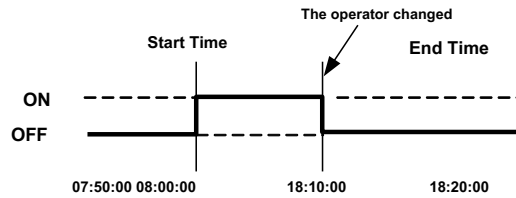


set up	description
Bit ban	InoTouch Editor In execution " Start " The former will first read the bit. If the bit state ON , The schedule will not be executed.
sound	If the user has set the sound object, regardless of the implementation of the start time or end time action will play the selected action are sound.

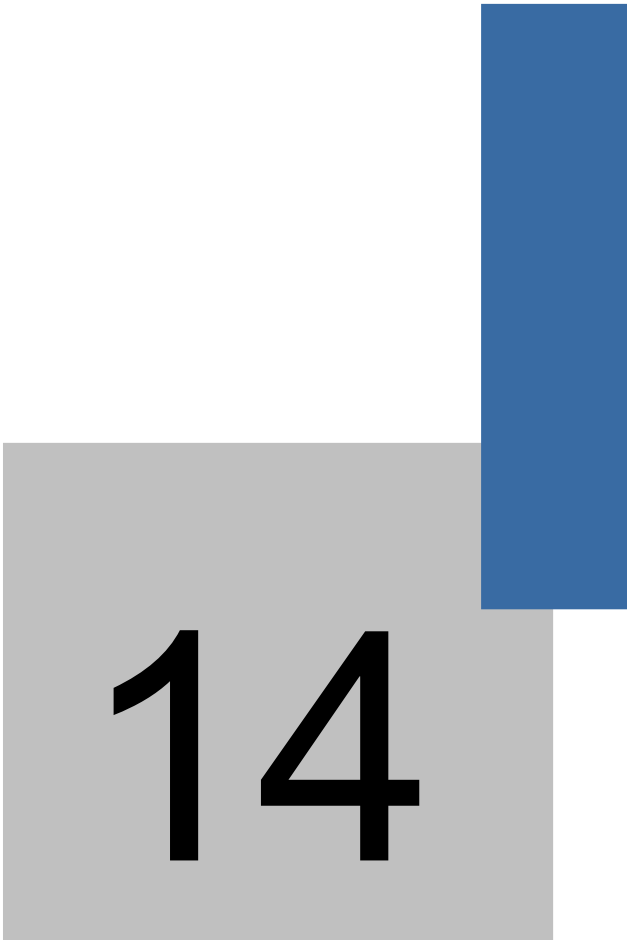
### 13.20.5 limit

- Each project can register up 32 A [schedule] object.
- Characteristics of a time schedule for the operation. When the start time is reached, specific device address will only be written to once, this write The action will not be repeated.

**Action: Bit set the start  
time: 08:00:00  
End Time: 08:20:00**



- [ Start / End value to be written] and [prohibition bit] is read only once at the scheduled start. It is not allowed time to read, and perhaps There will be little cause data communication delay the start time delay.
- When the user changes HMI System time, the system will re-determine the extent of the schedule start and end time. If the editor The object is located in the new range, the start action will be executed.
- When the same starting and ending time occurs in the plurality of schedules, they will be numbered in ascending order according to the processing.
- When the [Time] is specified as [Address], the system periodically to read the [control] Address, length of time depending on the extent of the system busy.  
  
When Bits [control] address 00 ([ The time required to obtain bit]) is set to ON Before [state] and the address information is read out in front, can be Can produce a time delay. Likewise bits, the plurality of [schedule] object 00 ([ The time required to obtain bit]) is set at the same time ON , It may be a delay before the action.
- When [Time Setting] is specified as [Address] and you specify start and end times over the legal time range, the set time It may not work correctly. Also, you can not use BCD As input values.
- When [Time Setting] is specified as [address], please pay attention to [control] in the [time to obtain the required position] if there is set.
- The current implementation is based on [schedule] function " week " For the cycle execution units, you can not specify any date to perform specific actions.



**Sampling data, trends and historical data show**

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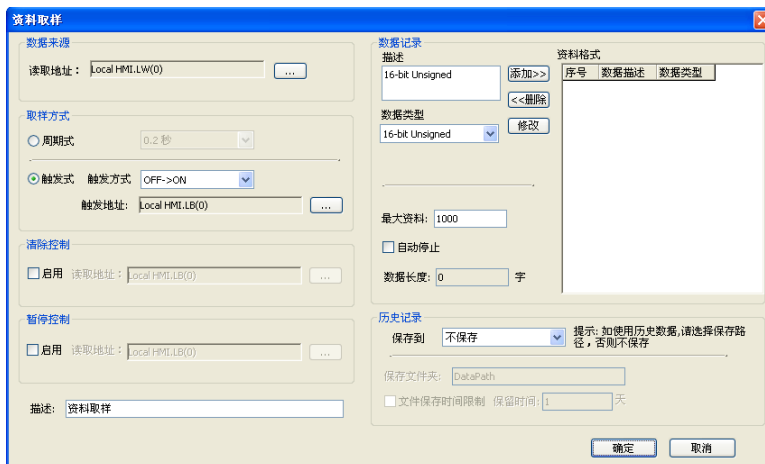
## Chapter XIV Sampling data, trends and historical data show

Practical applications, sometimes need to use real-time monitoring of a process to change a parameter, and change the query before it is too Cheng. E.g. boiler water temperature detector, the pressure change process and the like. InoTouch Editor Trend Control is provided to achieve This feature. FIG trend line is drawn using a continuous process of change of the display control parameters, and can change history of the query process. The trend in the data is coming from? Trend graph depicted process parameter changes, which is used " Data sampling " Controls mining To sample data plotted as a graph. To do this, first look " Data sampling " Control.

### 14.1 Data sampling

Periodic sampling control data can be read PLC Value in the data register, and the read data file Keep in a specified location, you can make the memory of the machine interface itself, or SD card, U Disc, even one computer Machine. Such data sampled, it can be " Trend " Etc. are used as display control curve.

a , Click on InoTouch Editor Under the left of Software Project Management " Sampling Data Sheet " Will open " Data sampling " Dialog boxes, such as Shown below.



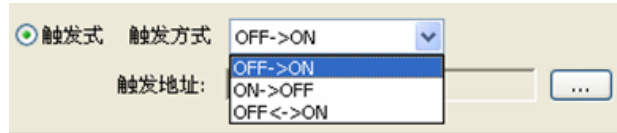
#### [ Data Sources]

The definition of target sampling data read PLC Register address. When more than one more sampling data set at this time is starting to send The address register.

#### [ Sampling method]

**Cycle type:** The minimum sampling period 0.1 Second, a maximum sampling period 120 minute. After set up, that this frequency to Read PLC The data;

**Trigger:** When the condition is met, only to be data sampling. It can be set PLC The one bit, when the bit shape When the state changes, perform data sampling. Triggered sampling of three conditions, namely:



"OFF-> ON" : When the address is specified by the state OFF Changes to ON , It will trigger a sampling operation.

"ON-> OFF" : When the address is specified by the state ON Changes to OFF , It will trigger a sampling operation.

"ON <-> OFF" : When the specified address status changes, will trigger a sampling operation.

[ Clear Control]

When the state is set to the specified address ON Will be cleared sampled data obtained, the number of sampled data will also be zero,

But it does not affect the sampling data file has been stored in an external device. Other setup items, please refer to " Set the general properties of controls " .

[ Pause Control]

When the state is set to the specified address ON It will be halted sampling action until the state is restored to the specified address OFF .

Other setup items, please refer to " Set the general properties of controls " .

[ data record]

Max Records

A data sampling of records maximum number of samples in one day. Up to 86400 Records. That press 1 Second sampling time to count

Count.

Data format

The establishment of a data sample included data format. A data sample may contain more than one data,

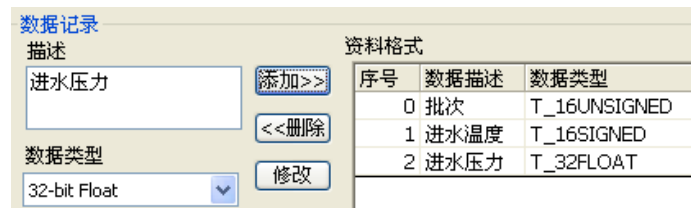
InoTouch Editor Information provided by the sampling operation may sample data in different formats at the same time. Press the [data type], the user can

To self-define the contents of a data sampling. For example the following figures, the user defines a total of three formats of data, respectively, " Batch

Secondary "(16-bit Unsigned) , " Water temperature "(16-bit Signed) versus " Water pressure "(32-bit Float) Length of a total of 4

words . That each sampling action, InoTouch Editor Will address from a specified length of each sample 4 words of

Data, as this sampling data created content.



Among them, the name " batch " , " Water temperature " , " Water pressure " And other names, is in " description " Defined inside, as shown in FIG.

The name after converting the sample files CSV or Excel When the table, it will appear on the list.

[ history record]

When used to specify the location to save the sampling data, but the use of off-line simulation function on your computer, files and records shall be stored in

InoTouch Editor.exe In the same directory "Datalog" Folder.





**[ Display method]**

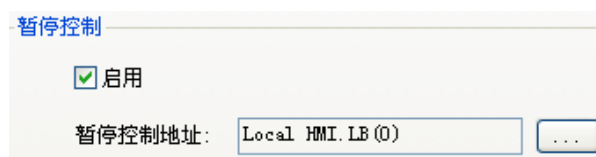
Select the data source of the form, you can choose " real time " or " history " In two ways.

**a. real time**

It can be displayed from " Data sampling " Control from the boot to the current sampling data. For information before the show, to be selected " history mode " Read historical materials.

usable " Pause control " Pause action controls screen update function, but the screen is refreshed only been suspended and will not be suspended " data sampling " Sampling operation control. The figure below shows " Pause control " The setting screen will " Pause control " The state is set to the specified address ON ,

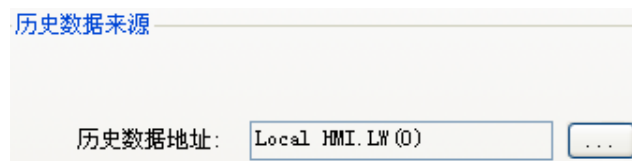
The screen will pause to refresh.



**b. history**

Historical records from " Data sampling " Controls use the date to sort and store the sampled data, when only " Data sampling " There are set When set to save history, trends will have " history " mode. use " history " Mode can be used [Data Sampling Control Index] selected

To display the history and use " History Control " Select History on different dates. The figure below shows " History Control " Setting screen.



InoTouch Editor History archives will be sampling data according to chronological order, the latest date for the archival records 0 ( one

Today is like a sampled data has been saved to disk), date time a new file is recorded 1 , The remaining records and so on. For all boot up every day  
 Turn the device, when the sampling data set stored, it can be considered to have been the day of sampling data archiving No. 0 Save yesterday  
 The sampled data are numbered 1 And so on and so forth.

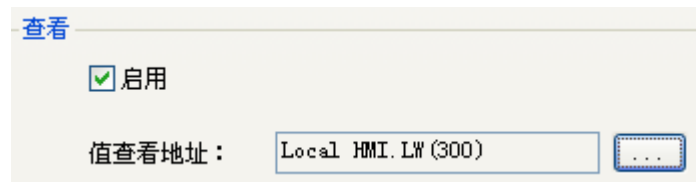
in " History Control " Specified data register if 0 , " Trend " Control displays records 0 Data; Storage  
 If the data is in 1 Will be displayed records 1 Data, that is, if the data register is n Will be displayed records n Number  
 according to.

for example " History Control " The use, on the register of FIG. [ LW200] , If the current " Data sampling " Control has been saved  
 Stored sample data file according to chronological respectively pressure\_20110315.dtl , pressure\_20110317.dtl ,  
 pressure\_20110319.dtl , pressure\_20110322.dtl A total of 4 Files, and time of day 2000/03/22 ,then  
 according to [ LW200] The data content, " Trend " The significant Finishing sample data file is shown as follows:

[LW200] The data Source archives	of historical data displayed
0	pressure_20110322.dtl
1	pressure_20110319.dtl
2	pressure_20110317.dtl
3	pressure_20110315.dtl

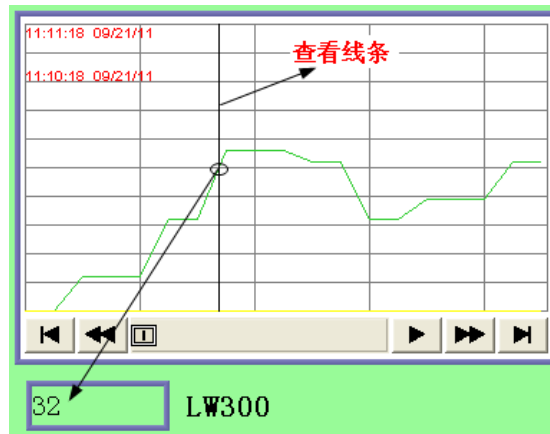
That [ LW200] The data is smaller, closer to the time of day history observed; the other case  
 is that when [ LW200] No data corresponding to the sampling time of the data file, InoTouch Editor History will show the last record  
 Record, for example [ LW200] Value 4 Time, InoTouch Editor Still show pressure\_20110315.dtl The information and data sampling.

[ View]



use " View " Feature lets users touch " Trend " Generating a vertical view when the control lines, and the sampled data output position where the lines intersect with  
 FIG trend can be to the specified address, the following figures as an example, the sampling position data written to see where the lines [ LW300] in.



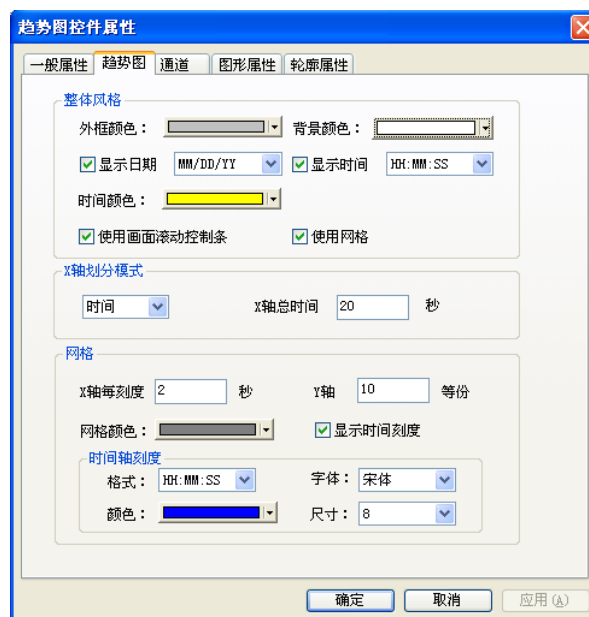


" View " Function may output a plurality of sample data sampling curve, InoTouch Editor Will follow " Data sampling " The control Data sampling data format defined sequence marks the location of the sampling data, from " View " Start position defined by the function Written order. E.g " Data sampling " Each sampled data control contains four data, in order, is "16-bit unsigned" , "32-bit unsigned" , "32-bit float" versus "16-bit Signed" , Assuming that [ LW300] for " View " Defined by the function registers, the check See the position of the output line labeled as sample data.

[LW300]	Line 0: 16-bit Unsigned	( Storage location 1 More words)
[LW301]	Line 1: 32-bit Unsigned	( Storage location 2 More words)
[LW303]	Line 2: 32-bit Unsigned	( Storage location 2 More words)
[LW305]	Line 3: 16-bit Signed	( Storage location 1 More words)

So, if " View " The data format of the address and the establishment of " Data sampling " When inconsistent data formats, you can not view accurate data.

The figure below shows " Trend " Controls " Trend curve " Setting page.



**[ Frame]**

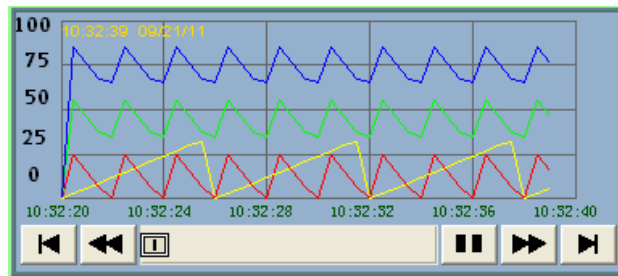
Set the frame color trend control.

**[ background]**

Set the background color trend control.

**[ Scrolling the screen using the control bar]**

Check this is usually the default system function. After checked, display control is a trend pattern shown below.



Wherein the function of each button is described as follows:



After the initial screen is displayed by pressing sampled data, and turn off the automatic screen scrolling.



Click on the picture to show 1 Vertical sampling data before the interval.



This displays a graphical representation of the current is turned off the automatic screen scrolling, this feature will re-open press.



Click on the picture to show 1 Sampled data after one vertical interval.



After pressing the screen will show the latest sampled data.



This screen displays a graphical representation of the current auto-scrolling feature is turned on, press will turn off this feature.

**[ Using the grid]**

Selecting whether to use grid lines.

**X Axis division pattern**

When [pixel] to set the sample points from the drawing, at this time is used to select between vertical grid lines each comprising two take several

Samples.



If [Time] is set to the time width of the control range of the displayed information, at this time it is used to select between every two vertical grid lines

Display time range of data.

网格

X轴每刻度 2 秒 Y轴 10 等份

网格颜色: [dropdown]  显示时间刻度

时间轴刻度

格式: HH:MM:SS 字体: 宋体

颜色: [dropdown] 尺寸: 8

#### Grid project

Setting the number of colors in the range of trend lines gridlines.

#### [X Each axis scale]

Can be used to set the time width of the control range of the displayed data is displayed at this time is used to select between every two vertical grid lines

Time range of data.

#### [Y axis]

It used to set the sampling point from the drawing, at this time, an aliquot to Y Sampling point axis.

#### [ Show time scale]

When you select " Time scale display " You can see on the chart axis scale.

#### [ Axis scale]

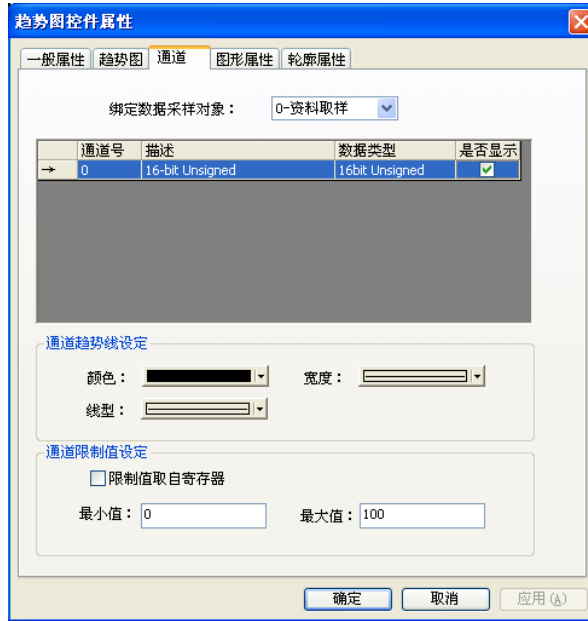
The latest sampling time information obtained will be marked in the upper left corner of the controls, this project is used to set the time display format

And color.

#### aisle

#### [ Channel trend line setting]

Setting each curve style and colors, with the upper and lower limits can portray the curve data. As shown below.



[ Limit value setting channel]

[ Min], [maximum]

[ Minimum] and [Maximum value] is used to set the minimum and maximum values of the curves depicted in sampled data. This means that if there is Sampling data of a minimum of the curve depicted in 50 The maximum is 100 , Then [Min] to [maximum] needs to be set to [ 50] versus [100] All such sampling data will be completely depicted in the control.

[ Limit value from register]

If checked " Limit values are taken from register " , The curve showing the minimum and maximum range is determined with a set of registers. this The maximum and minimum register data format must be established with the curve " Data sampling " When the same data format, Otherwise, the result is not set correctly. Suppose address from register "Address" , Then the sample data set the data format is not the same,

The maximum and minimum Address relations are listed below :

Variable type	Minimum read address	Maximum read address
16-bit BCD	address	address + 1
32-bit BCD	address	address + 2
<u>16-bit Unsigned</u>	address	address + 1
16-bit Signed	address	address + 1
<u>32-bit Unsigned</u>	address	address + 2
32-bit Signed	address	address + 2
32-bit Float	address	address + 2

### 14.3 Historical data show

Trend is "Data sampling" Data collection, shown in a continuous line manner. and "Historical data show" Controls are

A table stored in a way to show HMI , SD Card or U Historical data sampling data on the disk, and other equipment.

Note: using historical data show the first control, we must first establish "Data sampling" Control, and select the number you want to save history

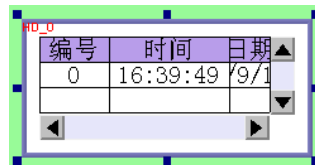
According; historical data sampling when data is saved to SD Card or U When disk, you need access to the man-machine interface, or historical data display table

Grid data indicate zero.

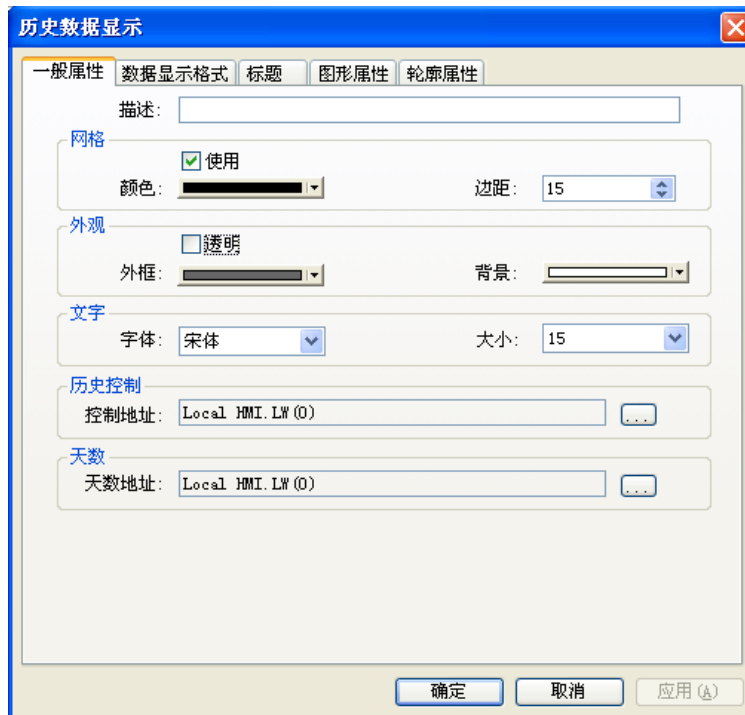
turn on InoTouch Editor Software menu "Controls / History Sheet " Or an icon on the toolbar in the window



Click the left mouse button on the establishment of " historical data " Control, as shown in FIG.

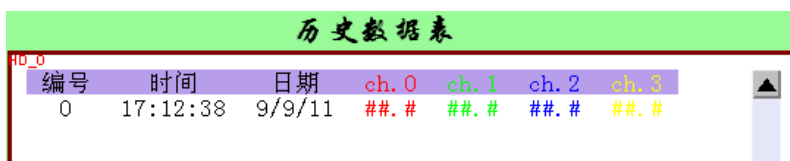


Select "historical data" double-click or right-click and select "Properties" to edit, as shown below:



#### [ Gridlines]

Whether to use grid picker distinguish each field, the picture shows the case without using grid lines.

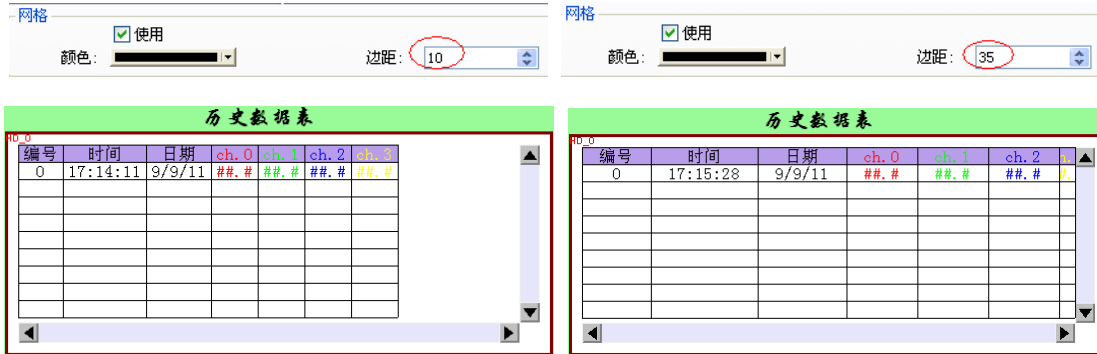


**[ Colour]**

Color used gridlines

**[ Margins]**

This setting value is used to adjust the distance between each field, the picture shows a different [Margin] shows the situation when the setting.



**Exterior**

Setting controls the background color of the frame, if the hook select **[ Transparent]** Without using the outer frame represents the background color, as at this time the control's appearance

Shown below (at this time also controls the vector graphics and FIG unused). At this time, the background color on the screen depends entirely on the background window.



**[ Text]**

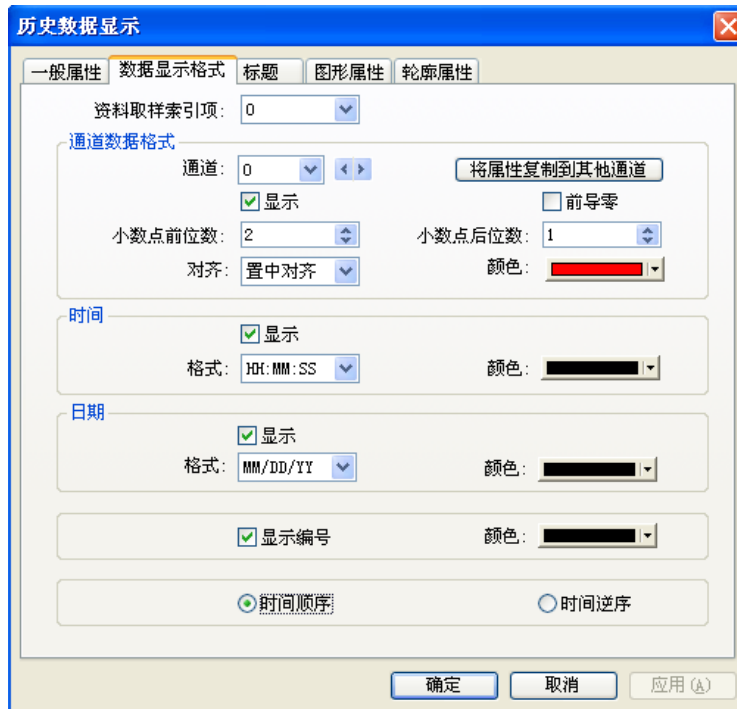
Set the table header text font and font size.

**[ History Control]**

InoTouch Editor History archives will be sampling data according to chronological order, the latest date for the file record 0 ( one

Today is like a sampled data has been saved to disk), the date of record for the second new file 1 , The remaining records and so on. " History Control Address " then

A data address is used to specify which records to be displayed.



**[ Data sampling index entry]**

Choose which " Data sampling " As a source of data required for control, reference " Data sampling " Description of the control.

**[ Channel Data Format]**

Dialog box to set the FIG. " Data sampling " The historical data show format, the map can be found on the current use " Data taken

kind " Performing a sampling operation control 4 will read data (channel 0 to channel 3), it can also be found on the map by a respective data value

Format (e.g. channel 0 to 16 bit Unsigned), which are defined in advance " Data sampling " Control.

Time, date and number

Sampling is used to select whether to display the time and date data, and determine the time and date display format. These documents also set

Color word.

**[ In chronological order]**

Select [chronologically] represents the first time earlier show sample data.

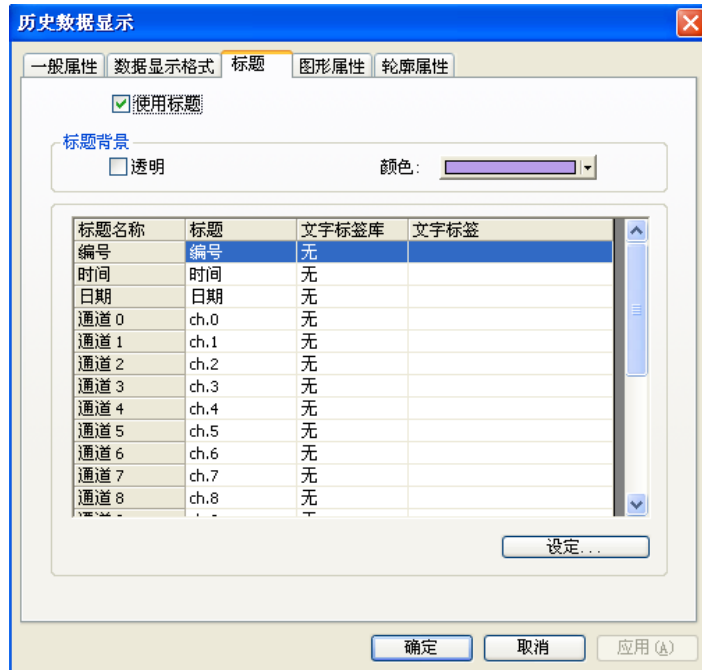
**[ Reverse Time]**

Select [in reverse chronological] said it will first display data sampling time later.

**[ title]**

Click " Historical data show " Paging control properties " title ", The following dialog is displayed. The historical data used to set display

Controls used the title.



**[ Use headings]**

Choose whether to use the title.

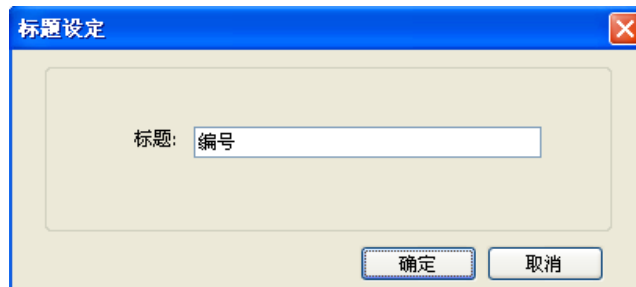
**[ Transparent]**

Check [Transparent] said they did not use the title text background color.

**[ background color]**

Set the background color of the title text, uncheck " Transparent " Valid.

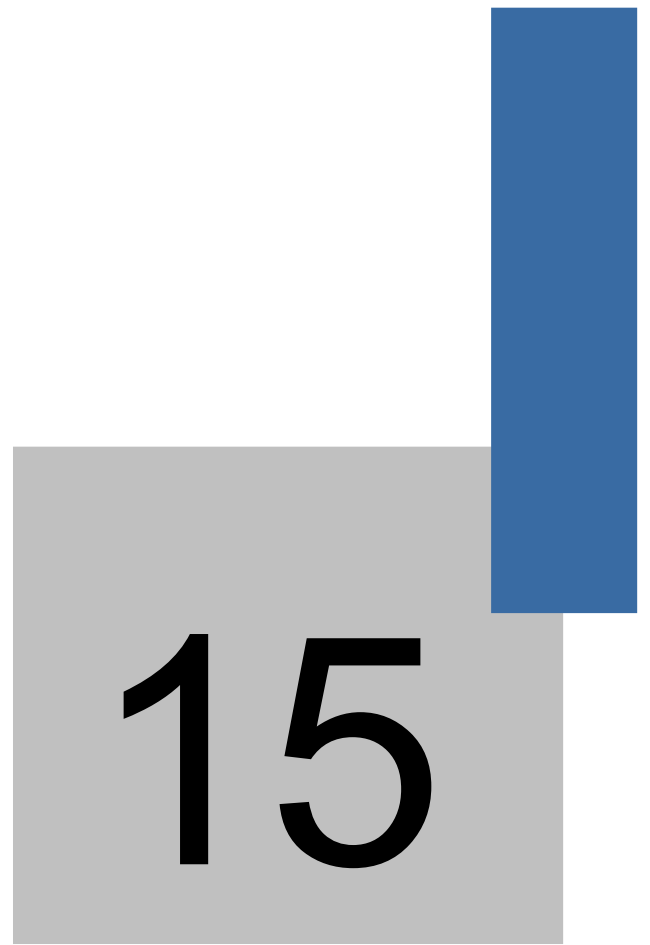
select " You need to modify a column " Double-click the mouse, you can modify the text contents of these titles in the text at the tag library.



Summary: This chapter describes how to set up " Data sampling " How to use " Data sampling " Displaying collected data and trends

Use the report to display historical data sampling. In other words, " Data sampling " Data collected can be human machine interface Face to " Trend " with " Historical data show " Two control uses two different ways to display it. When using these controls, especially " Trend " with " Historical data show " Two controls, which data relating to format data register, and must be " Data taken kind " To establish uniform defined data format. One " Trend " Control Display up 20 Curve, a " Historical data show " control Pieces display a maximum of 20 Data channels.





**Event registration, event display and alarm display, alarm bar**

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## Chapter XV Event registration, event display and alarm display, alarm bar

" Event Log " Used to define the content of an event and triggers these events, InoTouch Editor And may have been triggered

Event (also known as event alarm time) storage and processing of these events to the specified location, a file name of the stored

Use law EL\_yyyymmdd.evt Format, which yyyymmdd For the time of file creation, joined by the system itself. Things such as

File name for the record pieces EL\_20110315.evt , It means that this file records 2011 year 3 month 15 The events of day. If the

When actually doing project screen, to display real-time alarm information display operation of the machine or have occurred within the alarm information

Yung, you need to know InoTouch Editor [Event Log] provide controls.

InoTouch Editor Register and provide the following systems to manage these events log file:

[LB 9021] To clear the current event record

[LB 9022] Delete the oldest event log file

[LB 9023] Delete all event log file

[LB 9024] Update event logging statistics

[LW 9060] The number of existing event log file

[LW 9061] All event log file size

### 15.1 Event Log Management

In using the [event display], [Alarm Display], [alarm bar] and other controls can display pre-defined event / alarm contents, these


These controls on the screen, when the condition is satisfied, the corresponding event / alarm message text will be displayed. In the use of these

Before the text controls need to advance in the [Event Log] inside this control, according to the conditions defined alarm display various alarms to be displayed

Word content.

Click InoTouch down the left Editor software project management " Event Registry " Will open " Event Registry " Dialog boxes, such as

Shown below.



**[ category]**

Category of the event. Category choice of events is 0 to 255 Set in establishing event content. Category of the event in the event

Once you have created can not be changed. If you need to change unless the event is deleted, re-establish a category of need, in the text

Yung same event information.

**[ grade]**

Level event, in accordance with the degree of importance to be selected " low ", " in ", " high ", " urgent ". When the number of events that have occurred equal system

When the system allows the maximum number (the default is 1000 Article, please refer to the need for additional " System parameters " [General properties] specifications), an important

A lower degree of event records were excluded from the event, and add new events.

**[ Address Type]**

Event address type can be selected "Bit" or "Word" mode.

**[ Read address]**

This system uses the data read address obtained to check if the event trigger conditions are met. Please refer to the rest of the set " A control

Properties like setting " The relevant section of the instructions.

**[ Notification trigger address]**

When an event is triggered, this bit address will be sent using the specific signal. Select [set ON] Will be sent to this particular bit address

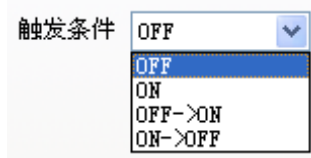
ON Signal; Select [set OFF] Then sent to this particular address OFF Signal.

**[ Triggering conditions]**

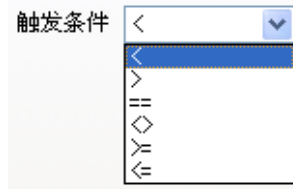
When [Address type] of an event trigger condition selection "Bit" When the trigger conditions are optional "ON", "OFF", "OFF-> ON",

"ON-> OFF" Other four, with reference to the FIG.

ON	When [Read Address] The state ON When the event is triggered, and generate an event record
OFF	When [Read Address] The state OFF When the event is triggered, and generate an event record
OFF-> ON	When [Read Address] by the state OFF Changes to ON Moment, the event is triggered, and generate an event record
ON-> OFF	When [Read Address] state has ON Changes to OFF Moment, the event is triggered, and generate an event record



When [Address type] of an event trigger condition selection "Word" When the trigger conditions are selectable items are as follows.

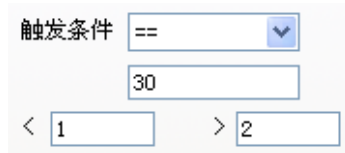


The system will use [Read Address] from the read data and comparing the trigger condition, it determines whether the event is triggered. A special

If the trigger condition is selected "=" or "<=>" Trigger condition must be set [less than] and [is greater than] these two properties, see the diagram, which

In [less than] a trigger event condition, [greater than] with the conditions in the system returned to normal. For the following two examples:

**Set an example 1:**



The above data indicates that when setting content [Read Address] is greater than or equal 29 (= 30-1) And less than or equal to 31 (= 30 + 1) Time,

Event will be triggered. That is the condition for the event to be triggered:

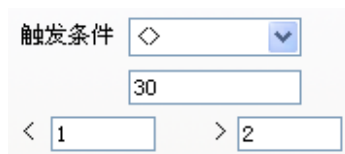
$$29 \leq [\text{Read data Address}] \leq 31$$

After the event is triggered, when Data [Read Address] is greater than 32 (= 30 + 2) Or less than 28 (= 30-2) , The system reverts to

normal status. That is, restore the system to normal conditions for:

$$[\text{Read data Address}] < 28 \text{ Data or } [\text{Read Address}] > 32$$

**Set an example 2:**



The above means that when setting content [Read Address] data is smaller than 29 (30-1) Or greater than 31 (= 30 + 1) When the event will be touch

hair. That is the condition for the event to be triggered:

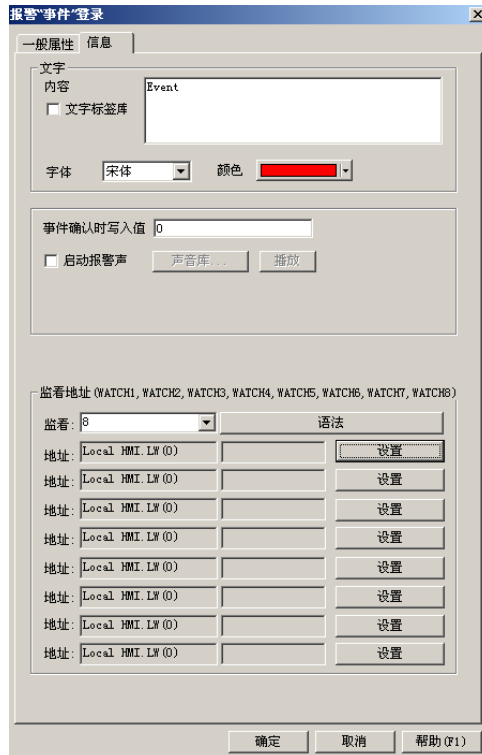
**[ Read data Address] < 29 Data or [Read Address] > 31**

After the event is triggered, when Data [Read Address] is greater than or equal 28 (= 30-2) And less than or equal to 32 (= 30 + 2) , The system

It will return to normal state. That is, restore the system to normal conditions for:

**28 <= [ Read data Address] <= 32**

Another page is [Information] tab, with reference to the FIG.



Writing

[ content]

Events are recorded in [Alarm Bar], [Alarm Display] and [event display] to display the contents of control. Content can also be used multiple lines

Text, please refer to the rest of the set " Control general properties set " Relevant content sections.

May be included in the display contents of the event is triggered when the machine touch screen RW Address data using the format

**% # D**

Such a format start symbol as%, # used to specify RW Address, use d As the end of the symbol. For example, the display

Capacity is set to " Temperature is too high% = 20d ", Said in an event is triggered, the display time RW20 The data. That thing

When the piece is triggered, if RW20 The data 100 , Then " Event Display " Will display the contents of components " = Temperature is too high 100 ' .

May also contain data event is triggered when a particular type in the address of the display content, this particular address types and event

Login [Read Address] need to address the same type, e.g. [Read Address] Select RW Address type, this method can only display the

MW Data address. Use the format

**\$ # d**

This format using as a starting symbol \$, # used to specify the address, using d As the end of the symbol. For example, the display contents are set for " = \$ Temperature is too high 15d " And [Read Address] using MW Address type, then when an event is triggered, the display MW15

The data. That event is triggered, if MW15 The data 42 , Then " Event Display " Display contents assembly Will " = Temperature is too high 42 " .

Note: The values shown above event content data is displayed when the event occurred. When the condition has been saved events displayed In, that is when the event or warning information has not yet returned to normal, the data may also have been raised, but this time the data **Not appear in " Event content " in. Only when conditions return to normal event, a trigger event occurs again, this time the data will be** Displayed in the event content. That is, the data show that the content of the event, the data at the time of the incident.

**[ font color]**

Each event can be set separately and the font color, the [Alarm Display] The display control words and the event [event display] Type and color from the set value.

**[ The value written when the event confirmed]**

Events as recorded in the control display is touched, to a specific location of the output data values, refer to the following relevant " thing Show controls " instruction of.

**[ Alarm Sound]**

When the event is triggered, you can choose to use sound alerts. Click to select the library may sound a warning sound, and use the [Play] button to confirm Selected sound.

**Note: Only the hardware configuration with audio output port, you can choose to start the alarm sound; no audio output, do not choose**

Optional sound effects.

**[ Monitoring address]**

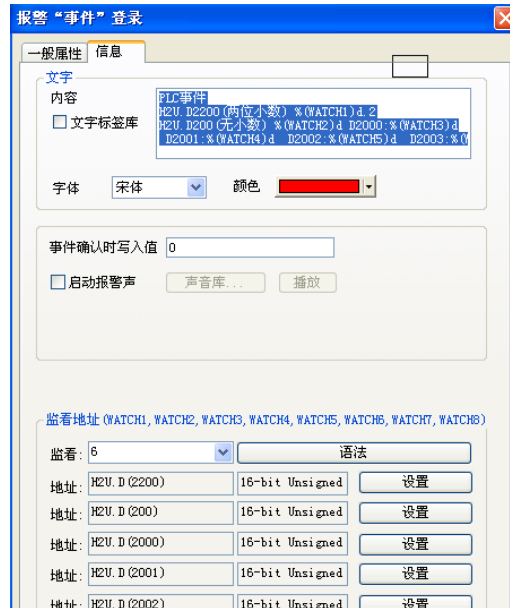
Following the instructions below:

- (1) Click on the drop-down box to select the required monitoring monitor the number of addresses, optional 0-8 .
- (2) Click the button grammar, look at the sign for different data types in the event display PLC Data content.
- (3) Click the Set button, can be disposed below the respective specific monitoring address indicated:



Note: Only the string data type can set the number of characters, and selected Unicode Or low byte swap option.

After setting the appropriate monitor address, according to the syntax in the preparation of the corresponding text box to monitor the script, as shown below:



After every setting, you can add a new event registration information. For increased again, click in the blank

Right-click the "Event entry", you can also place you want to insert the "Insert event entry."



Complete the establishment "Event Log" After the message, you can use the [event display], [Alarm Display] and [alarm bar] control to display just Gordon

Land of all kinds of alarm information.

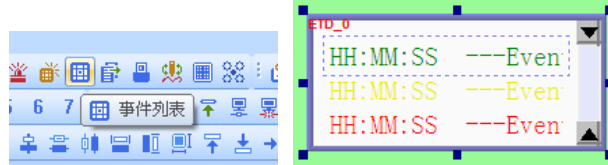
## 15.2 Event Display

"Event Display" Controls can be used to display has been defined in "Event Log", And the event trigger condition has been satisfied, "event display" Time control will use the event to be triggered successively, sequentially display these events. "Event Display" Controls can also display the event is triggered

Hair, confirm and return to normal state (ie, event information recovery) time.

Open InoTouch Editor software menu " Controls / event list " Or an icon on the toolbar at the midpoint of the window 

Click the left mouse button on the establishment of " Event List " Control, as shown in FIG.



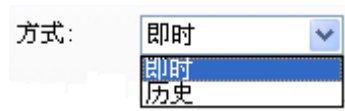
select " Event List " Double-click or right-click to select " Attributes " Edited, as shown below:



[ the way]

Select the event source form, you can choose " immediate " or " history " .

a. immediate



Can display " Event Log " Event from the event to the current boot is triggered. For information on other dates of the show, to be selected

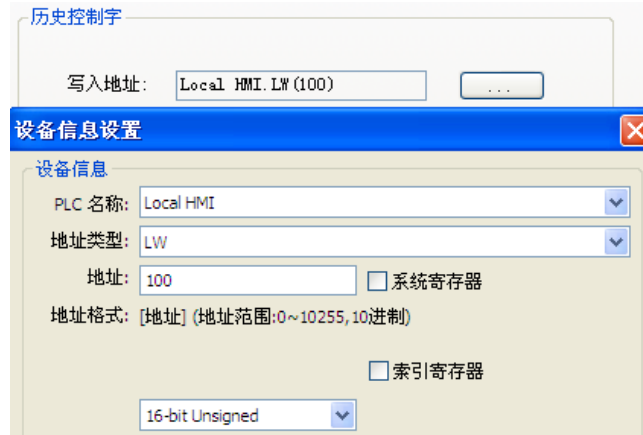
select " history " Mode, data is read from the history.

b. history





This mode is selected "Event Display" Event History control displays the stored, first need to select the story "Event Log"  
 To select which controls the preservation of historical events log file. InoTouch Editor Will use the event history stored by date,  
 Users can use "History Control" Select records to display. The figure below shows "Historical control word" Setting screen.



InoTouch Editor Event History will depend chronological order, the latest date for the file record 0 ( Today has been generally  
 Save the event record), date time a new file is recorded 1 , The remaining records and so on.

in "History Control" Defined data register if 0 , "Event Display" Control displays records 0 The transactions; Send  
 If the data in the register is 1 Will be displayed records 1 Data, that is, if the data register n Displayed note  
 record n The data.

A simple example illustrates "History Control" The use, on the register of FIG. [ LW100] Have been if the current storage  
 The event history files by chronological respectively EL\_20110320.evt , EL\_20110323.evt , EL\_20110327.evt ,  
 EL\_20110403.evt And the time of day 2011/4/3, Then according to [ LW100] The data, "Event Display" Events calendar displayed  
 History records archives are summarized as follows:

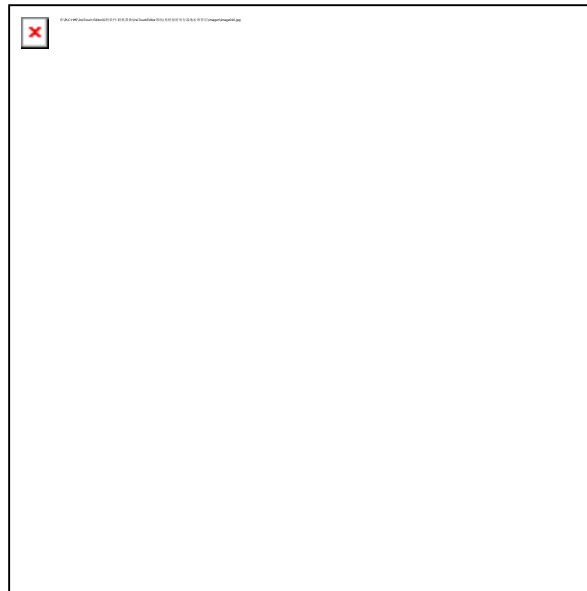
[LW100] The data Displayed	event history file
0	EL_20110403.evt
1	EL_20110327. Evt
2	EL_20110323. Evt
3	EL_20110320. Evt

That [ LW100] The data in smaller, the time is closer today with the history of the observation.

Another situation is when [ LW100] No data corresponding to the sampling time of the data file, InoTouch Editor The display  
 Finally, a history, such as [ LW100] Value 4 Time, InoTouch Editor Still show EL\_20110320. Evt The calendar  
 History records.

[ Write address]

When "mode" is selected for "instant", "write address" content is displayed. When an event occurs in real time is confirmed (there Off "OK" operation of reference to the following description), the output value of this event will be set in advance, written to send "write address" set Register in. This output value is set to each registration events "Event Log" in red block as shown in FIG. other instructions Refer to "Event Log" relevant chapters.



Click the [Event Display] Controls "Event Display" Tab displays the following contents shown in FIG.



[ Display range of categories]

Events " category " This range is set to be met will be shown (events " category " in " Event Log " Set). For example, when " thing Show " Controls " category " At this time is set to be 2-4 , Then only " category " equal 2 or 3 or 4 The event will be shown in " thing Show " Control. You can refer to " Event Log " Notes about " category " explanation of.

[ Confirm way]



select " confirm " The operation mode can be selected " Click ". Here, the term " confirm " Refers to a user action has occurred, and significant Is shown in " Event Display " Event on the control, you can on the event " Click " The event, at this time InoTouch Editor In addition to the Color display into an event " confirm " Other than color, this event will be a predetermined output values written to [output address] as On the set of addresses.

The following diagram, for example, when the write address is [ LW100 ] , Written when the value of the event and confirmed 31 Then when the user uses " confirm " During operation, [ LW100] Data will be set to 31 Using this feature with " Indirect Window " Widgets to be different Event pop-up different windows, which are often used to illustrate how to deal with the content of the event or the fault occurs, and so on.

**[ The maximum number of events]**

Control can display the maximum number of events. When the maximum number of events displayed in the control has been set equal to, the occurrence of new Event will replace a lower level of security incidents. The default is 1000 Article.

**[ Colour]**

Event display color set in various states.

**[ After confirming]**

After the event is confirmed, the text content of the event used when displaying colors.

**[ After the return to normal]**

After the event returns to normal, the color display event textual content.

**[ select]**

Event content is displayed is selected, the contents of the event will be surrounded by rectangles, select the color of the rectangle at this time.

**[ Use the serial number]**

Select whether to add numbers before the event shows, events occurred earlier use a lower number.

**[ Sort]**

Order setting events displayed.

**[ In chronological order]**

After the recent events are arranged at (or below).

**[ Reverse Time]**

Recent events are arranged in front of (or on).

**time**

**[ Event occurred]**

Choose to display the time the event occurred.

**[ Users confirm the time]**

Select Show event is " confirm " time.

**[ Recovery Time]**

Select Show event and return to normal time display format.

**date**

### [ Event date]

Select Show date the event occurred and display format.

3	09/20/11	17:45:01	17:45:55	17:45:40	马达转速过高!
4	09/20/11	17:45:51	17:45:58	17:45:53	马达转速过低!
5	09/20/11	17:45:51	17:45:57		系统异常停机!
6	09/20/11	17:45:55	17:45:56	17:45:57	马达转速过高!
7	09/20/11	17:45:55		17:45:57	马达转速过低!
8	09/20/11	17:45:58			马达转速过低!

事件编号 发生日期 发生时间 确认时间 恢复时间

### [ Events Hide]

When the "Event Display" mode control is set to "History", you can choose to hide in the event of "Hide event occurs"

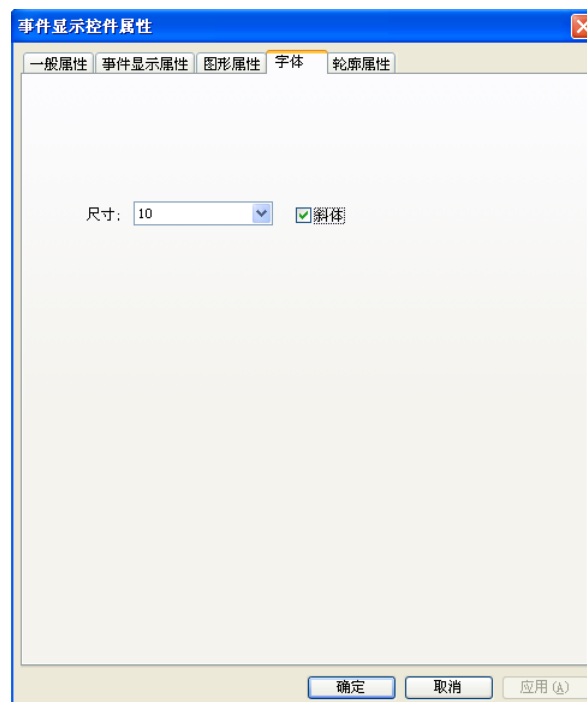
"Hide confirmed incident" and "hidden recovery event" in any one or two, but not the whole election.

When the "Event Display" mode control is set to "instant", the event will see the hidden options.

### Fonts

when "Event Display" Mode control is set to "immediate" When, then click "Event Display" Controls "Fonts" Page will be displayed as

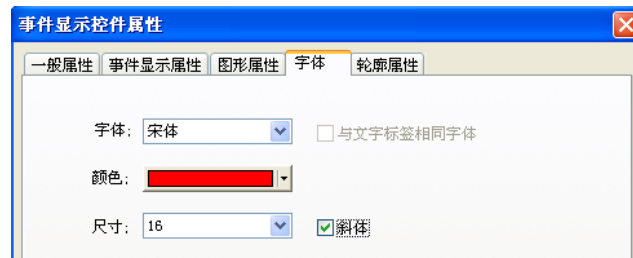
The next dialog box.



At this time, only set "Event Display" Control the font size and whether to use "Italics" effect. When a fault occurs, the text word

Body in "Event Log" When setting the font.

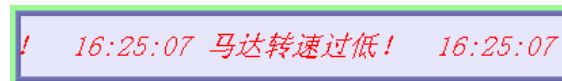
If the "Event Display" In the control mode is set to "history", Then click "Fonts" Page, the following dialog box will appear.



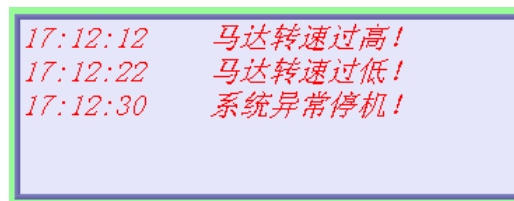
At this point font you can select the desired font, text size, and whether to use by the user himself " Italics " Effects. in use " Multi-language " Case of a display can also check " Use the same font and text labels " That the use of the establishment and in " Culture Word labels " When the same set of fonts.

### 15.3 Alarm display and alarm bar

" Alarm display " versus " Alarm Bar " Controls can be used to display has been defined in " Event Log " , And the current state of the system to meet the trigger Event conditions, then these events is also called the police. " Alarm Bar " versus " Alarm display " Time control will use the event to be triggered first After sequentially display these alarms, wherein " Alarm Bar " Controls will be used together with a single line of text to " Revolving door " The effect of the display of all alarms content; " Alarm display " Controls the use of multiple lines of text, each line of text displays the contents of a single alarm. The following figure shows different controls on police Representation shown.



" Alarm Bar " Controls

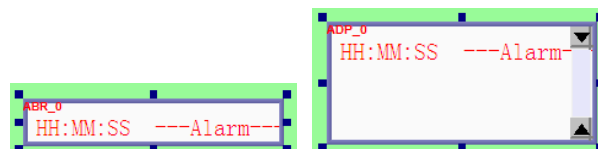


" Alarm display " Controls

Open InoTouch Editor software menu " Control / alarm bar or alarm list " , Or an icon on the toolbar or



Click the left mouse button in the window, on the establishment " Alarm Bar or alarm list " Control, as shown in FIG.



select " Alarm Bar or alarm list " Double-click or right-click to select " Attributes " Edited, as shown below:

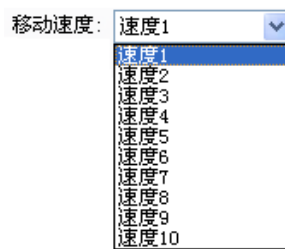


**[ Display range of categories]**

Triggered events " category " Subject to the display range set here will be displayed (event " category " in " Event Log " Set in set). For example, when " Alarm Bar " Controls " category " At this time is set to be 2-4 , Then only " category " for 2 or 3 or 4 The event will be show on " Alarm Bar " Control. You can refer to " Event Log " About notes " category " instruction of.

**[ Moving speed]**

" Alarm Bar " Control the moving speed of the displayed text. provide " speed 1 ~ speed 10 " Altogether 10 Speed selection, speed 1 Moving the slowest speed 10 Moving the fastest.



**[ Colour]**

Background color set bar control alarm and inner color.

**[ Transparent]**

If this option is checked, the alarm strip transparent background, and does not use any image and color.

**[ Internal] and [Background]**

They are set to the background color of the interior

### [ Sort]

Alarm display order setting may be selected " In chronological order " or " Reverse Time " .

#### [ In chronological order]

After the occurrence of an alarm are arranged in the latest (or below).

#### [ Reverse Time]

The latest alarm occurrence are arranged in front of (or on).

### time

#### [ Event occurred]

Whether to select control displays the time the alarm occurred.

### date

#### [ Event date]

Whether to select the date of the control displays a warning.

can use " Fonts " Setting character size setting dialog controls to be used and whether italics, with reference to the FIG. each

### Font and color used in a warning " Event Log " Set.



Summary: This chapter introduces the " Event Log " Controls, and the use of " Event Log " Control is the source, were used " Remarkable event

Show ", " Alarm display " with " Alarm Bar " These three different control to display the event / alarm information. In use " Event Log " Registration required





To the event / alarm information is required in advance to determine the category of each event / alarm trigger conditions, and display text messages and word

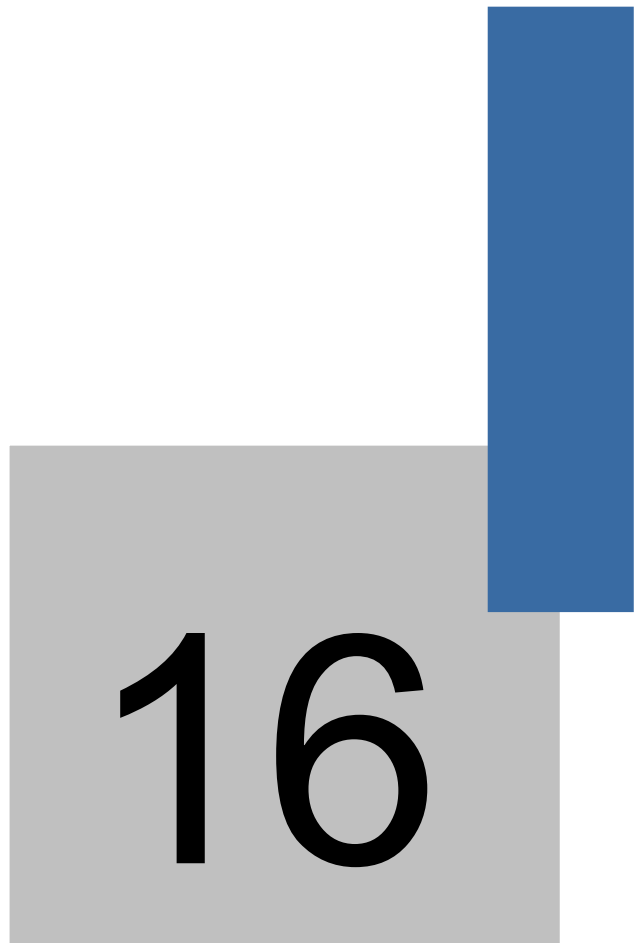
And the like. Similarly, if you need to display text information for the Chinese and other fonts must be selected as the Chinese font, for example, "Times New Roman", "Kai body" Wait. Otherwise, when the event / alarm occurs, normal text can not be displayed.

"Event Display", "Alarm display" with "Alarm Bar" The difference:

"Event Display" Is a complete meet is triggered displayed from the event conditions, the event returns to normal, this whole process It is recorded in "Event Display" in. It can display "event" Date of occurrence, the operator confirmed time and "event" Recovery of between. And in "event" Returned to normal, "event" The contents do not disappear, just change the text color only. and "event display" You can also use "history" The other way to look up the date of the "record".

"Alarm display" When a trigger condition is met, the corresponding display "Call the police" Information can also be displayed "Call the police" The occurrence of specific dates and time. But when "Call the police" When restored, these displays "Call the police" Information, including the date and time will disappear. That "Report Police display" It can only display currently occurring "Call the police".

"Alarm Bar" with "Alarm display" Like, can only display currently occurring "Call the police", Can only display a single line of text, and use "Revolving door" The effects, "Call the police" Scrolling text information display. "Call the police" When restored, the text disappears. This control is generally used as an advertising effect Text description.



**Data and recipe data transfer**

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## Chapter XVI Data and recipe data transfer

InoTouch Editor Software provides two data transmission mode, one is "Timing type data transmission" One is "Triggered Data transmission". "Timing type data transmission" Embodiment is based on the continuous data transmission time intervals. The time interval from 0.5 second Start, transmission interval is 0.1 Seconds to increase the maximum time interval 25.5 second. "Timing type data transmission" Can be transmitted bit Type of data can be transferred word Type data. Each time data transfer up to 16 More word or 256 More bit . Deliver bit When the data type, can be connected PLC Or controller bit Transferred to the machine the touch screen bit Address, for example, LB , LW-bit Wait bit Type the address.

" Triggered data transmission " In the control is " trigger ", The data will specify a register is transferred continuously to another Consecutive registers designated location, transport format information are word type. Using this feature, as " formula " Data transmission, or InoTouch Editor Different series of connected Displays PLC Or the data exchange between controllers.

In the daily production process, with a machine in the production of different products, you will meet to set different parameters. E.g, Sheet cutting machine, the cutting A When the steel plate, the length of 1000mm Width of 1000mm ; Cutting B When the steel plate, the length for 2000mm Width of 1500mm and many more. Just two sets of parameters, you can look at two sets of them " formula " data. by In for " formula " Are required to be able to power down in the case of man-machine interface, or data can be stored, it is generally used InoTouch Editor Provided can be powered down to save registers RW with RW\_A These registers can be used to achieve conservation and transfer of recipes.

### 16.1 Establish regular type data transmission

Click InoTouch Editor The bottom left side of project management software " Timing Data transfer table " To open " Timing type data transfer lose " Dialog box, as shown below.



**[ description]**

The establishment of "Timing type data transmission" Object function description, can not fill. In order to facilitate the program can read write some note Interpretive text.

**[ Attributes]**

You can set the format for transmission of information is bit still is word type. Data transmission time interval and how many of each transfer bit or How many persons word Type data. When checked "Executed only when the following window opens" Option, and the formulation of a window has been established, Data show that just defined execution when opened only in the specified window, otherwise the data transfer operation will not be executed. by in "Timing type data transmission" It is based on the time interval of continuous transmission data constantly, so to some extent, will take up the communication frequency width. When not all the time to execute data exchange, choose "Executed only when the following window opens" When this option will be added Fast communication speed.

**[ Data source address]**

Definition of the source data transmission, and according to the type of information before choosing to select sources of information "PLC name" with "Address class type", "Device Address" Wait.

**[ target address]**

The definition of receiving such information PLC Name and bit Type the address or word Type address.

Click "determine" Button, it will show the newly established "Timing data transfer table". Double-click the newly established "Timing of the data transfer table", You can re-edit selected in the list "The transmission timing setting".

Click "shut down" That closes the open "Timing type data transmission" Dialog box. In this way, the project screen is running, it will automatically go to the Executive Row "Data transmission" Action, without the need to establish these controls engineering picture window.

## 16.2 Use triggered data transmission / data transmission established formula

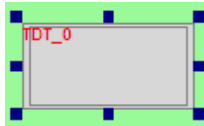
Triggered data transmission between the machine the touch screen may implement a register with one data controller connected to the data area Data exchange, data exchange can also be achieved between controllers HMI connection. But in general, the use of this control function, to fulfill "formula" Transmission.

RW versus RW\_A Recipe data on the size of the address are all 64K words The user can use U plate, SD Or Ethernet card Net update the recipe data, and use this information update PLC Data on. Users can also take advantage of U plate, SD Card or Ethernet recipe upload data to the specified location; In addition, users can also PLC Data stored in the prescription data.

Let's illustrate how to use "Triggered data transmission" Controls to make "formula" transmission.

Open InoTouch Editor software menu "Controls / triggered data transmission", Or an icon on the toolbar, the window Mouth click the left mouse button on the establishment of "Triggered data transmission" Control, as shown in FIG.





select " Triggered data transmission " Double-click or right-click to select " Attributes " Edited, as shown below:



[ description]

Functional Description This recipe transfer. In order to facilitate read, you can use annotation of text.

[ Source Address]

Setting the number of recipe data transfer source address and formulations. If it is saved in the man-machine interface RW Recipe number of addresses in

According to legend lost PLC , Then this selection "PLC name " for "Local HMI" , " Equipment type " for "RW" . If data transfer is not

A group of formula stop, a check in " Index register " By changing " Index register " Content, to realize the transmission of multiple sets of recipes.

related " Index register " The detailed usage can refer to the description of this chapter "index register."

[ target address]

Set to receive " formula " Address data. Generally set PLC In a successive one of the data register. Set the same way as the first 3

Setting items, just select an address for a device in the list of PLC .

[ Attributes]

In this way the recipe transmission setting. Set as " Manually " When, that the implementation of the recipe data transfer when the controls on the touch screen

Output; when the transmission mode is set to " trigger " When you need to set out " trigger " Conditions, and performs transmission of bit . As shown below.



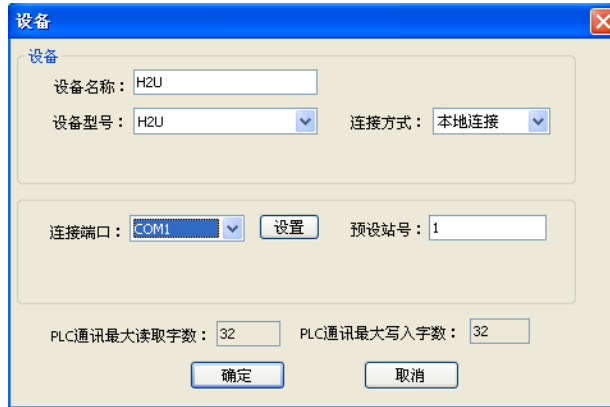
As can be seen from the figure provided when Local HMI middle LB0 By the state OFF Turned ON Execution " formula " Data transfer

lose.

According to need to set " Safety ", " Graph ", " label ", " contour " The contents of each tab.

Here to make a small " Recipe transfer " Program to illustrate the " formula " Function transmission.

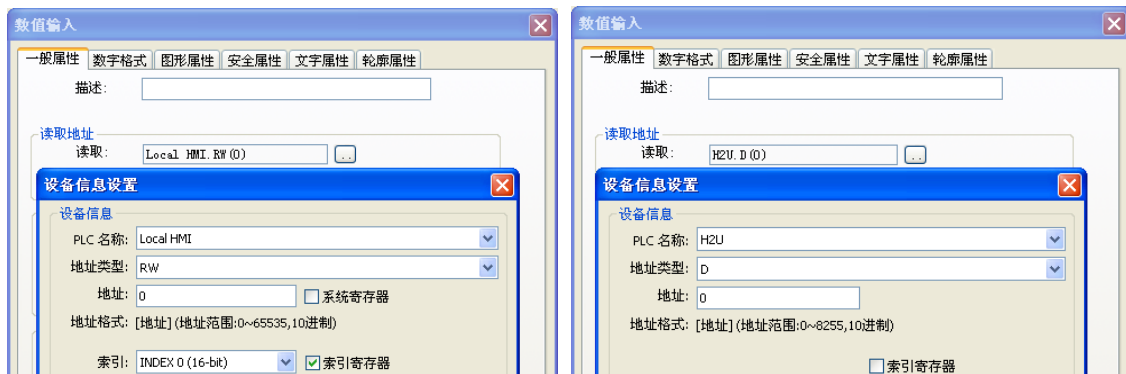
Assumptions connected PLC is Kymmene H2U PLC , Then the first click " Add Device " ,As shown below.



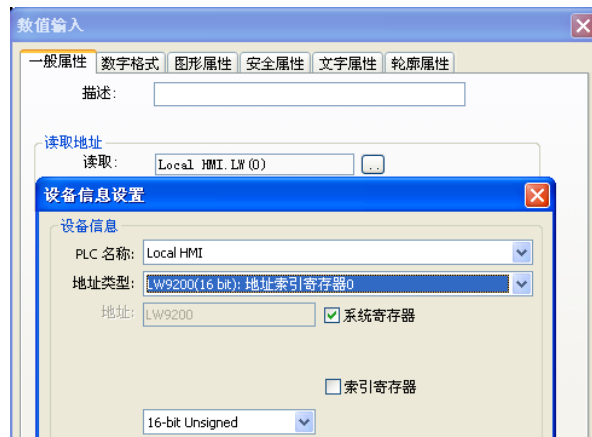
Build on the screen 10 Data input control, device type Local HMI of RW0 Start, and check " Send Index

Register " for INDEX 0 . And the establishment of 10 Numerical input control device type is set to " Kymmene H2U "PLC middle D0 Start,

Uncheck " Index register " . As shown in the following two figures.

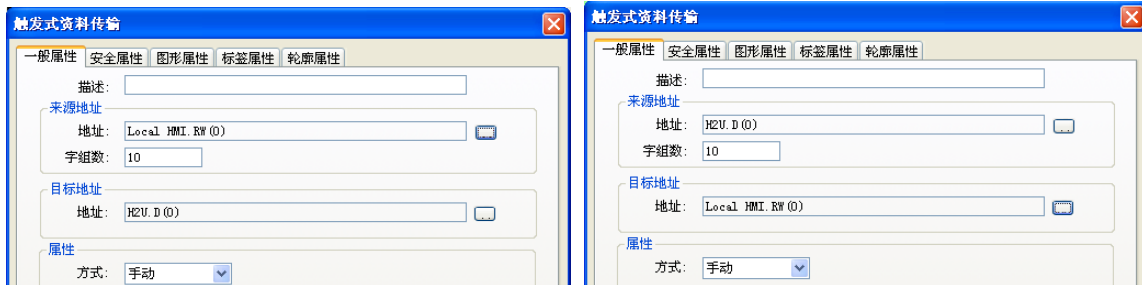


Establish a numerical input control, to choose Local HMI System registers INDEX0 ,As shown below.

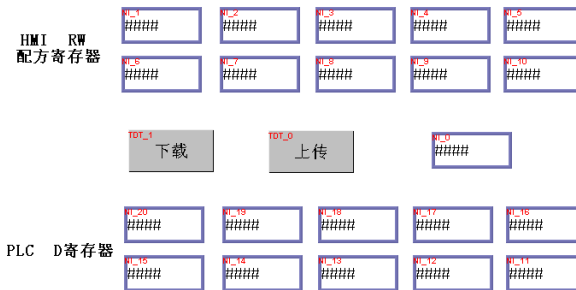


Then create two " Triggered data transmission " Controls, a " Source Address " Selected for Local HMI of RW0 The beginning of a continuous

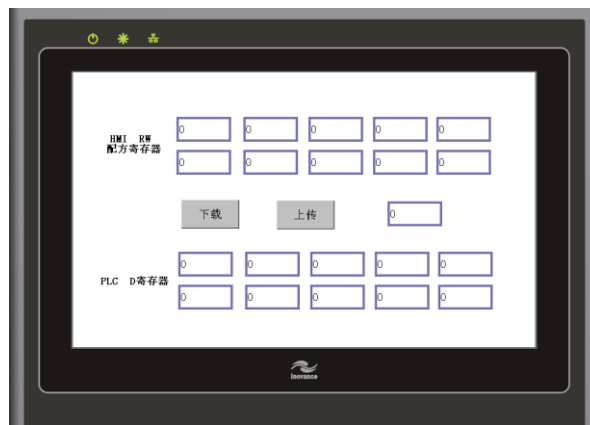
10 Registers, and a check " Index register " for "INDEX0" , " target address " for " Kymmene H2U "PLC of D0 Register, mesh Address unchecked " Index register " In the control " label " Set text for the " download " . Then create another one " Triggered Data transmission " Controls, and just set the controls " Source Address " with " target address " Set it upside down, and " label " Set Textual content " Upload " . Properties of the two controls are set to " Manually " . Pattern shown below after establishment.



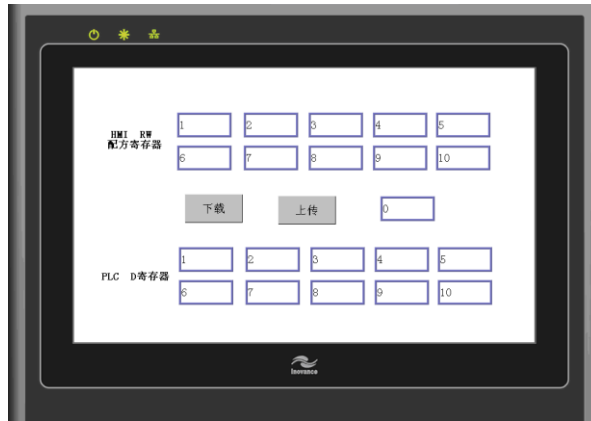
Insert text in the corresponding position. After the establishment of the program as shown in FIG.



The program just created saved, compiled and executed off-line simulation, the effect shown in Figure below.



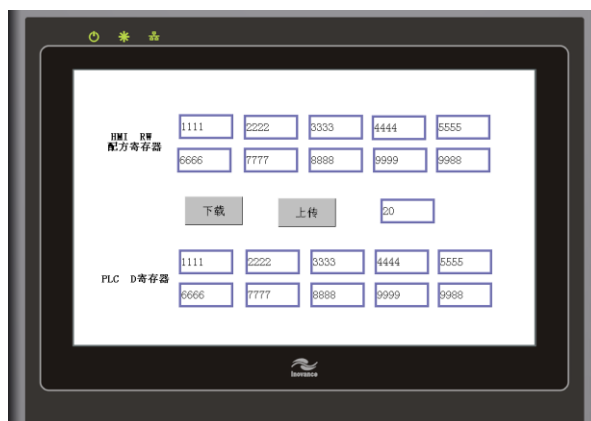
Since no input any data, so the data are 0 . give RW Recipe register respectively input 1 ~ 10 Altogether 10 Data, Then click " download " Button, you will find the top of the screen RW Download all data registers to the bottom of the screen PLC D Register. As shown below.



At this time, INDEX0 Value or register 0 , If it is set to the next RW continuously 10 Data registers, i.e., RW10 ~ RW19 Data transmission to the D0 Started 10 When a register as long as the INDEX0 Input register 10 And then After clicking " download " It can be realized. As shown below.



If you modify PLC D Data register, then click upload, it will put the recipe data back to register HMI RW send To register the save. As shown below, this time INDEX0 = 20 , Indicate the PLC Save the data to a new recipe RW20 Start Continuous 10 Register.



The system provides the flexibility to use the " Index register " Combined " Triggered data transmission " Control, it can easily achieve " Recipe data " Transmission and storage.



## 16.3 InoTouch Editor Man-machine interface and save the recipe data update

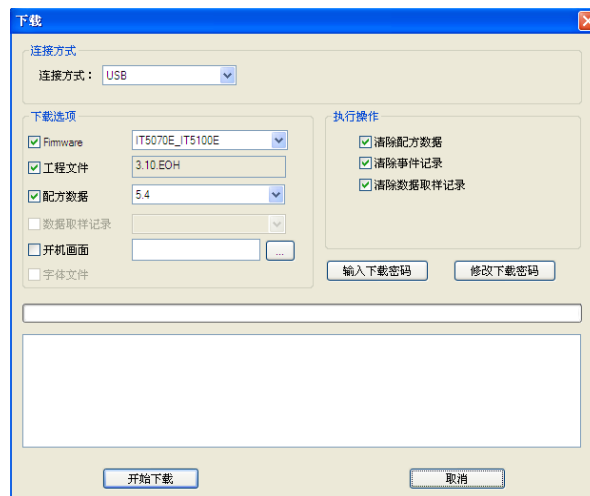
### 16.3.1 Or using Ethernet USB Line update the recipe data

When you download check [Filing Data] select the file you want to download the source. After a successful download automatically restart InoTouch Editor

Man-machine interface will be updated RW All data. Therefore, when using this method, first modify the recipe data before uploading backup.

If [Clear Recipe Data] option is checked, before downloading any action performed, InoTouch Editor Will first [ RW] Up

Clear all data content is 0 .



### 16.3.2 Forced recipe data storage

In order to increase the man-machine interface flash Life, InoTouch Editor To every 1 Time-minute intervals funding formula

Material stored on the machine, in order to avoid prescription data due to shutdown resulting in the loss of data stored between the two movements, InoTouch Editor

provide[ LB9029] So that users can be stored operation formula data themselves, just to [ LB9029] Out ON The signal,

InoTouch Editor That will be executed once the recipe data storage operation. The addition of [ LB9028] Out ON The signal, InoTouch

Editor All data will be reset to the recipe 0 .



**The design and use of the keyboard**

---

## Chapter XVII The design and use of the keyboard

" Numeric Input " versus " Character input " Are required to use the keyboard as input tool, in addition to the keyboard can be used to call the way, in addition to Calls can not move the window control bar and keyboard directly fixed position on the screen, you can also make an input character input keys Disk applications. Numeric keypad and keyboard are all characters use " Function keys " Controls to make the below description of the design process and the keyboard usage.

### 17.1 Calling homemade keyboard

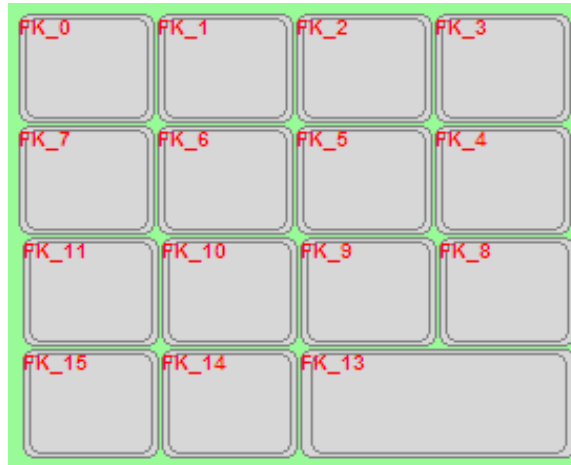
#### step one: Add page

First established as a window to the keyboard, in InoTouch Editor Project management software, right - click the left mouse button, select " Add Page ", Set the page name "Keyboard", Page number "100" Page type " number keyboard ",width "300" ,height "250" .



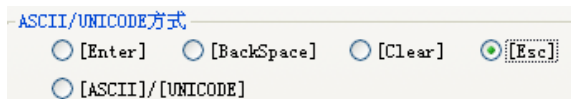
#### Step 2: Using the keyboard function keys provided

select " determine " After that, all kinds of arrangements in the above " Function keys " Controls, when pressed " Function keys " When the input signal will trigger a variety of controls.

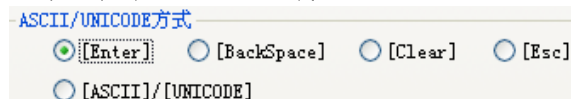


" window 100 ' Up " Function keys " Control arrangement above, in this case " Function keys " Controls are required to choose [ ASCII Mode], where

FK\_8 It used to trigger " cancel "(ESC) Signal, FK\_8 Setting part follows FIG.

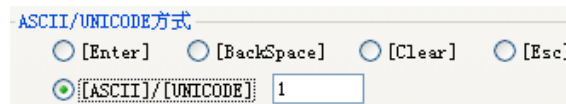


FK\_13 It used to trigger " enter "(Enter) Signal, FK\_13 Setting part follows FIG.

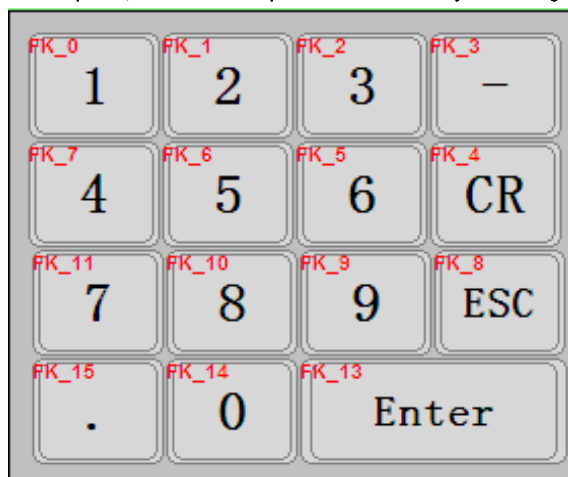


Most of the other " Function keys " Control is used to trigger input signal values, or text, for example, FK\_0 It is used to trigger value "1" of

Input signal, FK\_0 Setting part follows FIG.



Finally " Function keys " Suitable selection control pattern, all the controls are placed in the lowermost layer as a background pattern, as shown below.

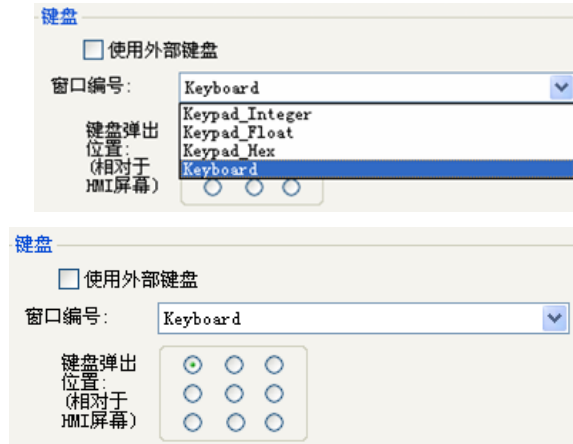


After completing all the steps described above, when the user uses " Numeric Input " or " Character input " When setting page controls, you can find

In [Window Number] [keyboard] setting item, increasing the "Keyboard" Option, as shown below. [FIG. Bits in the pop-up keyboard

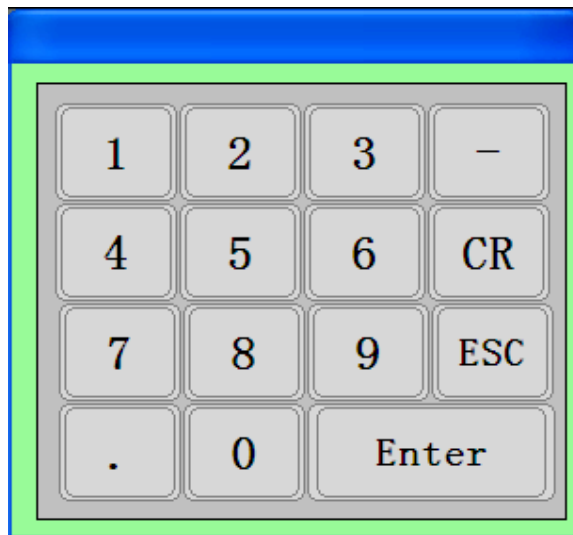
Setting] is used to select the location of the keyboard appears, InoTouch Editor The screen is divided into 9 Regions, will appear in the upper left corner of the keyboard

Selection of top-left corner of the area.



In selecting "Keyboard" Later, when the user presses " Numeric Input " or " Character input " Control, the InoTouch Editor Picture Selected " window 100 ' As a control input keyboard will automatically pop up " window 100 ' Press " window 100 ' Up " Function keys " Controls

The keyboard equivalent input signal, as shown below.



If you want to display a window control bar of the keyboard, can establish a direct window on the screen to use it, please refer to the following manner.

## 17.2 Direct way to invoke the keyboard window

### step one:

Add a direct window, set the read address to activate direct window.

Yin Tibetan selected window control bar, and a keyboard located in the properties window number.



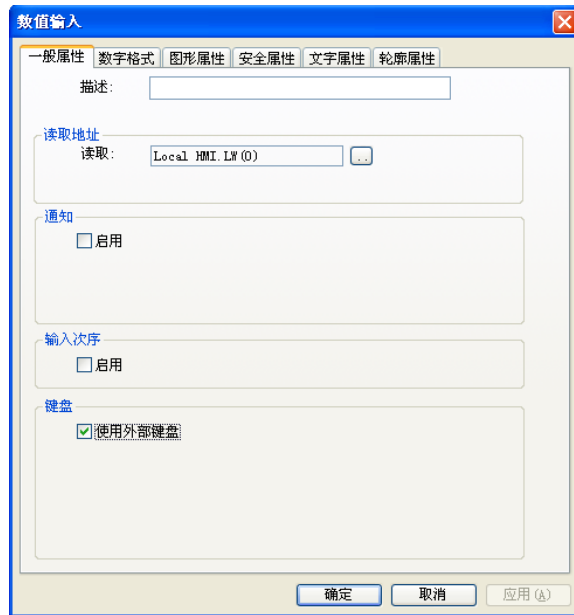
Step two:

After the general properties directly window is set, once again open the settings page, "contour" Size equivalent sized keyboard



Step three:

New value input control, within the general properties check " Use an external keyboard " .

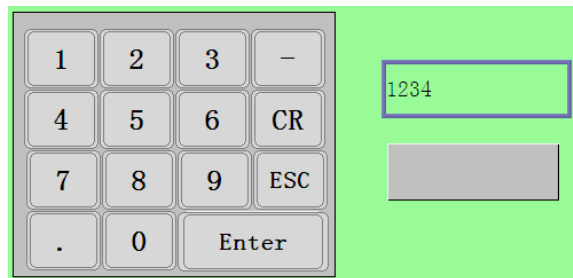


Step Four:

Setting a bit state control, set ON Display for the keyboard.



Save the project, compile, offline simulation, as shown below.



Direct call windows keyboard, keyboard location is fixed and can not move or cancel the keyboard.

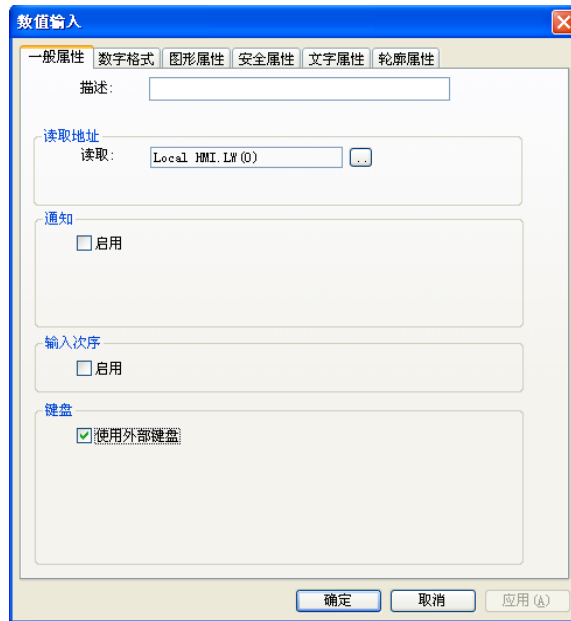
### 17.3 Keyboard on the screen to enter the fixed

It also can be set to fixed function keys on the screen or pop-up manner rather than using the keyboard directly secured to the window

In the position, in this manner you can not move or cancel the keyboard.

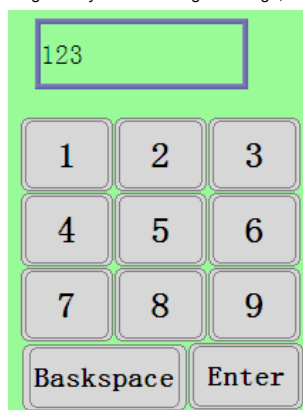
**step one:**

New value input controls, in " keyboard " Items, check " Use an external keyboard " .



**Step two:**

Using the function keys can be placed on the screen using the keyboard after a good design, as shown below.





## 17.4 Making Chinese character keyboard input of Chinese characters

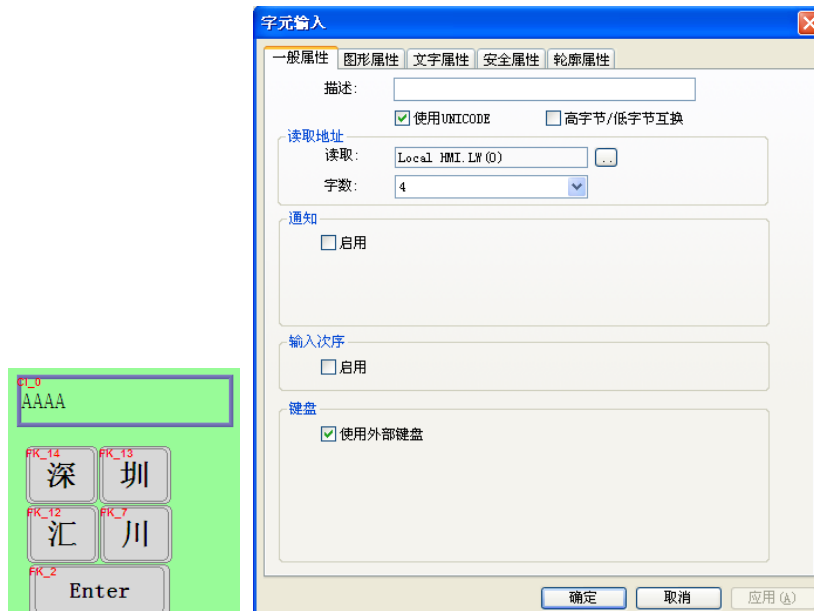
Production kanji keyboard with numeric keypad, like production, but also to make use of the function keys. As shown below.



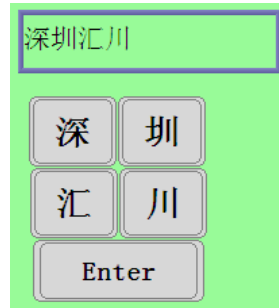
After the above steps, making the "deep" "Chun" exchange "Plain" The four Chinese character input function keys, and then make a "Enter" input power

Function keys, that is, do a simple keyboard characters. Placed a "Character input" Controls on the screen, the number of words chosen 4 And check

" use UNICODE " Finally, a screen as shown in FIG well.



Performing an offline simulation, these characters can be input on the screen, as shown in FIG.



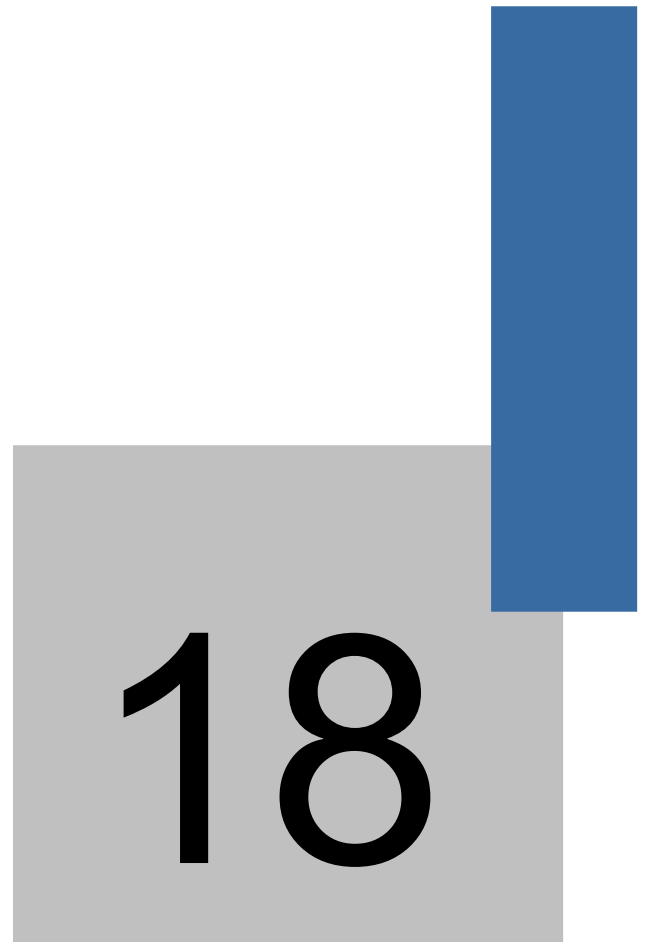
Summary: numeric keypad and keyboard are all characters by using " Function keys " Production control, and combined together to form. And can

The group is self-made keyboard " Group Photos " add to " Groups gallery " In order to follow-up calls. If you do not use the system default

Keyboard, the keyboard can be made, as the new system keyboard. If you do " Numeric Input " or " Character input " When, I do not want to make

With a system keyboard, you need to check the properties of these controls " Use an external keyboard " So you can use the keyboard to other means, including

Including external USB keyboard.



**The system register address and retention effect**

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## Chapter XVIII The system register address and retention effect

Register address reserved by the system are classified as follows:

And the general state of the control / status value input / prescription data / buttons work with fast selection window;

Event records / data sampling record / password and operation level / HMI time;

HMI Hardware / remote HMI Online status / and PLC Online status;

The present machine is connected to the remote machine / MODBUS Server Station / COM Communication parameter changes;

File Management / PLC & Remotely HMI of IP Address setting / remote print server settings;

Indexing address / native HMI Memory address range;

### 18.1 General state of control

address	Explanation	Read and write control	Acer refers to make	Remotely HMI control	Kymmene whether <u>use</u>
LB-900n	n = 0 ~ 9 HMI Upon activation, the states of these bits will be initialized to ON	Read / Write	read / write	Read / Write	Yes
LB-9017	State ON When, will close [ PLC Control] [Change Window] function returns	Read / Write	read / write	Read / Write	Yes
LB-9018	Mouse cursor control, while the state is hidden Yin ON / When the status is displayed OFF	Read / Write	read / write	Read / Write	Yes
LB-9019	Cancel / Open audio output function	Read / Write	read / write	Read / Write	Yes
LB-9059	Register as a change of the start page (See notes below)	Read / Write	read / write	Read / Write	Yes
LB-9020	Show (set to ON) / Hide (set OFF) System Tray	Read / Write	read / write	Read / Write	no
LB-9070	Toshiba T / C Write control bit	Read / Write	read	Read / Write	no

			/ write		
LW-9025	CPU Utilization	read	read	read	no
LW-9050	At present basic window displayed on the machine's serial number	read	read	read	Yes
LW-9100 ~ LW-9115	Project file name of the machine used	Read		read	no
LW-9116 ~ LW-9117	Project file size (unit byte)	Read		read	no
LW-9118 ~ LW-9119	Project file size (unit K byte)	Read		read	no
LW-9120 ~ LW-9121	The compiler version used in the project file	Read		read	no
LW-9122	Project files compile time (years)	read	read	read	no
LW-9123	Project files compile time (months)	read	read	read	no
LW-9124	Project files compile time (days)	read	read	read	no
LW-9125	Machine used Ethernet IP0 address ( The actual address IP0.IP1.IP2.IP3)	Read		read	no
LW-9126	Machine used Ethernet IP1 address	read	read	read	no
LW-9127	Machine used Ethernet IP2 address	read	read	read	no
LW-9128	Machine used Ethernet IP3 address	read	read	read	no
LW-9129	Machine used Ethernet gateway 0 for gateway 0. gateway 1. gateway 2. gateway 3) ( The actual address	Read		read	no
LW-9130	Used machine Ethernet gateway 1	read	read	read	no
LW-9131	Used machine Ethernet gateway 2	read	read	read	no
LW-9132	Used machine Ethernet gateway 3	read	read	read	no
LW-9133	Used machine Ethernet Communication Port	read	read	read	no
LW-9134	Currently used language ( 0 to 7)	Read / Write	/ write	Read / Write	Yes

**Remarks: LW-9059 :** That register as a change of the start page, write to this register valid page number value, will use the new start page next time you start rewriting this register will be changed EOH Documents in the starting page number, decompile it will be changed values. If the value is written to the system page or invalid page number, the operation will be considered invalid. Conditions for entering modify system settings to boot if you have been holding down and hold the screen, the page that appears after the initial login page will pop up system settings, use the original no longer hold the screen and hold system settings box appears.

### 18.2 Numerical input state

address	Explanation	ioctl system	Macro	Remotely HMI control	Kymmene whether to use
LW-9002 ~ LW-9003	Currently used in the numeric input component the maximum input value  Data type is 32-bit (float)	Read		read	Yes
LW-9004 ~ LW-9005	Currently used in the numeric input component allows minimum value input  Data type is 32-bit (float)	Read		read	Yes
LW-9150 ~ LW-9181	Keyboard input data, use ASCII Length data storage, storage for 32 words	Read		read	Yes
LW-9540	Reserved for keyboard Caps Lock use	read read		read	Yes

### 18.3 Recipe Information

address	Explanation	Read and write	Macro control	Remotely HMI control system	Kymmene whether to use
LB-9010	When you download the recipe data status ON	Read		read	no
LB-9011	When uploading recipe data status ON	Read		read	no
LB-9012	When the download / upload data state formula ON	Read		read	no
LB-9028	Sent to this address ON When the signal, all recipe data Will be set 0	Write		write	Yes
LB-9029	InoTouch series HMI Will every 1 Minute recipe data  (RW) Stored in the internal memory of the machine; for this address Send ON When the signal can be forced InoTouch series HMI  Storing the recipe data to the machine	Write		write	Yes

### 18.4 Work fast selection window with buttons

address	Explanation	Read and write control	Macro remote	HMI control	Kymmene is <u>No Use</u>
---------	-------------	---------------------------	--------------	-------------	-----------------------------

				system	
<b>LB-9013</b>	Sent to this address ON When the signal hidden fast selection window; Sent to this address OFF When the signal is displayed fast selection window write			write	no
<b>LB-9014</b>	Sent to this address ON When the signal hidden button work; Sent to this address OFF When the signal, the display button to write about work			write	no
<b>LB-9015</b>	Sent to this address ON When the signal hidden Fast Selection window / button work; send this address OFF When the signal is displayed fast selection window / buttons work	Write		write	no

## 18.5 Event Log

address	Explanation	Read and write control	Macro remote HMI control	Kymmene is <u>No Use</u>	
<b>LB-9021</b>	Sent to this address ON When the signal will be taken to remove the machine Save the previous system memory records all events	Write		write	Yes
<b>LB-9022</b>	Sent to this address ON When the signal, the machine will delete the oldest event record sum of files (this feature is only for event record on the machine)	Write		write	Yes
<b>LB-9023</b>	Sent to this address ON When the signal, the event record will delete all files on the machine (this feature is only for event record on the machine)	Write		write	Yes
<b>LB-9024</b>	Sent to this address ON When the signal, the computer on again Event record size of all the files (this feature is only valid for the event log on the machine)	Write		write	Yes
<b>LB-9042</b>	Confirm that all events, is set to ON	Write		write	Yes
<b>LB-9043</b>	The presence of unidentified event (when the state is ON)	Read		read	Yes
<b>LW-9060</b>	The number on the machine's event log file	Read		read	Yes
<b>LW-9061</b>	The machine event record size of all the files ( 32-bit Unsigned)	Read		read	Yes

## 18.6 Sampling data record

address	Explanation	Read and write control	Macro Remote-Kymmene
---------	-------------	------------------------	----------------------

		control		HMI <u>control</u>	whether <u>USE</u>
<b>LB-9025</b>	Sent to this address ON When the signal, the machine will delete the oldest record sum of sampled data file (this feature is only for sampling record data on the machine)	write	write	Write is	
<b>LB-9026</b>	Sent to this address ON When the signal, sampling will delete all data log files on the machine (this feature is only sample data on the machine for the record)	write	write	Write is	
<b>LB-9027</b>	Sent to this address ON When the signal, the calculator is on re-sampling data record size of all the files (this feature is only for sampling data record on the machine)	write	write	No write	
<b>LW-9063</b>	The number of sampling events on the machine records of documents	write	write	No write	
<b>LW-9064</b>	The machine data sampling record size of all the files ( 32-bit Unsigned)	write	write	No write	

### 18.7 Password and operation level

address	Explanation	Read and write	Macro control	Remotely HMI <u>control</u>	Kymmene whether to use
<b>LB-9050</b>	Sent to this address ON The signals, users will be forced to log off the system  At this time, the user can only operate category belongs " no " Controls	Write	Write		Yes
<b>LB-9060</b>	When the password input error, the status will be set to ON	Read	read		Yes
<b>LB-9061</b>	Sent to this address ON When the signal, HMI We will use [LW9500] To [ LW9535] The contents, update the password	Write	Write		Yes
<b>LW-9219</b>	This address is used to determine the content of the [ LW9220] Data input, the user 1 To users 12 The entered password whichever	Read	read		Yes
<b>LW-9220 ~ LW-9221</b>	Password Enter the address ( 32-bit)	Read / Write	Read / Write	Read / Write is	
<b>LW-9222</b>	It indicates that the component category of the current user can operate  bit 0 for 1 At this time, the user may represent the operation type A Elements  bit 1 for 1 At this time, the user may represent the operation type B of	Read	read		Yes



	<p>element</p> <p>bit 2 for 1 At this time, the user may represent the operation type C Elements</p> <p>bit 3 for 1 At this time, the user may represent the operation type D Elements</p> <p>bit 4 for 1 At this time, the user may represent the operation type E Elements</p> <p>bit 5 for 1 At this time, the user may represent the operation type F Elements</p>				
LW-9500 ~ LW-9501	user 1 password	Read / Write	Read / Write	Read / Write is	
LW-9502 ~ LW-9503	user 2 password	Read / Write	Read / Write	Read / Write is	
LW-9504 ~ LW-9505	user 3 password	Read / Write	Read / Write	Read / Write is	
LW-9506 ~ LW-9507	user 4 password	Read / Write	Read / Write	Read / Write is	
LW-9508 ~ LW-9509	user 5 password	Read / Write	Read / Write	Read / Write is	
LW-9510 ~ LW-9511	user 6 password	Read / Write	Read / Write	Read / Write is	
LW-9512 ~ LW-9513	user 7 password	Read / Write	Read / Write	Read / Write is	
LW-9514 ~ LW-9515	user 8 password	Read / Write	Read / Write	Read / Write is	
LW-9516 ~ LW-9517	user 9 password	Read / Write	Read / Write	Read / Write is	
LW-9518 ~ LW-9519	user 10 password	Read / Write	Read / Write	Read / Write is	
LW-9520 ~ LW-9521	user 11 password	Read / Write	Read / Write	Read / Write is	
LW-9522 ~ LW-9523	user 12 password	Read / Write	Read / Write	Read / Write is	

## 18.8 HMI time

address	Explanation	Read and write control	macro	Remotely HMI control system	Kymmene whether to use
<b>LW-9010</b>	Local time (seconds, BCD)	Read / Write	Read / Write	Read / Write is	
<b>LW-9011</b>	Local time (minutes, BCD)	Read / Write	Read / Write	Read / Write is	
<b>LW-9012</b>	Local time (time, BCD)	Read / Write	Read / Write	Read / Write is	
<b>LW-9013</b>	Local time (day, BCD)	Read / Write	Read / Write	Read / Write is	
<b>LW-9014</b>	Local time (months, BCD)	Read / Write	Read / Write	Read / Write is	
<b>LW-9015</b>	Local time (years, BCD)	Read / Write	Read / Write	Read / Write is	
<b>LW-9016</b>	Local time (weeks, BCD)	read	read	read	Yes
<b>LW-9017</b>	Local time (seconds, BIN)	Read / Write	Read / Write	Read / Write is	
<b>LW-9018</b>	Local time (minutes, BIN)	Read / Write	Read / Write	Read / Write is	
<b>LW-9019</b>	Local time (time, BIN)	Read / Write	Read / Write	Read / Write is	
<b>LW-9020</b>	Local time (day, BIN)	Read / Write	Read / Write	Read / Write is	
<b>LW-9021</b>	Local time (months, BIN)	Read / Write	Read / Write	Read / Write is	
<b>LW-9022</b>	Local time (years, BIN)	Read / Write	Read / Write	Read / Write is	
<b>LW-9023</b>	Local time (weeks, BIN)	read	read	read	Yes
<b>LW-9030 ~ LW-9031</b>	System time (in units of 0.1 Sec), counting from the boot	read	read	read	NO

## 18.9 HMI hardware

address	Explanation	Read and write control	Macro	Remotely HMI control	Kymmene whether use
<b>LB-9019</b>	State ON When the buzzer off, state OFF When open bee Buzzer	Read / Write	Read / Write	Read / Write is	
<b>LB-9040</b>	Sent to this address ON When signal, the backlight brightness to improve the	Write is	to write about		
<b>LB-9041</b>	Sent to this address ON When the signal, reducing backlight brightness	Write is	to write about		
<b>LW-9040</b>	Backlight brightness index values, values ranging from 0 to 31 When using the machine for the first time, the backlight can be adjusted to the brightest or darkest, the index value will be set to 0 or 31 To adjust the value as a future reference	Write is	to write about		

LW-9070 HMI	The lower limit of the available space warning	Read / Write	Read / Write	Read / Write	is
LW-9071	The system reserves space available	Read / Write	Read / Write	Read / Write	is
LW-9072 HMI	Currently available space	Read / Write	Read / Write	Read / Write	No

### 18.10 And remote HMI Online status

address	Explanation	Read and macro	write control	Remotely HMI control	Kymmene whether to use
LB-910n	<p>n = 0 ~ 31</p> <p>These registers are used to indicate the remote HMI Online status between the state ON Online said the current normal; state OFF Said the current remote HMI Disconnected state in between, then you can reset this status ON The system will try to remote HMI Once again online</p>	Read / Write	Read / Write	Read / Write is	

### 18.11 versus PLC Online status

address	Explanation	Read and write control	Macro	Remotely HMI control	Kymmene is <u>No Use</u>
LB-9150	<p>State ON While, if the connection COM 1 of PLC Break, the system will automatically line / state OFF When, ignore this PLC Disconnection state</p>	Read / Write	Read / Write	Read / Write	Yes
LB-9151	<p>State ON While, if the connection COM 2 of PLC Break, the system will automatically line / state OFF When, ignore this PLC Disconnection state</p>	Read / Write	Read / Write	Read / Write	Yes
LB-9152	<p>State ON While, if the connection COM 3 of PLC Break, the system will automatically line / state OFF When, ignore this PLC Disconnection state</p>	Read / Write	Read / Write	Read / Write	Yes
LB-9153 ~ LB-9184	<p>State ON When, if using Ethernet interface PLCn Broken, the system will automatically online, n = 0 ~ 31</p> <p>State OFF When, ignore this PLC Disconnection state</p>	Read / Write	Read / Write	Read / Write is	
LB-9200 ~ LB-9455	<p>These registers are used in connection with the indication COM 1 of PLC Online between</p> <p>LB9200 Indicating the station number 0 of PLC Online status,</p> <p>LB9201 Indicating the station number 1 of PLC Online status,</p>	Read / Write	Read / Write	Read / Write is	

	<p>And so on state ON He said the current online status is normal OFF And that the current PLC Is disconnected state, this state may be reset at this time ON The system will attempt</p> <p>PLC Once again online</p>				
<p><b>LB-9500 ~ LB-9755</b></p>	<p>These registers are used in connection with the indication COM 2 of PLC Online between</p> <p>LB9500 Indicating the station number 0 of PLC Online status,</p> <p>LB9501 Indicating the station number 1 of PLC Online status, and so on state ON He said the current online status is normal OFF And that the current PLC Is disconnected state, this state may be reset at this time ON The system will attempt</p> <p>PLC Once again online</p>	Read / Write	Read / Write	Read / Write is	
<p><b>LB-9800 ~ LB-10055</b></p>	<p>These registers are used in connection with the indication COM 3 of PLC Online between</p> <p>LB9800 Indicating the station number 0 of PLC Online status,</p> <p>LB9801 Indicating the station number 1 of PLC Online status, and so on state ON He said the current online status is normal OFF And that the current PLC Is disconnected state, this state may be reset at this time ON The system will attempt</p> <p>PLC Once again online</p>	Read / Write	Read / Write	Read / Write is	
<p><b>LB-10100 ~ LB-10131</b></p>	<p>These registers are used to indicate the Ethernet interface</p> <p>PLC Online status between the state OFF And that the current PLC Is disconnected state, this state may be reset at this time ON The system will attempt</p> <p>PLC Once again online</p>	Read / Write	Read / Write	Read / Write is	
<b>LW-930n</b>	Local device driver used by number	Read		read	no
<b>LW-935n</b>	To a number of commands and the local device has not been processed	Read		read	no
<b>LW-940n</b>	While online with the local device, the latest online content error	Read		read	no

**18.12 With a remote machine connected to the unit**

address	Explanation	Read and write	remote control	macro HMI	Kymmene control whether to use
<b>LB-9016</b>	When the remote device is found connected to the unit Set as ON	Read / Write	Read / Write	Read / Write	no
<b>LW-9006</b>	Connection of the machine ( server) Remote device	read	read	read	no



	(Client) Number of				
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### 18.13 MODBUS Server Station No.

address	Explanation	Ioctl system	Macro	Remotely HMI control system	Kymmene whether to use
<b>LW-9541</b> when	HMI As a MODBUS server Station number used (COM 1)	Read / Write	Read / Write	Read / Write is	
<b>LW-9542</b> when	HMI As a MODBUS server Station number used (COM 2)	Read / Write	Read / Write	Read / Write is	
<b>LW-9543</b> when	HMI As a MODBUS server Station number used (COM 3)	Read / Write	Read / Write	Read / Write is	
<b>LW-9544</b> when	HMI As a MODBUS server The station number (used to Ethernet)	Read / Write	Read / Write	Read / Write is	

### 18.14 COM Communication parameter changes

Keep the following address Put each COM Port communication parameters used to change these parameters after Again open After machine Make With these new of parameter.

address	Explanation	Read and write control macro		Remotely HMI control	Kymmene whether <u>use</u>
<b>LB-9030</b> when	LB9030 by OFF Changes to ON, We will use  LW9050 ~ LW9054 The content changes immediately COM 1 Communication parameters	Read / Write	Read / Write	Read / Write	Yes
<b>LW-9550</b>	COM 1 Communication mode 0: RS232 2W 1: RS232 4W 2 : RS485 2W 3 : RS422 4W	Read / Write	Read / Write	Read / Write is	
<b>LW-9551</b>	COM 1 Baud Rate 1-7 <b>Respectively 4800 , 9600 , 19200 , 38400 , 57600 , 115200 , 187500</b>	Read / Write	Read / Write	Read / Write is	
<b>LW-9552</b> COM 1	Data bits 7: 7 Place 8: 8 Place	Read / Write	Read / Write	Read / Write	Yes

<b>LW-9553</b>	<b>COM 1</b>	check 0: No parity 1: Odd parity 2: Even parity	Read / Write	Read / Write	Read / Write	Yes
<b>LW-9554</b>	<b>COM 1</b>	Stop bits 0: 1 Place 1: 2 Place	Read / Write	Read / Write	Read / Write	Yes
<b>LB-9031</b>	when <b>LB9031</b>	by OFF Changes to ON, We will use LW9056 ~ LW9059 The content changes immediately parameters	Read / Write	Read / Write	Read / Write	Yes
<b>LW-9556</b>		COM 2 Baud Rate 1-7 Respectively 4800 , 9600 , 19200 , 38400 , 57600 , 115200 , 187500	Read / Write	Read / Write	Read / Write is	
<b>LW-9557</b>	<b>COM 2</b>	Data bits 7: 7 Place 8: 8 Place	Read / Write	Read / Write	Read / Write	Yes
<b>LW-9558</b>	<b>COM 2</b>	check 0: No parity 1: Odd parity 2: Even parity	Read / Write	Read / Write	Read / Write	Yes
<b>LW-9559</b>	<b>COM 2</b>	Stop bits 0: 1 Place 1: 2 Place	Read / Write	Read / Write	Read / Write	Yes
<b>LB-9032</b>	when <b>LB9032</b>	by OFF Changes to ON, We will use LW9060 ~ LW9064 The content changes immediately parameters	Read / Write	Read / Write	Read / Write	Yes
<b>LW-9560</b>		COM 3 Communication mode 0 : RS232 2W 1-RS232 4W 2-RS485 2w 3-RS422 4W	Read / Write	Read / Write	Read / Write is	
<b>LW-9561</b>		COM 3 Baud Rate 1-7 Respectively 4800 , 9600 , 19200 , 38400 , 57600 , 115200 , 187500	Read / Write	Read / Write	Read / Write No	
<b>LW-9562</b>	<b>COM 3</b>	Data bits 7: 7 Place 8: 8 Place	Read / Write	Read / Write	Read / Write	no

<b>LW-9563</b> COM 3 check	Read / Write	Read / Write	Read / Write	no
0: No parity				
1: Odd parity				
2: Even parity				
<b>LW-9564</b> COM 3 Stop bits	Read / Write	Read / Write	Read / Write	no
0: 1 Place				
1: 2 Place				

### 18.15 Document Management

address	Explanation	loctl system	Macro	Remotely HMI control	Kymmene whether the use
<b>LB-9034</b> Forced to store event logs and sampling data to HMI ( set up for ON)		Write		write	no
<b>LB-9035</b> HMI The available space is insufficient warning ( ON status)		read read		read	Yes
<b>LB-9036</b> SD Card free space is insufficient warning ( ON status)		read read		read	Yes
<b>LB-9037</b> U Lack of available disk space warning ( ON status)		read read		read	Yes
<b>LB-9038</b> USB 2 The available space is insufficient warning ( ON status)		read read		read	no
<b>LB-9039</b> File backup action state (state backup ON)		read read		read	Yes
<b>LW-9074</b> CF Currently available space		read read		read	no
<b>LW-9076</b> USB1 Currently available space		read read		read	no
<b>LW-9078</b> USB2 Currently available space		read read		read	no

### 18.16 PLC & Remotely HMI of IP address set up

address	Explanation	Read and write control	Macro remote HMI	control	Kymmene is No Use
LW-9600 ~ LW-9629	<b>PLC of IP Address and port settings</b> (IP0: IP1: IP2: IP3)	Read / Write	Read / Write	Read / Write	no
LW-9800 ~ LW-9839	<b>Remotely HMI of IP Address and port settings</b> (IP0: IP1: IP2: IP3)	Read / Write	Read / Write	Read / Write	no

### 18.17 Remote print server settings

address	Explanation	Read and write	control Macro remote HMI	Kymmene control whether to use	
LW-9770 ~ LW-9773	Remote print server IP set up (IP0: IP1: IP2: IP3)	Read / Write	Read / Write	Read / Write	no
LW-9774	Login required Print Server Username	read / write	read / write	read / write	no
LW-9780	Login print server password required	Read / Write	Read / Write	Read / Write	no

### 18.18 Address indexing

address	Explanation	Read and write	control Macro remote HMI	Kymmene control whether to use	
LW-9200 ~ LW-9260	Address index register	Read / Write	Read / Write	Read / Write	Yes

### 18.19 The machine HMI Memory address range

#### 18.19.1 Bit address

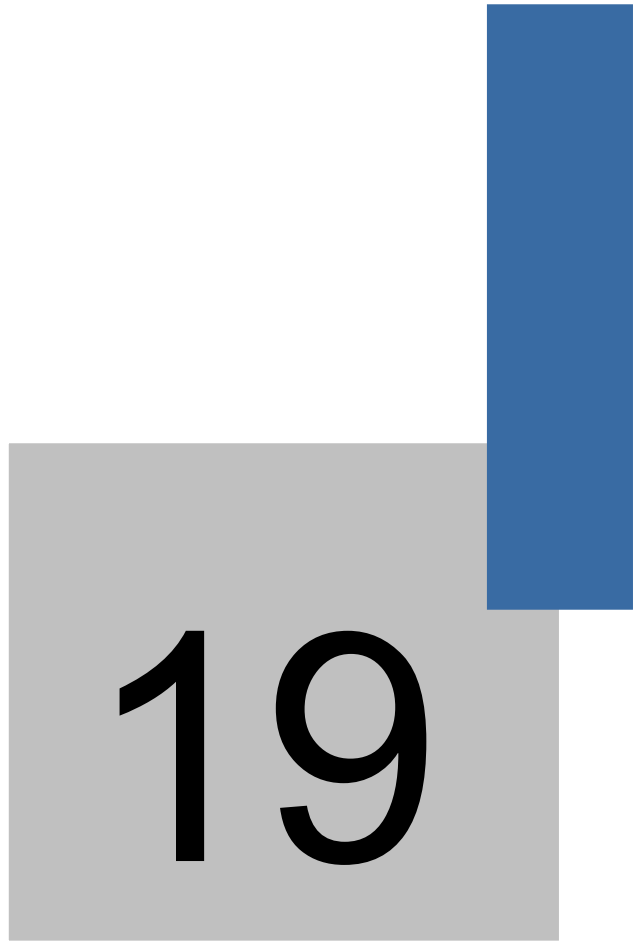
RAM	Device Type	Address Range	Address Format
The machine bit address register	LB	0 ~ 11999	AAAAA
The machine word address register to take place LW_BIT		0 ~ 11999	AAAAABB AAAAA: Word address BB: Bit address ( 00 to 15) For example: <b>567_12</b> Word address = 567 Bit address = 12 <b>That means LW567 Register bit12 This bit.</b>
Holding Register ( RW ) Bit address	RW_Bit	0 ~ 65535	AAAAAB AAAAA: Word address B: Bit address ( 0 ~ f) For example: <b>567_a</b> Word address = 567 Bit address = a



Holding Register ( RW_A) Bit address RW_A_Bit 0 ~ 65535		AAAAAB	<p>AAAAA: Word address</p> <p>B: Bit address ( 0 ~ f)</p> <p>For example:</p> <p>567 <u>a</u></p> <p>Word address = 567</p> <p>Bit address = a</p>
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**18.19.2 Word address**

RAM	Equipment type	Address range	Address Format
Native word address	LW	0 ~ 11999	AAAAA AAAAA: Word address
The machine holding register RW RW		0 to 65535	AAAAA AAAAA: Word address
The machine holding register RW_A RW_A		0 to 65535	AAAAA AAAAA: address



**Ethernet communication with multiple interconnected InoTouch series HMI**

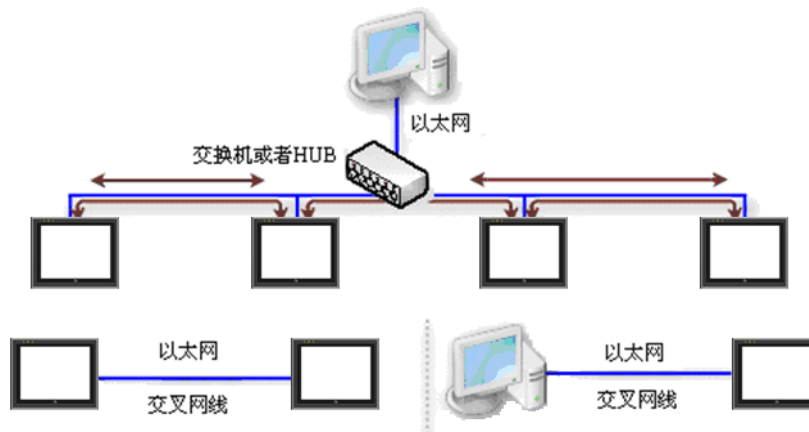
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## Chapter XIX Ethernet communication with multiple InoTouch series HMI interconnected

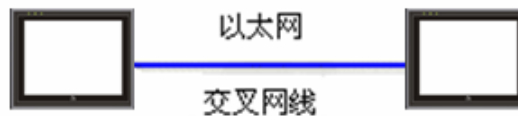
Ethernet communication is InoTouch Features a series of man-machine interface, an Ethernet connection, you can achieve multiple InoTouch Interconnected series of man-machine interface, computer and InoTouch HMI series connection and a human-machine interface HMI another one Interface is connected PLC Or controllers. I.e., the following three connections:

- a , HMI versus MHI Communication between
- b , Computer and HMI Communication between
- c , HMI In other control connection HMI Up PLC

Generally, there are two ways Ethernet connection: can be used RJ45 Direct connection ( straight through cable) ,take Distribution hub ( hub) Use; the other is to use RJ45 Intersecting line ( crossover cable) Without using a hub, but only the In the case of using one online ( HMI Correct HMI Or computer HMI) . Setting up and operation of the following description of the online mode.



### 19.1 HMI versus HMI Communication between



Between different human-machine interface can read and write data from each other to each other via Ethernet, using the system reserved register ( LB versus LW) , A man-machine interface can control the behavior of another station HMI performance. A HMI It can simultaneously handle up to from 32 Different HMI Access requirements.

To two HMI Communications, for example ( HMI A versus HMI B) For example, if HMI A To use " Set Bit " Controls Control HMI B of [LB123] The contents of the address is in use HMI A Project files on ( afs) Setting step as follows:

step one:

Set each station HMI of IP ( For details, please refer to the relevant chapter), assuming HMI A versus HMI B of IP Have each set "192.168.60.201" versus "192.168.60.202" .

Step two:

in InoTouch Editor [Communication Connections] on the left side of the distal end of the device [project management] in " Ethernet "Department, click on the right mouse Button, select "Add Device", adding a remote HMI (HMI B) . The figure below shows HMI B The setting contents.



Step three:

in " Set Bit " Controls settings page [ PLC Name], select "HMI B" ,at this time HMI A To operate HMI B of

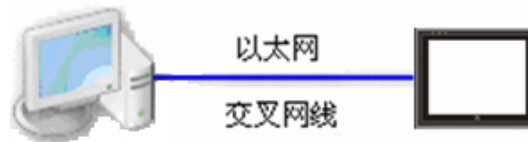
LB The contents of the address.



Similarly, in HMI B You can also set up a remote HMI ,will IP Address to HMI A of IP Address and port

No, this way, HMI B On, can also be controlled HMI A On the address and the data.

## 19.2 Computer and HMI Communication between



use InoTouch Editor The in-circuit emulation, computer available through the Ethernet HMI The data, and To the data stored on your computer.

The computer control may also be utilized HMI Reserved registers in the system ( LB versus LW) , Direct control HMI . relatively, HMI Can also directly control the behavior of a computer's performance, for example, requires a computer store HMI or PLC Data on.

A computer can control an unlimited number of HMI .

If the object to be computer to communicate with the two HMI (HMI A versus HMI B) , The computer terminal being used afs Set file

Given the following steps:

### step one:

Each set HMI of IP ( For details, please refer to the relevant section), if HMI A versus HMI B of IP Have each set "192.168.60.201" versus "192.168.60.202" .

### Step two:

in InoTouch Editor [Communication Connections] on the left side of the distal end of the device [project management] in "Ethernet" Office, click the right mouse

Key, select " Add Device " ,increase HMI A versus HMI B .



The screenshot shows a dialog box titled '设备' (Device) with a close button in the top right corner. The dialog contains the following fields and options:

- 设备名称:** HMI A
- 设备类型:** IT5104E (dropdown menu)
- 远端HMI IP 地址:** 192 . 168 . 60 . 201
- 连接方式:** 远程连接 (dropdown menu)
- 端口号:** 10086
- 预设站号:** 1
- Radio buttons:**  HMI设备 and  PLC设备
- Buttons:** 确定 (OK) and 取消 (Cancel)

### Step three:

Choosing the right [ PLC name]. In the page control is set, the correct choice of the device to be operated, for example, to control the HMI A on

of LB ,then[ PLC Name] need to choose "HMI A" ,As shown below.



Step Four:

With this end in the computer afs File using InoTouch Editor Perform in-circuit emulation (offline or online mode are Be), to operate the computer terminal HMI A versus HMI B All data on.

After the program set up, you can also create a shortcut on the desktop computer, or place the computer startup items Surface, so you can quickly perform this procedure.

HMI Data also allows the operator on the computer, then the computer will simply considered another HMI It can, that is must HMI Project files used in the new one HMI And this HMI of IP Pointing to the computer. Setting method is the same as in This is not done in detail, mutatis mutandis, the user can self-test method.

### 19.3 In other control connection HMI Up PLC



Through Ethernet, and computers HMI It can be operatively connected to other HMI Up PLC ; For example, if a conventional Taiwan Kymmene PLC Connected to HMI B of COM 1 Port, or when the computer HMI A To read this table PLC The data is calculated

Or the end of the machine HMI A The project file is set using the following steps:

step one:

set up HMI B of IP , Assuming that HMI B of IP It is set to "192.168.60.202" .

Step two:

in InoTouch Editor [Communication Connections] on the left side of the distal end of the device [project management] in "Ethernet" At right click, select " Add Device " , Adding a PLC Definition and correctly set the communication parameters.

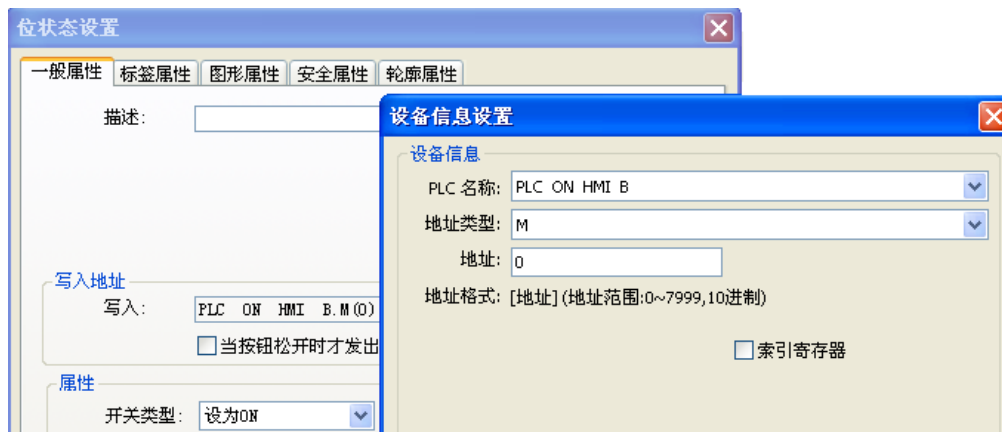


It can be found from the figure, when the new PLC The location is " remote " . So remote PLC It is connected HMI B On, so set IP for HMI B of IP (192.168.60.202) .

Step three:

Suppose you want to use " Set Bit " Controls Control HMI B Kymmene on PLC , You can simply set the control page [ PLC name Said] is selected "PLC on HMI B" , You can use an online computer simulation in the way of a remote control connection HMI B Up PLC

A.



Similarly, if the HMI A There is a connection or a plurality of PLC ,in case HMI B To access HMI A On these PLC ,

Are connected by this method, it does not described in detail herein, a user can, according to the production process this setting.

**Summary:** The above description of the content, understanding InoTouch Editor Software via Ethernet HMI versus HMI Between the meter Computer and HMI between, HMI With another computer or a HMI connected PLC The method of connecting between. It can see Out, via Ethernet, easily achieved " A multi-screen machine " Connections. In a HMI Or a computer to access another station HMI Connected PLC Or the controller when the HMI With another computer or a HMI Between each other " remote " , it will To be established " remote "PLC And IP Address and port number " remote "HMI of IP Address and port number. In this connection computer In-circuit emulation under execution, there is no time limit.

**Note:** All Kymmene HMI Factory default IP Address: 192.168.60.201 ; For communications, please modify another HMI of IP address.

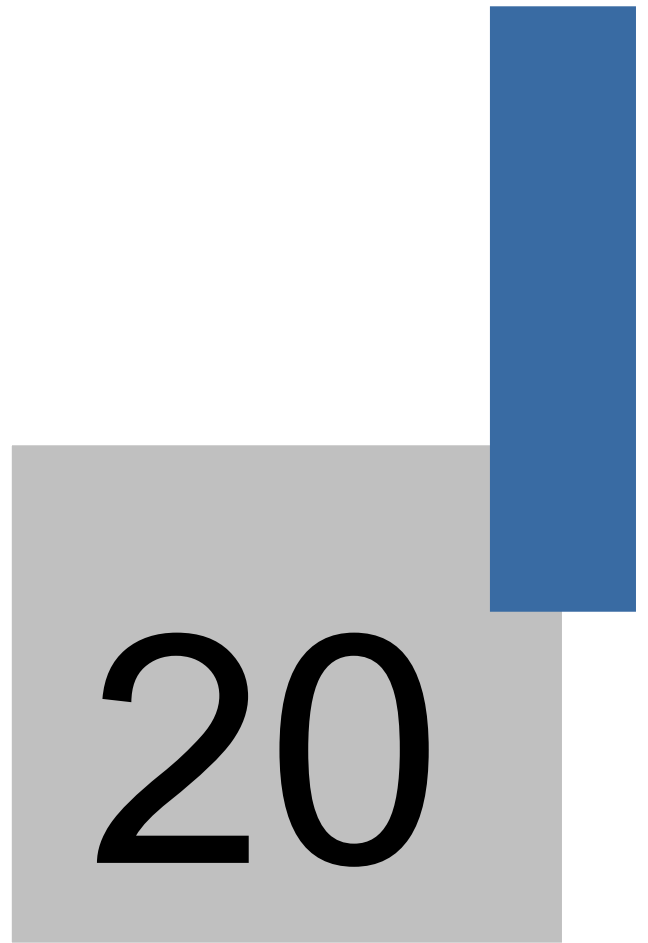
The above description of the contents are based on the local area network to explain. In fact, by Internet , Also can access " remote "HMI On the connected PLC Or controller. At this point, we need to " remote "HMI The local router as IP Address mapping. Assume far end HMI B of IP Address set "192.168.60.202" , Port number 10086 Then the HMI B The connection route Vessel needs to be set, the "192.168.60.202" This one IP Address mapping to 10086 The port on.

In this case, assuming that HMI B External Access Internet of IP Address (this IP Address provided by the network operator) to 12.34.56.78 , Then HMI A The list of equipment, the establishment of " remote "HMI of IP Need to address "12.34.56.78" , Port number or set as 10086 .

such, HMI A It is remote access IP address 12.34.56.78 , And port numbers 10086 . Because access is outside the network IP , And set the port number 10086 So that the local router will automatically go to 10086 The corresponding port number IP address The device, thus found IP Address 192.168.60.202 This device, namely HMI B .

In this method HMI A access HMI B When the device is connected, with this same setting, not tired later.





**How InoTouch series HMI is set to MODBUS slave**

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## Chapter XX How InoTouch series HMI Set to MODBUS Slaves

InoTouch Series HMI use MODBUS Agreement with PLC Or when connected to the controller, usually as Main site. Actually InoTouch Series HMI also can be set to MODBUS From the station, so that others do MODBUS

The master station apparatus, can be used MODBUS Protocol read and write InoTouch Data on the display unit.



The figure shows InoTouch It is set to MODBUS Slave (also known as MODBUS Server) , InoTouch HMI, Just use the computer or other device MODBUS Protocol, using RS232 / 485 Serial port, you can read and write InoTouch Number on according to. The following explains how to InoTouch Set to MODBUS From the station, and to read and write instructions InoTouch Way data.

### 20.1 Increasing the setting a MODBUS Server equipment

To InoTouch set as MODBUS Equipment, first of all in need InoTouch in use AFS Equipment list of programs increase Add a new device, this time PLC The Kind selection "MODBUS Server" , PLC Interface can pick RS232 , RS485 2W , RS485 4W And other means.



When the interface selection use RS232 or RS485 , The need to choose the connection port ( COM 1 ~ COM 3) And set a positive Determining communication parameters, refer to the figure, at this time MODBUS Server The station number is set to 1 .



In the press "determine" Key, this time to complete the MODBUS Set of equipment, completion afs Compiling files and obtained EOH Download to HMI After, you can through MODBUS Agreement to read and write InoTouch Data on.

## 20.2 How to write a MODBUS Server equipment

A InoTouch ( Also known as master) through MODBUS Protocol has been set to read another MODBUS Slave InoTouch ( Also known as server end).

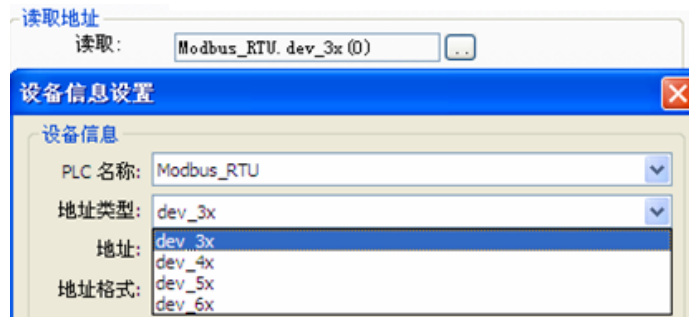
First, the master station used afs Equipment list archives, the need to add a new device, if you want to use master RS232 / 485 Serial port, then PLC The Kind selection "MODBUS RTU" And correctly set the communication parameters.



Complete the setting and press " determine " After the key, you can discover a new device in the device list: "MODBUS\_RTU" .

Open the settings page of each object in PLC Select name "MODBUS\_RTU" After, you can find that can be set

MODBUS The address of the device to read and write.



At this time, by being read from the station ( server End) to HMI , The corresponding relationship between the actual position of the reader as follows:

Read and write 0x / 1x (0 ~ 12000) Corresponds to the read and write LB (0 ~ 11999)

Read and write 3x / 4x / 5x (0 ~ 10000) Corresponds to the read and write LW (0 ~ 9999)

Read and write 3x / 4x / 5x (10000 ~ 65535) Corresponds to the read and write RW (0 ~ 55535)

### Modbus Tcp protocol extension

ModbusTCP Protocol, RW Address range for protocol expansion. Three additional extension code

0x62 , 0x63 , 0x64 ,This 3 Function code, the address for the range extension 4 Bytes (double word), the address space for the following:



Defined function code

32 Bit address data access	<b>Functional Description</b>	<b>function code</b>	<b>page number</b>
	<u>A plurality of read registers</u>	0x62	
	<u>Write Single Register</u>	0x63	
	<u>Write Multiple Registers</u>	0x64	

**Register Type 32bit Starting address The maximum number of addresses Description**

LW	0x00000000	65536	0x00000000 Address correspondence LW0
RW	0x00010000	65536	0x00010000 Address correspondence RW0
RWA	0x00020000	65536	0x00020000 Address correspondence RWA0

**Note:** The above three function code, except for the address extension 32bit Other formats are still following agreement ModbusTCP protocol.

**20.3 How to Change Online MODBUS Server The station number**

InoTouch Editor The following system reserved register, so that users can change online MODBUS Server Used

The station number.

- [LW9541] MODBUS server Station ( COM 1)
- [LW9542] MODBUS server Station ( COM 2)
- [LW9543] MODBUS server Station ( COM 3)
- [LW9544] MODBUS server Station number (Ethernet)

Modify the data for these parameters, you can modify MODBUS Server The station number of the device.

**20.4 on MODBUS Description of each address**

InoTouch Editor Software MODBUS Device type protocol 0x , 1x , 3x , 4x , 5x , 6x ,and also 4x\_bit ,

3x\_bit Etc., are described below in these types of devices MODBUS Which features code protocols are supported.

0x : Is a readable and writable device type corresponds to the operation PLC Output points. This type of apparatus, when the read bit status,

Function code is issued 01H , Write bit function code sent when the state is 05H .

1x : It is a read-only device type, corresponding to the read PLC The input points. When I read the bit state function code is issued 02H .

3x : It is a read-only device type, corresponding to the read PLC Analog. When reading data, the function code is issued 04H .

**4x** : Is a readable and writable device type corresponds to the operation PLC Data register. When reading data, issued

The function code is 03H Function code when writing data is issued 10H .

**5x** : The device type 4x The equipment is the same type of property. Function code is issued to read and write the same. the difference

Wherein, when the double-word, e.g. 32\_bit unsigned Data format, using 5x with 4x Reads both device types, respectively

According to the location, the high word and low word are reversed. For example, use 4x Data is read device type 0x1234 Then use 5x

Data is read device type 0x3412 .

**6x** : Is a readable and writable type device, the function code is issued when data is read 03H ,versus 4x Except that

At the time of writing data, the function code is issued 06H , I.e., the write data of a single register.

**3x\_bit** : This type of function codes supported device 3x Device type exactly the same, except that, 3x Read data,

3x\_bit Read a certain data bit status.

**4x\_bit** : This type of function codes supported device 4x Device type exactly the same, except that, 4x Read data,

4x\_bit Read a certain data bit status.

A graphic consisting of a grey square and a blue vertical bar. The grey square is positioned on the left, and the blue vertical bar is on the right, partially overlapping the right edge of the grey square. The word "twenty" is written in a large, bold, black sans-serif font, centered horizontally and partially overlapping the bottom edge of the grey square.

twenty

**Macro Description**

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## CHAPTER XXI Macro Description

Macro provides additional functionality outside of the application you need. in InoTouch Series HMI runtime, the macro

Command can automatically execute these commands. It can be performed, for example, responsible for complex arithmetic, string manipulation, and engineering and user Exchange function between. This chapter describes how to use and programming functions.

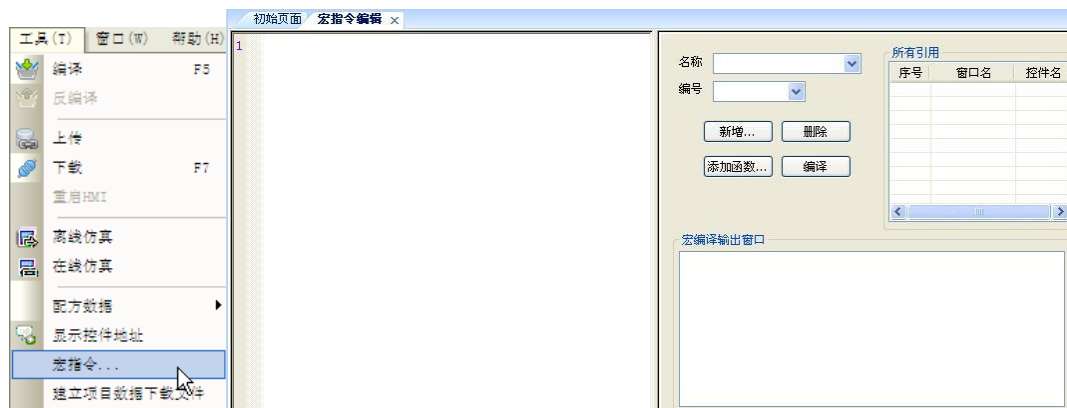
### 21.1 How to create and execute macros

#### 21.1.1 How to build a macro

Follow these steps to build a macro.

**step one :**

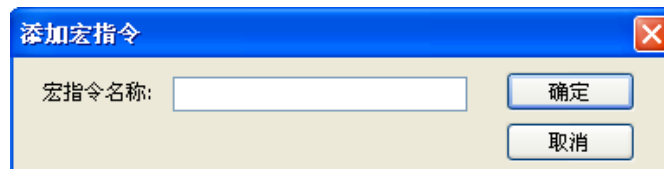
turn on InoTouch Editor Software menu " Tools / macro ... ",As shown below.



#### [ New]

After adding a macro, a dialog box pops up, write the name of the macro, and click "OK", the new macro coding

Series district, to built.



#### [ delete]

Delete the selected macro, the macro is being used but can not be deleted.

#### [ Add Function]

Click on the "Add function", you can select the function you need to set the necessary parameters.

#### [ Compile]





After the completion of the preparation of macro, you can click "Compile" check the syntax is correct. Successful compile the "macro compiler output window

Mouth "show" compiled "uncompiled will display" not translated "and double-click the error list can locate the offending line when a syntax error.

**Step two:**

Press " New " Button, add a macro editing area. Each macro has a unique number, as defined in " Numbering "

This position. in " Macro Name " You must also enter the name of the macro, or can not add macros.



**Step three:**

Write your macro program. If necessary, you can use the function, for example, Sqrt (x) or Sin (x) And other functions.

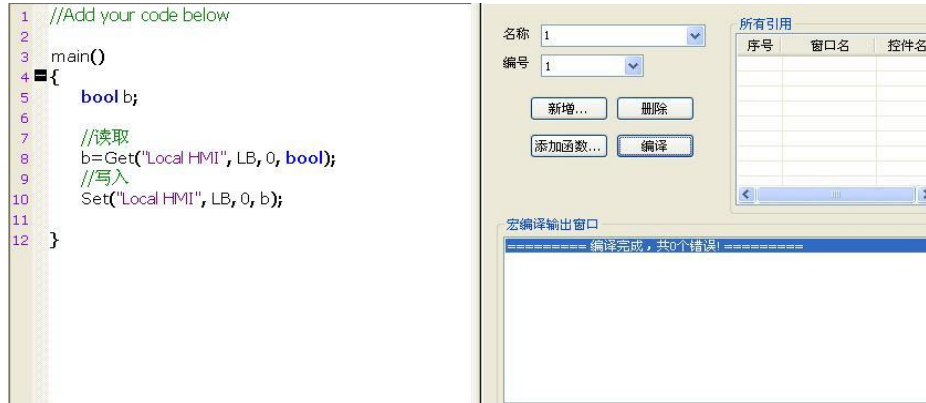
Click " Add Function ... " A list of functions pop up dialog box, select the required function and set the necessary parameters.



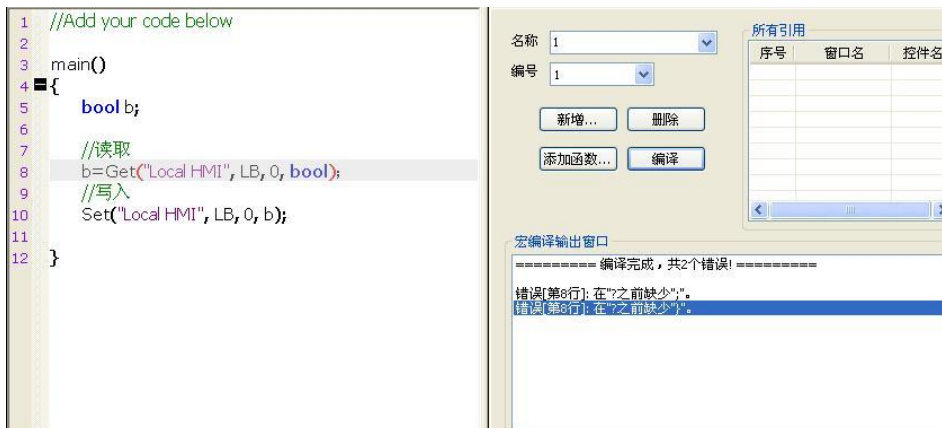
**Step Four :**

After the completion of the preparation of a new macro program, click " Compile " Button, the macro compile work. Compiled,

No error, write such a macro program is complete. When there is an error, double-click the error list, you can locate the error line.



Note: Please pay special attention to punctuation, certain punctuation in the English mode, or an error occurs, as shown below:



**21.1.2 Macro execution**

There are many different macro execution methods are explained below:

Macro program set Set point:

Control Name description	
<p><b>PLC control</b></p>	<p>allowable "PLC control " Macros used in the project as follows:</p> <p>1 ) turn on "PLC Control object table ",select " New PLC Controls ",select " control System type " for " Macro execution " .</p> <p>2 ) In " Control Properties " Select the macro name to be executed; select a place to Address as macro trigger control bit and set trigger conditions. When the conditions are met, the macro will be executed.</p> <p>3 ) Users can also choose " Only executed if the specified window open " .</p>

<p>Bit status is set</p>	<p><b>allowable " Bit status is set " Control using macros as follows:</b></p> <p>1 ) In " General Properties " page " Trigger macros " , The hook " Trigger macros " .</p> <p>2 ) Select the macro to perform. When the trigger conditions are met, select the macro</p> <p>It will be executed once.</p>
<p>Toggle</p>	<p><b>allowable " Toggle " Control using macros as follows:</b></p> <p>1 ) In " General Properties " page " Trigger macros " , The hook " Trigger macros " .</p> <p>2 ) Select the macro to perform. When the trigger conditions are met, select the macro</p> <p>It will be executed once.</p>
<p>Function keys</p>	<p><b>allowable " Function keys " Control using macros as follows:</b></p> <p>1 ) In " General Properties " page " Trigger macros " , The hook " Trigger macros " .</p> <p>2 ) Select the macro to be executed. Every click this function key, the selected macro is executed once.</p>

Use a combination of:

Methods: the association between the various controls provided bit conducting state and PLC Control information to achieve the trigger macro function. Common combinations are:

- 1 ) Using numerical input control + PLC control. (Using the value of the address input control notification)
- 2 ) Use alarm + PLC control. (Registry events also trigger notification address)

**Start MACRO Macro triggered when the window opens :**

- 1 ) Using the bit status setting control - "switch type is: When the window is open ON .
- 2 ) Using the bit status setting control - "switch type is: When the window is open OFF .

**Exit macros Macro triggered when the window is closed:**

- 1 ) Using the bit status setting control - "switch type: when the window is closed ON .
- 2 ) Using the bit status setting control - "switch type: when the window is closed OFF .

**Macro cycle Operate according to the set time**

- 1 ) Using the bit status setting control - "switch type: switch cycle, the cycle time can be provided.
- 2 ) Using a general trigger, and in the macro, use while or for Command, with delay Run macros.

**Event macro Macro trigger when the trigger conditions are met**

- 1 ) Alarm information in the registry using the event when the event notification trigger condition is satisfied with the address PLC Control trigger, a common trigger for the event ON, OFF, ON-> OFF, OFF-> ON, ==,>, <,> =, <=, <> .

2) After trigger macros written in numerical input control, input control values - "Notice to trigger cooperation PLC Control is realized.

**All references:** When a macro is referenced, "all references to" window display window and the references cited macro control name, double-clicking the mouse, brings up the macro picture window of the reference, as shown below:



## 21.2 Function Function

InoTouch Editor Macro software provides a number of functions for the PLC Data acquisition and transmission of data to PLC ,

Data processing and mathematical operation and the like.

### 21.2.1 Math Functions

#### 1) Square root operation Count

function name	Sqrt
Function signature	Sqrt (x);
Functional Description	The square root of the data source must be a positive number.
Usage example	<pre>main () { float x, result; result = Sqrt (15); x = 9.0; result = Sqrt (x);    // After execution result = 3.0 }</pre>

#### 2) Sine function

name	Sin
Function signature	Sin (x);
Functional Description	Trigonometric functions sine calculation.

Usage example	<pre>main () { float x, result;  result = Sin (90);    // After execution result = 1.0  x = 30;  result = Sin (x); // After execution result = 0.5  }</pre>
---------------	---

### 3 ) Computing the

cosine function name	Cos
Function signature	Cos (x);
Functional Description	Cosine trigonometric function.
Usage example	<pre>main () { float x, result;  result = Cos (90);    // After execution result = 0  x = 60;  result = Cos (x);    // After execution result = 0.5  }</pre>

### 4 ) Tangent operation

function name	Tan
Function signature	Tan (x);
Functional Description	Tangent trigonometric function.
Usage example	<pre>main () { float x, result;  result = Tan (45);    // After execution result = 1.0  x = 60;  result = Tan (x);    // After execution result = 1.732  }</pre>

### 5 ) Cotangent

operation function name	Cot
Function signature	Cot (x);
Functional Description	Cotangent trigonometric function.
Usage example	main ()

	<pre> { float x, result;  result = Cot (45);      // After execution result = 1.0  x = 60;  result = Cot (x);      // After execution result = 0.5774  } </pre>
--	---

**6 ) Secant operation**

<b>function name</b>	Sec
<b>Function signature</b>	Sec (x);
<b>Functional Description</b>	Inverse trigonometric calculation cut in anyway.
<b>Usage example</b>	<pre> main () { float x, result;  result = Sec (45);      // After execution result = 1.414  x = 60;  result = Sec (x);      // After execution result = 2.0  } </pre>

**7 l) cut operational**

<b>function name</b>	Csc
<b>Function signature</b>	Csc (x);
<b>Functional Description</b>	Anti inverse trigonometric cosecant calculations.
<b>Usage example</b>	<pre> main () { float x, result;  result = Csc (45);      // After execution result = 1.414  x = 30;  result = Csc (x);      // After execution result = 2.0  } </pre>

**8 ) Arc sine operation**

<b>Function name</b>	Asin
<b>Function signature</b>	Asin (x);
<b>Functional Description</b>	Inverse trigonometric arc sine in computing.
<b>Usage example</b>	<pre> main () { </pre>

	<pre>float x, result;  result = Asin (0.8660);      // After execution result = 60  x = 0.5;  result = Asin (x);        // After execution result = 30  }</pre>
--	---

#### 9 ) The inverse cosine operation

Function name	Acos
Function signature	Acos (x);
Functional Description	Inverse trigonometric functions calculate the inverse cosine.
Usage example	<pre>main ()  {  float x, result;  result = Acos (0.8660);      // After execution result = 30  x = 0.5;  result = Acos (x);        // After execution result = 60  }</pre>

#### 10 ) Arctangent operation

Function name	Atan
Function signature	Atan (x);
Functional Description	In inverse trigonometric arc tangent calculation.
Usage example	<pre>main ()  {  float x, result;  result = Atan (1);        // After execution result = 45  x = 1.732;  result = Atan (x);        // After execution result = 60  }</pre>

#### 11 ) Generates a random

number	The value of the function name
Function signature	Rand ();
Functional Description	It generates a random number.
Usage example	<pre>main ()  {  int x;  x = Rand ();        // After execution x Get a random integer  }</pre>

## 21.2.2 Data conversion functions

## 1 ) Bin2Bcd

Function name	Bin2Bcd
Function signature	Bin2Bcd (x);
<b>Functional Description</b>	will BIN Format data ( x ) Converted to BCD Format data ( result ) .
Usage example	<pre>main () { int x, result;  result = Bin2Bcd (1234);           // After execution result = 0x1234 x = 123456789;  result = Bin2Bcd (x);           // After execution result = 0x123456789 }</pre>

## 2 ) Bcd2Bin

Function name	Bcd2Bin
Function signature	Bcd2Bin (x);
<b>Functional Description</b>	will BCD Format data ( x ) Converted to Bin Format data ( result ) .
Usage example	<pre>main () { int x, result;  result = Bcd2Bin (0x1234);           // After execution result = 1234 x = 0x123456789;  result = Bcd2Bin (x);           // After execution result = 123456789 }</pre>

## 3 ) Dec2Ascii

Function name	Dec2Ascii
Function signature	<b>Dec2Ascii (x , result [], index , len);</b>
<b>Functional Description</b>	The decimal data ( x ) Converted to ASCII Data formats, and store in a char Type of one-dimensional array ( result ) In the index Specify where the starting index, len Specifies the maximum length can be stored.
Usage example	<pre>main () { int x = 5678;</pre>



	<pre> char result [4];  Dec2Ascii (x, result, 0, 4);  // After performing: //  result [0] = "5" //  result [1] = "6" //  result [2] = "7" //  result [3] = "8"  } </pre>
--	--

#### 4 ) Hex2Ascii

Function name	Hex2Ascii
Function signature	<b>Hex2Ascii (x , result [] , index , len);</b>
Functional Description	The hexadecimal data ( x) Converted to ASCII Data formats, and store in a  char Type of one-dimensional array ( result) In the index Specify where the starting index,  len Specifies the maximum length can be stored.
Usage example	<pre> main () { int x = 0x5678;  char result [4];  Hex2Ascii (x, result, 0, 4);  // After performing: //  result [0] = "5" //  result [1] = "6" //  result [2] = "7" //  result [3] = "8"  } </pre>

#### 5 ) Ascii2Dec

Function name	Ascii2Dec
Function signature	<b>Ascii2Dec (array [] , index , len);</b>
Functional Description	The character ASCII Data converted into data in decimal format. Character ASCII  Data stored in a char One-dimensional array type, the index The subscript specifies the starting operation, len  Operation specified length.
Usage example	<pre> main () { int  result;  char array [4] = { '5', '6', '7', '8'}; </pre>

	<pre> result = Ascii2Dec (array, 0, 4);  // After execution result = 5678  } </pre>
--	---

## 6 ) Ascii2Hex

Function name	Ascii2Hex
Function signature	<b>Ascii2Hex (array [], index , len);</b>
<b>Functional Description</b>	<p>The character ASCII Data into hexadecimal data format. Character ASCII</p> <p>Data stored in a char One-dimensional array type, the index The subscript specifies the starting operation, len</p> <p>Operation specified length.</p>
Usage example	<pre> main ()  {  int   result;      char array [4] = { '5', '6', '7', '8'};  result = Ascii2Hex (array, 0, 4);  // After execution result = 0x5678  } </pre>

### 21.2.3 Data manipulation functions

## 1 ) Fill

Function name	Fill
Function signature	<b>void Fill (val , result [], index , len);</b>
<b>Functional Description</b>	<p>The value val Placed into a one-dimensional array result By the subscript index Continuous start len More</p> <p>Location. among them, type It can be any arithmetic type (except void ).</p>
Usage example	<pre> main ()  {  bool b = false;  bool ba [4];  char c = 'M';      char ca [4];  short s = 9;      short sa [4];  int   i = 9;      int   ia [4];  float  f = 3.14;      float  fa [4];  double d = 3.14;      double da [4]; </pre>

```

Fill (true, ba, 0, 4);

// After performing:   ba [0] = true, ba [1] = true
//                   ba [2] = true, ba [3] = true

Fill (b, ba, 1, 2);

// After performing:   ba [1] = false, ba [2] = false

Fill ( 'a', ca, 0, 4);

// After performing:   ca [0] = "a", ca [1] = "a"
//                   ca [2] = "a", ca [3] = "a"

Fill (c, ca, 1, 2);

// After performing:   ca [1] = "M", ca [2] = "M"

Fill (6, sa, 0, 4);

// After performing:   sa [0] = 6, sa [1] = 6
//                   sa [2] = 6, sa [3] = 6

Fill (s, sa, 1, 2);

// After performing:   sa [1] = 9, sa [2] = 9

Fill (6, ia, 0, 4);

// After performing:   ia [0] = 6,   ia [1] = 6
//                   ia [2] = 6,   ia [3] = 6

Fill (i, ia, 1, 2);

// After performing:   ia [1] = 9,   ia [2] = 9

Fill (6.18, fa, 0, 4);

// After performing:   fa [0] = 6.18, fa [1] = 6.18
//                   fa [2] = 6.18, fa [3] = 6.18

Fill (f, fa, 1, 2);

// After performing:   fa [1] = 3.14, fa [2] = 3.14

Fill (6.18, da, 0, 4);

// After performing:   da [0] = 6.18, da [1] = 6.18
//                   da [2] = 6.18, da [3] = 6.18

Fill (d, da, 1, 2);

// After performing:   da [1] = 3.14, da [2] = 3.14

}

```

## 2 ) SwapByte

Function name	SwapByte
Function signature	SwapByte (x);
Functional Description	One 16 Bit word nibbles reversed.
Usage example	main ()

	<pre> { short x, result;  result = SwapByte (0x1234);           // After execution result = 0x3412  x = 0x123;  result = SwapByte (x);               // After execution result = 0x2301  } </pre>
--	---

### 3 ) SwapWord

Function name	SwapWord
Function signature	SwapWord (x);
<b>Functional Description</b>	One 32 High-bit double word integer data and the low word upside down.
Usage example	<pre> main ()  {  int x, result;  result = SwapWord (0x12345678);  // After execution result = 0x56781234  x = 0x12345;  result = SwapWord (x);  // After execution result = 0x23450001  } </pre>

### 4 ) LoByte

Function name	LoByte
Function signature	LoByte (x);
<b>Functional Description</b>	Get a 16 Low bit data byte.
Usage example	<pre> main ()  {  short x, result;  result = LoByte (0x1234);           // After execution result = 0x34  x = 0x123;  result = LoByte (x);               // After execution result = 0x23  } </pre>

### 5 ) HiByte

Function name	HiByte
Function signature	HiByte (x);
<b>Functional Description</b>	Get a 16 High byte of data bits.

<b>Usage example</b>	<pre> main () { short x, result;  result = HiByte (0x1234);           // After execution result = 0x12  x = 0x123;  result = HiByte (x);           // After execution result = 0x01  } </pre>
----------------------	---

## 6 ) LoWord

<b>Function name</b>	LoWord
<b>Function signature</b>	LoWord (x);
<b>Functional Description</b>	Get a 32 Low-bit data word.
<b>Usage example</b>	<pre> main () { int x, result;  result = LoWord (0x12345678);       // After execution result = 0x5678  x = 0x12345;  result = LoWord (x);           // After execution result = 0x2345  } </pre>

## 7 ) HiWord

<b>Function name</b>	HiWord
<b>Function signature</b>	HiWord (x);
<b>Functional Description</b>	Get a 32 High-bit data word.
<b>Usage example</b>	<pre> main () { int x, result;  result = HiWord (0x12345678);       // After execution result = 0x1234  x = 0x12345;  result = HiWord (x);           // After execution result = 0x0001  } </pre>

### 21.2.4 Bit state transition function

## 1 ) GetBit

<b>Function name</b>	GetBit
<b>Function signature</b>	GetBit (x , offset);

<b>Functional Description</b>	Get a 32 Status bits specified data, offset = 0 It represents the least bit.
<b>Usage example</b>	<pre> main () {     bool    result;      int x, offset;      result = GetBit (9, 3);           // After execution result = true      x = 4, offset = 2;      result = GetBit (x, offset);     // After execution result = true  } </pre>

## 2 ) SetBitOn

<b>Function name</b>	SetBitOn
<b>Function signature</b>	<b>SetBitOn (x , offset);</b>
<b>Functional Description</b>	One 32 Specifies the bit to bit data 1 , offset = 0 It represents the least bit.
<b>Usage example</b>	<pre> main () {     int    result;      int x, offset;      result = SetBitOn (1, 3);        // After execution result = 9      x = 0, offset = 2;      result = SetBitOn (x, offset);  // After execution result = 4  } </pre>

## 3 ) SetBitOff

<b>Function name</b>	SetBitOff
<b>Function signature</b>	<b>SetBitOff (x , offset);</b>
<b>Functional Description</b>	One 32 Specifies the bit to bit data 0 , offset = 0 It represents the least bit.
<b>Usage example</b>	<pre> main () {     int    result;      int x, offset;      result = SetBitOff (9, 3);      // After execution result = 1      x = 4, offset = 2;      result = SetBitOff (x, offset); // After execution result = 0  } </pre>

## 4 ) ReverseBit

Function name	ReverseBit
Function signature	<b>ReverseBit (x , offset);</b>
<b>Functional Description</b>	One 32 Specified bit-reversed bit data, offset = 0 It represents the least bit.
Usage example	<pre>main () {     int result;      int x, offset;      result = ReverseBit (4, 1); // After execution result = 6      x = 6, offset = 1;      result = ReverseBit (x, offset);           // After execution result = 4 }</pre>

#### 21.2.5 Communication-related functions

##### 1 ) Delay

Function name	Delay
Function signature	Delay (ms);
<b>Functional Description</b>	Let macro is suspended at least the specified time (in milliseconds).
Usage example	<pre>main () {     int ms = 500;      Delay (100);           // delay 100 ms      Delay (ms);           // delay 500 ms }</pre>

##### 2 ) AddSum

Function name	AddSum
Function signature	<b>AddSum (array [], index , len);</b>
<b>Functional Description</b>	Checksum calculation and accumulation ( checksum) . Check data to be stored in a char Types of The one-dimensional array, by the index Specify a checksum starting index, len Verification of specified length.
Usage example	<pre>main () {     int checksum;      char array [5] = {0x01, 0x02, 0x03, 0x04, 0x05};      checksum = AddSum (array, 0, 5);      // After execution checksum = 0x0f }</pre>

**3 ) XorSum**

Function name	XorSum
Function signature	<b>XorSum (array [], index , len);</b>
Functional Description	XOR checksum calculation ( checksum) . Check data to be stored in a char Types of  The one-dimensional array, by the index Specify a checksum starting index, len Verification of specified length.
Usage example	<pre>main () { int checksum;  char array [5] = {0x01, 0x02, 0x03, 0x04, 0x05};  checksum = XorSum (array, 0, 5);  // After execution checksum = 0x01 }</pre>

**4 ) CrcSum**

Function name	CrcSum
Function signature	<b>CrcSum (array [], index , len);</b>
Functional Description	Compute 16-bits CRC Checksum ( checksum) . Check data to be stored in a  char One-dimensional array type, the index Specify a checksum starting index, len  Verification of specified length.
Usage example	<pre>main () { short checksum;  char array [5] = {0x01, 0x02, 0x03, 0x04, 0x05};  checksum = CrcSum (array, 0, 5);  // After execution checksum = 0xbb2a }</pre>

**5 ) Get**

Function name	Get
Function signature	<b>Get (device , addt , addr , type);</b>
Functional Description	From the specified device, specifies the address type, reads the specified address of a specified type  according to. among them, type-name It can be any arithmetic type names (except void ), For storing data in  the format specified.
Usage example	main ()



```

{
    bool b;

    char c;

    short s;

    int i;

    float f;

    double d;

    // Slave " H2U " Read M0
    b = Get ( "H2U", M, 0, bool);

    // Slave " H2U " Read D0 Low byte
    c = Get ( "H2U", D, 0, char);

    // Slave " H2U " Read D0, And interpreted as short
    s = Get ( "H2U", D, 0, short);

    // Slave " H2U " Read D0 ~ D1, And interpreted as int
    i = Get ( "H2U", D, 0, int);

    // Slave " H2U " Read D0 ~ D1, And interpreted as float
    f = Get ( "H2U", D, 0, float);

    // Slave " H2U " Read D0 ~ D3, And interpreted as double
    d = Get ( "H2U", D, 0, double);

}

```

## 6 ) GetBlock

Function name	GetBlock
Function signature	<b>GetBlock (device , addt , addr , target [], index , len);</b>
Functional Description	Continuously read from the specified device address type specified, the specified address len A specified type of data;  Data stored in a one-dimensional array target [index] To target [index + len-1] Area. among them, type It can be any arithmetic type (except void ).
Usage example	main ()  { bool b [3];  char c [3];  short s [3];  int i [3];  float f [3];  double d [3];  // Slave " H2U " of M0 ~ M2 Read the data into an array b  GetBlock ( "H2U", M, 0, b, 0, 3); }

	<pre> // Slave " H2U " of D0 ~ D1 ( Low Byte) data is read into an array c GetBlock ( "H2U", D, 0, c, 0, 3);  // Slave " H2U " of D0 ~ D2 Read the data into an array s ,Interpreted as short format GetBlock ( "H2U", D, 0, s, 0, 3);  // Slave " H2U " of D0 ~ D5 Read the data into an array i ,Interpreted as int format GetBlock ( "H2U", D, 0, i, 0, 3);  // Slave " H2U " of D0 ~ D5 Read the data into an array f ,Interpreted as float format GetBlock ( "H2U", D, 0, f, 0, 3);  // Slave " H2U " of D0 ~ D8 Read the data into an array d ,Interpreted as double format GetBlock ( "H2U", D, 0, d, 0, 3);  } </pre>
--	---

## 7 ) Set

Function name	Set
Function signature	<b>Set (device , addt , addr , val);</b>
Functional Description	To the specified device, specifies the address type, writes a specified address of the specified type according to. among them, type It can be any arithmetic type (except void ).
Usage example	<pre> main () {     bool b1 = true, b2 = false;     char c = 'c';     short s = 999;     int    i = 999999;     float  f = 3.14;     double d = 3.1415926;      // To the device " H2U " of M0 Write b1 The value     Set ( "H2U", M, 0, b1);      // To the device " H2U " of M [0: a] Write b2 The value     Set ( "H2U", M, 0: a, b2);      // To the device " H2U " of D Writing the low byte c The value     Set ( "H2U", D, 0, c);      // To the device " H2U " of D Write s, Save as short format     Set ( "H2U", D, 0, s);      // To the device " H2U " of D0 ~ D1 Write i, Save as int format     Set ( "H2U", D, 0, i);      // To the device " H2U " of D0 ~ D1 Write f Save as float format     Set ( "H2U", D, 0, f); </pre>

	<pre>// To the device " H2U " of D0 ~ D3 Write d, Save as double format Set ( "H2U", D, 0, d); }</pre>
--	--

### 8 ) SetBlock

Function name	SetBlock
Function signature	<b>SetBlock (device , addt , addr , source [], index , len);</b>
Functional Description	<p>is written to the specified device, specifies the address type, designated addresses are consecutive len Designated class</p> <p>Type data; write data to be stored in a one-dimensional array source [index] To source [index + len-1] Area. among them, type It can be any arithmetic type (except void ).</p>
Usage example	<pre>main () {     bool b1 [3] = {true, true, false};     char c [3] = { 'a', 'b', 'c'};     short s [3] = {10, 20, 30};     int   i [3] = {1000, 2000, 3000};     float  f [3] = {0.1, 0.2, 0.3};     double d [3] = {0.01, 0.02, 0.03};      // To the device " H2U " of M0 ~ M2 Write array b1     SetBlock ( "H2U", M, 0, b1, 0, 3);      // To the device " H2U " of M [0: a ~ c] Write array b1     SetBlock ( "H2U", M, 0: a, b1, 0, 3);      // To the device " H2U " of D0 ~ D1 ( Low byte) is written array c     SetBlock ( "H2U", D, 0, c, 0, 3);      // To the device " H2U " of D0 ~ D2 Write array s, Save as short format     SetBlock ( "H2U", LW, 0, s, 0, 3);      // To the device " H2U " of D0 ~ D5 Write array i, Save as int format     SetBlock ( "H2U", D, 0, i, 0, 3);      // To the device " H2U " of D0 ~ D5 Write array f, Save as float format     SetBlock ( "H2U", D, 0, f, 0, 3);      // To the device " H2U " of D0 ~ D8 Write array d, Save as double format     SetBlock ( "H2U", D, 0, d, 0, 3); }</pre>

**AsynTriMacro**

Function name	AsynTriMacro
Function signature	AsynTriMacro (id);
Functional Description	Asynchronously triggered to id Specified macro. Without waiting for completion of the specified macro execution Complete, continue with the rest of the macro instruction. id If the current macro call is invalid.
Usage example	<pre>main () { short s = 0;  AsynTriMacro (3);      // Asynchronous trigger id = 3 Macros  // Without waiting for the operating environment to ensure id = 3 The macro is finished, execute the following statement immediately  s ++; }</pre>

**21.3 Macro syntax****21.3.1 Language reserved words**

Reserved word as the name refers not allow users to declare any form of identifier. Including keywords and other non-specific keywords.

**1 ) Keyword ( 20 A)**

bool	break	case	char	continue
default	do	double	else	false
float	for	if	int	return
short	switch	true	void	while

**2 ) Non-key primary function**

name "Main" . Identifier

In language, the identifier is a variable name as a user in the form of a declaration, the array name, function names appear. Macro language identifier is

received in addition to any sequence of characters reserved words satisfies the following conditions:

Start with a letter or an underscore, followed by any number of letters, numbers or an underscore. For

example:

**Id , S300 , \_m\_func , Like ... main , for , while** These reserved words are not used as the identifier of

the user.



- b. Simple declaration and initialization:           short       s = 100;
- c. Series statement:                               short       s1, s2, s3;
- d. Series declare and initialize:               short       s1 = 1, s2 = 20, s3 = 300;
- e. Declare and initialize part series: short                       s1, s2 = 1024, s3;

### 3 ) Array

Using arrays also follows " After the first use statement " rule. The need to use an array access operator "[]" Starting a predetermined array and

for 0 , For example as follows:

① Users can declare arrays by any of the following ways:

- a. One-dimensional statement:               short       s [3];
- b. Declare and initialize a one-dimensional:   short       **s [3] = {1 , 2 , 3};**

② Initialized as follows:

```
short     array [3] = {1,2,3};                // Declare and initialize a one-dimensional array
```

...

```
array [0] = 20;                               // The value is set to the first element 20
```

## 21.3.3 Operators

### 1 ) Arithmetic Operators

Operators	Features	usage
+	unary plus (One yuan plus)	+ Expr
-	unary minus (Unary minus sign)	- expr
*	multiplication (multiplication)	expr * expr
/	division (division)	expr / expr
%	remainder (Remainder)	expr% expr
+	addition (addition)	expr + expr
-	subtraction (Subtraction)	expr - expr

### 2 ) Bitwise operator

Operators	Features	usage
~	bitwise NOT (Bit inversion)	~ Expr
<<	left shift (Left)	expr1 << expr2
>>	right shift (Right)	expr1 >> expr2
&	bitwise AND (Bits of)	expr1 & expr2
^	bitwise XOR (Bitwise exclusive or)	expr1 ^ expr2

	bitwise OR (Or bits)	expr1   expr2
--	----------------------	---------------

### 3 ) Relational Operators

Operators	Features	usage
<	less than (Less than)	expr < expr
<=	less than or equal (Or less) expr <= expr	
>	greater than (more than the)	expr > expr
>=	greater than or equal (greater or equal to) expr >= expr	
==	equality (equal)	expr == expr
!=	inequality (Unequal)	expr != expr

### 4 ) Logical Operators

Operators	Features	usage
!	logical NOT (Logical negation)	! Expr
&&	logical AND (Logical AND)	expr && expr
	logical OR (Logical OR)	expr    expr

### 5 ) Compound assignment operator & Assignment

Operators	Features	usage
=	assignment (Assignment)	lvalue = expr
* =	assignment multiplication (Multiplication assignment) lvalue * = expr	
/ =	assignment division (Division assignment)	lvalue / = expr
% =	assignment remainder (Modulo assignment)	lvalue % = expr
+ =	assignment addition (Addition assignment)	lvalue + = expr
- =	assignment subtraction (Subtraction assignment)	lvalue - = expr
<< =	assignment left shift (Assignment left)	lvalue << = expr
>> =	assignment right shift (Assignment right)	lvalue >> = expr
& =	assignment bitwise AND (Assignment bits of) lvalue & = expr	
^ =	assignment bitwise XOR (Assignment bit XOR) lvalue ^ = expr	
=	assignment bitwise OR (Assignment or position)	lvalue   = expr

### 6 ) & Increment and decrement

Operators	Features	usage
++	postfix increment (After the increment operation)	lvalue ++
--	postfix decrement (Since subtraction)	lvalue --

++	prefix increment (Pre-increment operator)	++ Lvalue
--	prefix decrement (Before subtraction from)	-- lvalue

7 ) Conditional operator

Operators	Features	usage
?:	conditional (Operating Conditions)	expr expr:? expr

8 ) Comma operator

Operators	Features	usage
,	comma (comma)	expr, expr

9 ) Subscript operator

Operators	Features	usage
[]	subscript (Subscript)	variable [expr]

10 ) Function call operation As a symbol

Operators	Features	usage
()	function call (Function calls)	name (expr_list)

## 21.3.4 Statement

## 1 ) Conditional statement: if

## a. Without else Branch if Statement

syntax:

```

if (a > b)                // judgment a is greater than b
    b = a;                // in case if Conditions are satisfied, put a Value assigned b

```

## b . band else Branch if Statement

syntax:

```

if (a > b)                // judgment a is greater than b
    b = a;                // in case if Conditions are satisfied, put a Value assigned b
else                       // Condition is not satisfied
    a = b;                // in case if Condition is not satisfied, put b Value assigned a

```

## c . Overhang else Semantic Description

```

if (a > b)                // judgment a > b
{
    if (a > c)            // in a > b Conditions, and then determines a > c
        b = a;          // in case a > b And a > c , Put the a Value assigned b
}

```



```

else                                     // in case a> b but a!> c
    c = a;                               // in case a> b And a!> c , Put the a Value assigned c
}

```

Namely: else Not yet appear to match last matches if Clause. By introducing a block statement, to change this default mapping rules:

```

if (a> b)                                // judgment a> b condition
{
    if (a> c)                             // judgment a> c
        c = a;                           // in case a> b And a> c Put a Value assigned c
    }
else                                       // in case a!> b
{
    b = a;                                // in case a!> b, The a Value assigned b
}

```

## 2 ) Switch statement: switch

Syntax:

```

switch (a)                               // Select a variable a
{
    case 1:                               // judgment a == 1
        b = 1 ;                           // in case a == 1 Put 1 Assigned b
        break;                             // End

    case 2:                               // judgment a == 2
        b = 2 ;                           // in case a == 2 Put 2 Assigned b
        break;                             // End

    ...

    case n:                               // judgment a == n
        b = n ;                           // in case a == n Put n Assigned b
        break;                             // End

    default:                              // a Not the same as the above equation
        b = 10 ;                          // The 10 Assigned b
        break;                             // End
}

```

## 3 )loop statement: while / do-while / for

## a. while Syntax:

```

while (a == 1)                // Determine whether a == 1
    b = 1 ;                  // The condition is met 1 Value assigned b

```

## b. do-while Syntax:

```

do
    b = 1                    // Started to 1 Value assigned b
while (a == 1) ;           // judgment a Whether == 1 It is proceed do

```

**while Statements and do-while** There are two different statements: ① do-while Statement to ensure the loop body at least once. ② with while Different statements, do-while Always statement with a semicolon ";" End.

## c. for Syntax:

```

for (i == 0, i <10, i ++ )    // He began to 0 Value assigned i Variable, judge i It is less than 10 , The following is true instruction is executed,
                             // executed after the i From Canada 1
    a = a ++ ;               // On i <10 Set up a From Canada 1

```

## 4 ) Jump statement: break

Syntax:

```
break ;
```

**break** The end of the most recent statement while , do-while , for or switch Transfer executive power statement and program to be terminated immediately after the statement statement.

**break Statement** has the following features aspects: ① can only appear in circulation or switch Structure, or appear within the circulation or switch Structure in the statement. ② only included directly termination break of switch Or loop, and the outer layer switch Or circulation is not affected. ③ executive powers transferred to the program is terminated switch Or the cycle of the first statement after the statement.

## 5 )function

a . Declarations and

definitions syntax:

```

Type Name (parameter_list)
{
    statement_list
}

```

**Function name** from the function Name And a clear set of operand types parameter\_list Uniquely represent, structure, function by function header and body composition. Operand of a function, the function is called " Parameter " In statement parentheses, separated by a comma parameter.



Arithmetic function executed in a called "Function body" Block definition statement. Each function must specify an explicit return type

Type .

b . Function call

syntax:

Name (argument \_list) ; Using a function call operator "(" Realize the function call. As with other operator, the operator needs to call operands and produces a result. Operand is a function call operator name Name And a set (possibly empty) arguments separated by commas argument

\_list . Results type function call is a function of the type of the return value, the result of the operation itself is the return value of the function.

Function calls to do two things: transferred to the called function with the corresponding argument parameter initialization function, and control. The calling function execution is suspended, the called function started. Running the function to start (implicit) parameter is defined and initialized.

Function calls required number of arguments must be the same as the shape parameter number. And, from left to right, each argument type automatic conversion parameter forming. Argument can be any expression, including function calls, but can not return type void Function calls. Example functions:

```
Short Name (x)                                // Function declarations
{
    x ++ ;                                    // The main function calls x From Canada 1
}

Main ()
{
    Short x = 1;                             // The definition of a variable x And assigned to 1
    x = Name (x);                             // transfer Name This function and the value assigned to the call x
                                                // After calling the function x Since value added 1 The return value is 2 Assigned to x
}
```

## 21.4 Macro example

### 21.4.1 A write bit value

1)From LB0 Reading a bit value, and writes the bit value LB100

```
main ()
{
    bool b;
    // Read
    b = Get ( "Local HMI", LB, 0, bool);
    // Write
```

```

    Set ( "Local HMI", LB, 100, b);
}
2) From LW_BIT [0: a] Reading a bit value, and writes the bit value LW_BIT [100: b]

```

```

main ()
{
    bool b;
    // Read
    b = Get ( "Local HMI", LW_BIT, 0: a, bool);
    // Write
    Set ( "Local HMI", LW_BIT, 100: b, b);
}

```

#### **21.4.2 Write a 16 Bit integer**

**From LW0 Read a 16 Bit integer, and the 16 Bit integer to the LW100**

```

main ()
{
    short s;
    // Read
    s = Get ( "Local HMI", LW, 0, short);
    // Write
    Set ( "Local HMI", LW, 100, s);
}

```

#### **21.4.3 Write a 32 Bit integer**

**From LW0 ~ LW1 Read a 32 Bit integer, and the 32 Bit integer to the LW100 ~ LW101**

```

main ()
{
    int i;
    // Read
    i = Get ( "Local HMI", LW, 0, int);
    // Write
    Set ( "Local HMI", LW, 100, i);
}

```

#### **21.4.4 Write a 32 Bit floating point**

**From LW0 ~ LW1 Read a 32 Bit floating-point, and the 32 Bit floating-point numbers written LW100 ~ LW101**

```

main ()

```



```
{  
    float f;  
    // Read  
    f = Get ( "Local HMI", LW, 0, float);  
    // Write  
    Set ( "Local HMI", LW, 100, f);  
}
```

#### **21.4.5 Read and write 3 Bit values**

**1) From LB0 ~ LB2 Read 3 Bit values, and writes the LB100 ~ LB102**

```
main ()  
{  
    bool ba [3];  
    // Read  
    GetBlock ( "Local HMI", LB, 0, ba, 0, 3);  
    // Write  
    SetBlock ( "Local HMI", LB, 100, ba, 0, 3);  
}
```

**2) From LW\_BIT [0: a ~ c] Read 3 Bit values, and writes the LW\_BIT [100: b ~ d]**

```
main ()  
{  
    bool ba [3];  
    // Read  
    GetBlock ( "Local HMI", LW_BIT, 0: a, ba, 0, 3);  
    // Write  
    SetBlock ( "Local HMI", LW_BIT, 100: b, ba, 0, 3);  
}
```

#### **21.4.6 Read and write 3 More 16 Bit integer**

**From LW0 ~ LW2 Read 3 More 16 Bit integer, and writes to LW100 ~ LW102**

```
main ()  
{  
    short sa [3];  
    // Read  
    GetBlock ( "Local HMI", LW, 0, sa, 0, 3);  
}
```

```

// Write
SetBlock ("Local HMI", LW, 100, sa, 0, 3);
}

```

#### 21.4.7 Read and write 3 More 32 Bit Integer

From LW0 ~ LW5 Read 3 More 32 Bit integer, and writes to LW100 ~ LW105

```

main ()
{
    int    ia [3];

    // Read
    GetBlock ("Local HMI", LW, 0, ia, 0, 3);

    // Write
    SetBlock ("Local HMI", LW, 100, ia, 0, 3);
}

```

#### 21.4.8 Read and write 3 More 32 Bit floating point

From LW0 ~ LW5 Read 3 More 32 Bit floating-point number, and write to LW100 ~ LW105

```

main ()
{
    float  fa [3];

    // Read
    GetBlock ("Local HMI", LW, 0, fa, 0, 3);

    // Write
    SetBlock ("Local HMI", LW, 100, fa, 0, 3);
}

```

#### 21.4.9 Read and write 6 Characters

From LW0 ~ LW2 Read 6 Characters, and write to LW100 ~ LW102

```

main ()
{
    char ca [6];

    // Read
    GetBlock ("Local HMI", LW, 0, ca, 0, 6);

    // Write
    SetBlock ("Local HMI", LW, 100, ca, 0, 6);
}

```

#### 21.4.10 Cumulative



The following program 1 Sec i Cumulative time, results 32 To form output bit integer LW0 ~ LW1 The program will continue to run for an hour.

```
main ()
{
    int i;
    for (i = 0; i < 3600; i++) // Cycle execution 3600 Secondary
    {
        Set ("Local HMI", LW, 0, i); // will i The values are stored LW0
        Delay (1000); // Each cycle delay 1000ms
    }
}
```

#### 21.4.11 function

The following program demonstrates a custom function reverse () will 32 Bit integer of four bytes in the memory of the machine sequentially reversed, the results are LW0

~ LW1 Stores 0x78563412 .

```
int reverse (int i) // Defined Functions
{
    i = SwapWord (i);
    return SwapByte (HiWord (i)) << 16 | SwapByte (LoWord (i)) & 0xffff; // reverse 32 Digit
}
main ()
{
    int i = 0x12345678; // Variable assignment
    i = reverse (i); // Call functions reverse And the value reached i Variable
    Set ("Local HMI", LW, 0, i); // After the call i Value is written LW0 The register
}
```

#### 21.4.12 cycle

The following program 1 A second inspection LB0 Bit value that, if ON , Then 16 Is written to the bit random integer LW0 Out of the loop and the end of the program;

otherwise continue next inspection.

```
main ()
{
    bool b;
    short s;
    // Watch Cycle
    while (true)
    {
        // Read LB0
    }
}
```

```

b = Get ( "Local HMI", LB, 0, bool);
// If ON
if (b)
{
    // generate 16 Bit random integer
    s = Rand ();
    // Write to LWO
    Set ( "Local HMI", LW, 0, s);
    // Out of the loop
    break;
}
// Delay 1 second
Delay (1000);
}
}

```

#### 21.4.13 factorial

The program calculates the following positive integer 9 Factorial, results 32 To form output bit integer LW0 ~ LW1

```

int fac (int n)
{
    if (n <2)
        return 1;
    return n * fac (n-1);
}
main ()
{
    int i = fac (9);
    Set ( "Local HMI", LW, 0, i);
}

```

**// Special Note: integer type is specified constants int (32bit) ; Float type constants defined as double (64bit) .**

```

main ()
{
    short s = 99;
    float f = 3.14;
    // 16 Bit integer s Write LWO
    Set ( "Local HMI", LW, 0, s);
}

```



```

// 32 Bit integer constant 99 Write LW0 ~ LW1
Set ( "Local HMI", LW, 0, 99);

// 32 Bit floating point f Write LW0 ~ LW1
Set ( "Local HMI", LW, 0, f);

// 64 Bit floating-point constants 3.14 Write LW0 ~ LW3
Set ( "Local HMI", LW, 0, 3.14);
}

```

## 21.5 Examples of applications

### 21.5.1 Negative values are read

Function: the value read apparatus are negative. Macro as

follows:

```

main ()
{
    short a, b;

    a = Get ( "Modbus_RTU", dev_6x, 17222, short);           // Setting a register value read
    if (a > 0)                                                // Negative determination value
        b = a * (- 1);                                       // As a regular write is negative
    else                                                       // If negative
        b = a;                                               // Direct assignment
    Set ( "Modbus_RTU", dev_6x, 17222, b);                   // Write register value
}

```

### 21.5.2 Use macro control inverter start-stop function

As shown, may be macro manual reversing operation by the host and start automatically.



Manual operation:

Forward: The True Story of operation of the frequency converter

```
main ()
{
    Set ( " Inverter " dev_6x, 8192,3); // Set the drive start address, a True Story starts.
}
```

Stop: to stop the inverter operation

```
main ()
{
    Set ( " Inverter " dev_6x, 8192,5); // Set the drive start address, be stopped.
}
```

Auto: Set the total time after the host is running, click the Start button, the host automatically runs after the set time is reached, automatic stop

running.

```
main ()
{
    bool    lb0, lb11, lb2, l = 1, b = 0;
    short   lw0, rw0, rw1, rw2, y1 = 16, y2 = 0;
    int     lw1, lw2, lw3;
    // Initializing read values
    lb0 = Get ( "Local HMI", LB, 0, bool);           // Assignment
    rw0 = Get ( "Local HMI", RW, 0, short);         // Inverter set time
    Set ( " Inverter " dev_6x, 2050, lw1);
    Set ( "Local HMI", LW, 3,0);                     // Count clear
```

```

for (; lb0 == 1;) // Cycle start
{
    lw0 = Get ("Local HMI", LW, 0, short); // Read time
    lw3 = Get ("Local HMI", LW, 3, int); // Read time
    if (lw3 >= 20) // Judgment before 20 second
    Set (" Inverter " dev_6x, 772, y1); // before 20s frequency conversion
    if (lw0 >= rw0 * 60) // Frequency determine whether the arrival time
    {
        Set (" Inverter " dev_6x, 8192,5); // Time to stop frequency
        Set ("Local HMI", LB, 0, b); // Automatic switching Manual
        Set ("Local HMI", LW, 0,0); // Count clear
    }
    lb0 = Get ("Local HMI", LB, 0, bool); // Determining whether the manual stopping operation.
}

Set (" Inverter " dev_6x, 8192,5); // Frequency Shutdown
Set (" Inverter " dev_6x, 772, y2); // Frequency Shutdown
}

```

### 21.5.3 Use of macros to change the magnitude of voltage and current Found

Function, the read voltage Found up into ten, times the current reduced found.



Macro as follows:

```

main ()
{
    short a, b;
    // Initializing read values
    while (1)
    {
        // Voltage reading
        a = Get ("Local HMI", LW, 50, short);
        // Value read current
        b = Get ("Local HMI", LW, 51, short);
        // Voltage amplification 10 Time
    }
}

```

```
Set ("Local HMI", LW, 52, a * 10);  
  
// Reduce the current value 10 Time  
  
Set ("Local HMI", LW, 53, b / 10);  
  
}  
  
}
```



Penetration of communication

---

## Chapter XXII Penetration of communication

InoTouch Editor Software provides penetration communication, is used on a computer PLC Programming software,

By man-machine interface connected computer, connected to the connection with the man-machine interface PLC on. In this way, you can

**Monitoring, or upload, download PLC program of. at this time, InoTouch series HMI Play the role of a converter.**

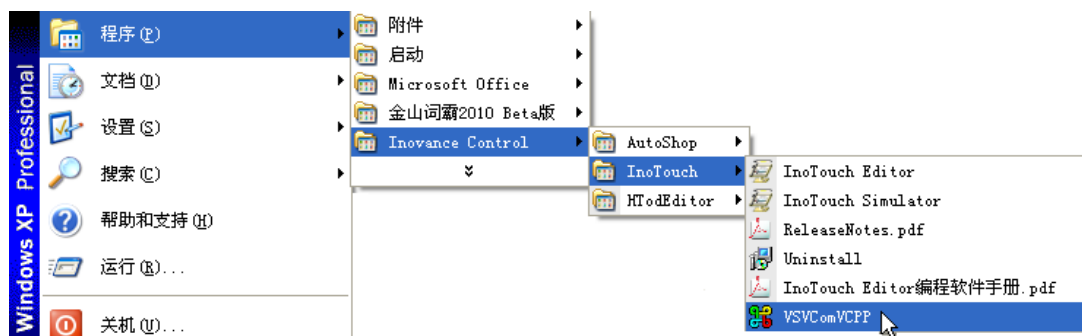
Communication penetration, penetration into communication serial connection and an Ethernet (virtual serial port) penetrate the two communication

Ways.

### 22.1 Software tool penetration

installation InoTouch Editor V1.10 Or updated version of the software, use the mouse to click " Start / Programs / Inovance

Control / Inotouch / VSVComVCP " :



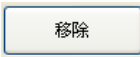
Click VSVComVCP You can open the user interface, As shown below:



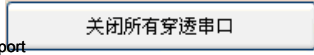
1 ) Add button serial devices



A list of serial devices, after the addition is completed, it will appear as shown above.



2) Button to remove the serial driver  It will unload the installed serial port driver.



3) Button to close the serial port  Click this button to close all penetrate serial ports; closes all

It has started penetrating the serial port.

4) A list of serial devices

Serial display apparatus installed, double click on serial numbers may be provided to open communication penetration page.

串口号	设备名称
COM3	\\Device\AdenWDMDevice3

## 22.2 Description With

1) HMI Communication options: Ethernet and can be divided into USB In two ways. As shown below:

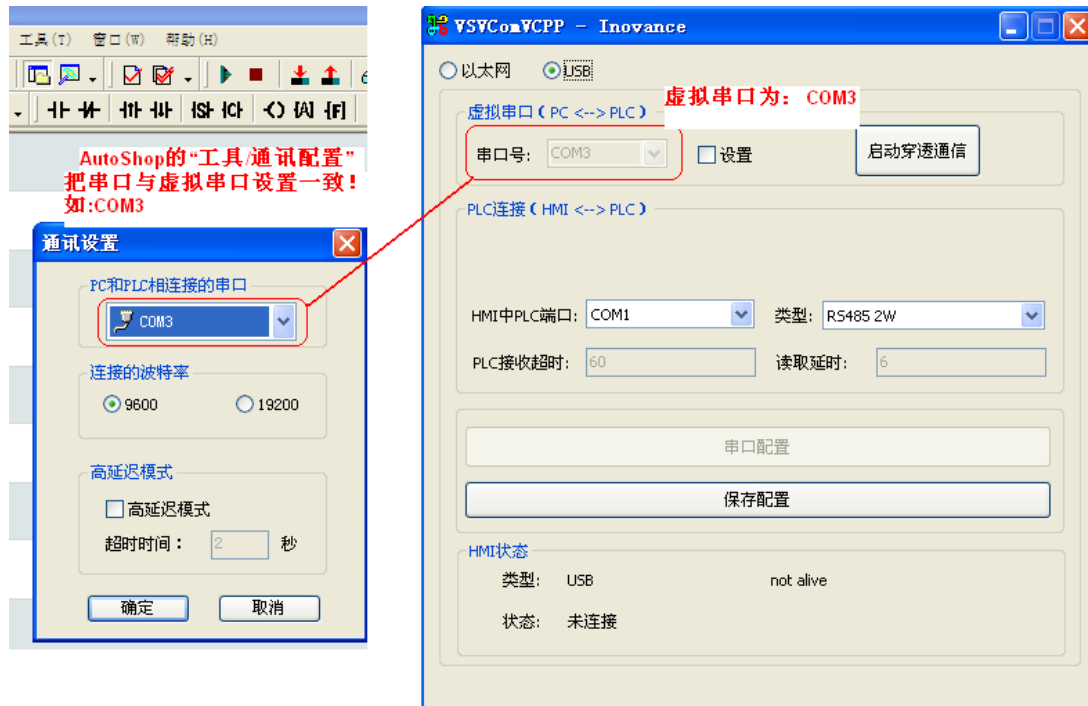


2) Native PLC Serial debugging software used

After installing the driver, a virtual serial port is automatically configured as an active serial port. The default value does not need to be changed. virtual COM slogan

Must PLC The interface is consistent. To see PLC Serial number, click AutoShop Toolbar " Tools / communication configuration ", Such as pop-up

Under the dialog box:



### 3 ) HMI Penetrating start

Click the following figure " Start penetrate Communications " Button, you can see the normal start HMI The status bar displays "HMI connected ",representative

connection succeeded.





4 ) Setting connection parameters

HMI IP Port: is HMI Network communication IP And ports. The rear port can select the type of communication protocol, TCP or

UDP .

HMI in PLC port: This port is PLC Connected HMI The serial number on.

The prepared parameters, by " Save Configuration " Button, the configured parameters are saved to the configuration file, the next software start

Moving automatically saved application configuration parameters.



Normal connection HMI Rear, PLC Background serial devices can be used to start directly with PLC Communication.

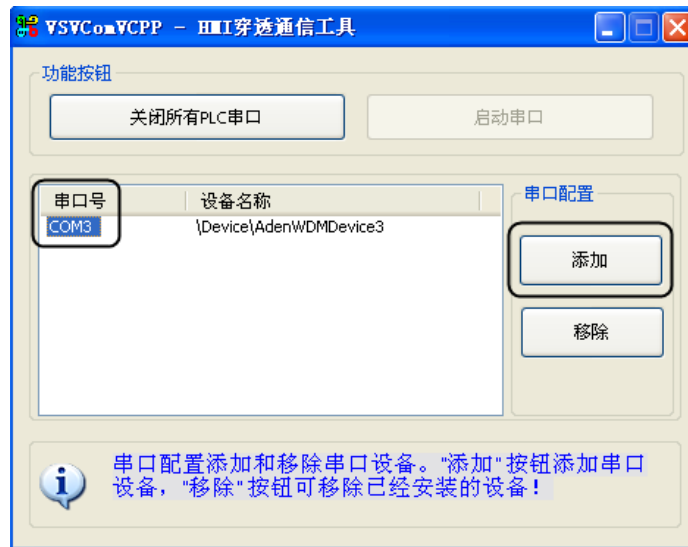
**note:** HMI versus PLC In the process of penetration, only one function to communicate. For example penetrating monitoring PLC data, HMI

I can not read it PLC Value.

## 22.3 Penetration illustration

example 1 :use USB Mouth and HMI penetrate.

step 1 :turn on VSVComVCP Software; click " Add to " , Automatically add a serial port "COM3" ,As shown below:



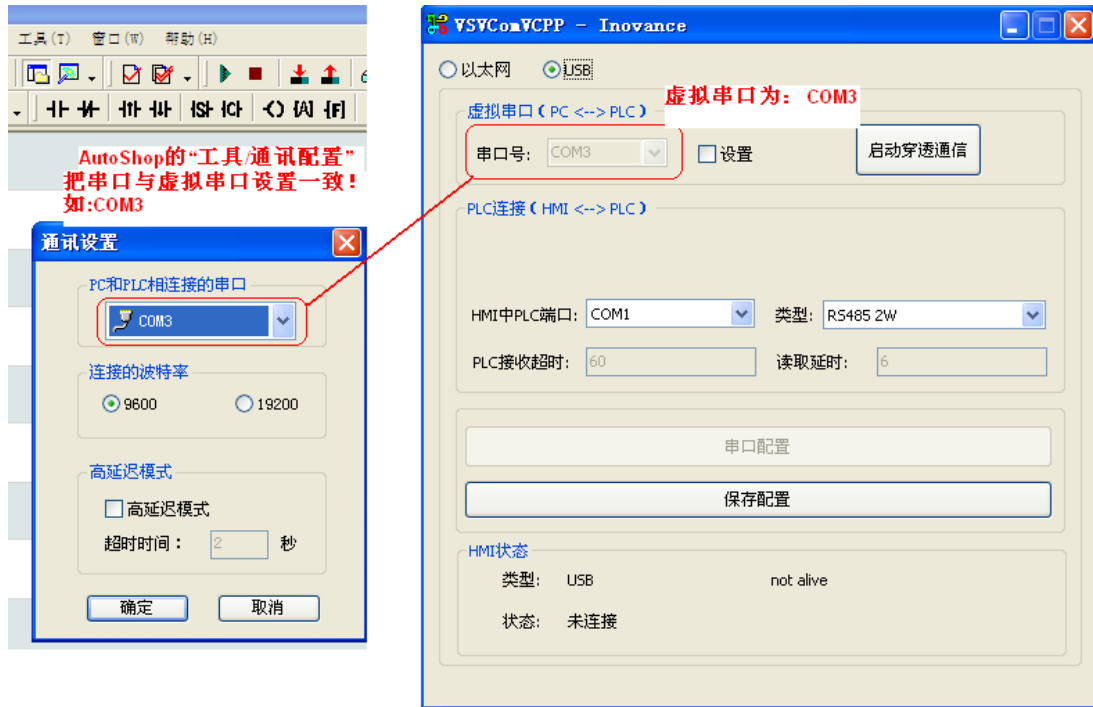
step 2 : Double-click the serial number "COM3" . The following dialog box, select USB Connection. Virtual serial port serial number as the default number,

HMI in PLC Port: is HMI versus PLC Communication connections COM Mouth, to: COM1 .



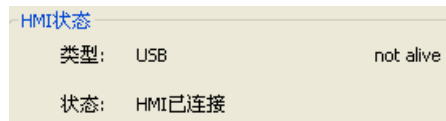
step 3 : Click " Start penetrate Communications " To begin to communicate. Penetrate inside the tool COM Slogans and PLC Communication COM slogan

To be consistent.



step 4 : After the completion of the operation, HMI Status Display "HMI connected " As shown below, to be HMI and PLC Upload carried out

Upload function.



#### example 2 : Using Ethernet PLC Through air

step 1 : The example 1 A step of 1 the same.

step 2 : Double-click the serial number "COM3" . The following dialog box. Select Ethernet connection, a virtual serial port to the default port number.

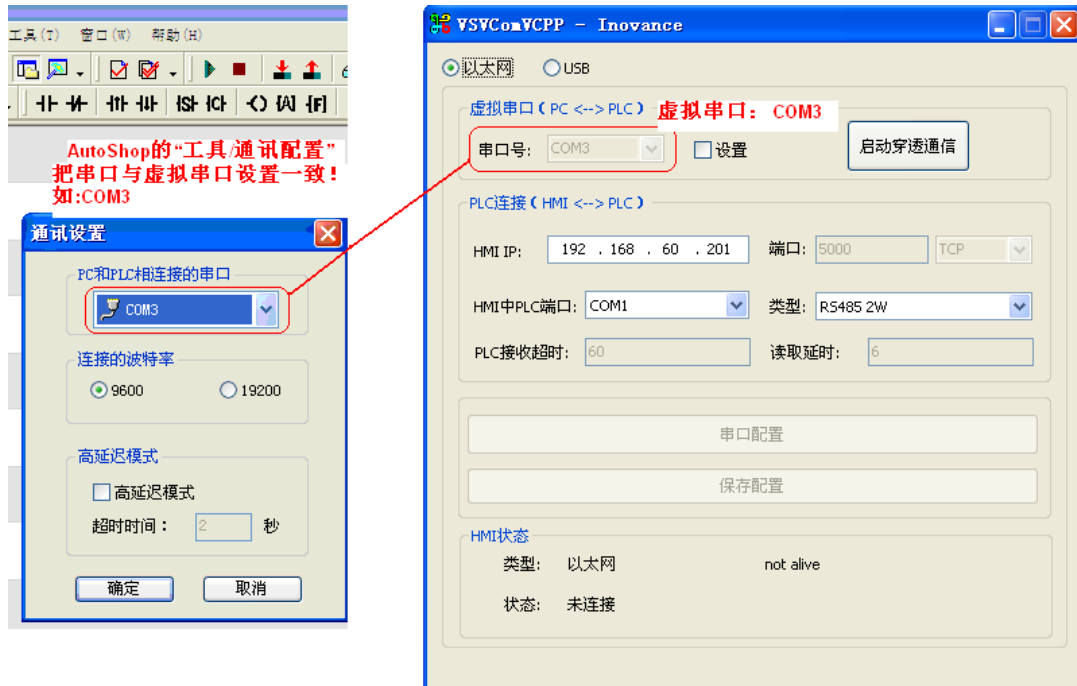
HMI IP Address: remote HMI Address, reference ( 1.4 InoTouch Series HMI system settings / a Set man-machine interface IP Address); Finally, make sure your computer IP versus HMI of IP Visit each other;

HMI in PLC Port: is HMI versus PLC Communication connections COM mouth.



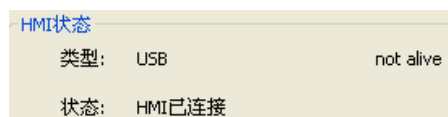
step 3 : Click " Start penetrate Communications " To begin to communicate. Penetrate inside the tool COM Slogans and PLC Communication COM slogan

To be consistent.



step 4 : After the completion of the operation, HMI Status Display "HMI connected " As shown below, to be HMI and PLC Upload carried out

Upload function.





Note: If you use an Ethernet connection, the other party IP After the router has a shunt connection at the touch screen, VSVComVCP Software

Ethernet address remains the distal IP Address, router below HMI To open ports in the router 5000 As a HMI Communication

Port penetration.