HCFa
禾川科技

用我们的工作 创造美好的生活

Basic function introduction

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Introduction

HC Touch VPro

- **HC Touch VPro Configuration Software is a configuration screen development tool for HCFA's V-series HMIs. It is an integrated development environment.**

- **Advantages of the Software :**

1. Comprehensive Functionality: Equipped with a complete range of controls including graphics, buttons, numerical values, alarms, recipes, etc., meeting common customer needs. It also supports macro instruction functions to fulfill complex functional requirements.

2. Rich Protocol Support: Compatible with all series of Hechuan control products. Includes mainstream controller protocols in the market. Supports tag communication (under development).

3. Convenient Project Editing: Features such as multiple duplication, support for table import/export operations, installment - payment, and password generation tools significantly improve programming efficiency.

4. High - Level Security: Protected by project passwords, upload/download passwords, user permission passwords, installment - payment passwords, and automatic project backup during version updates to ensure project security.

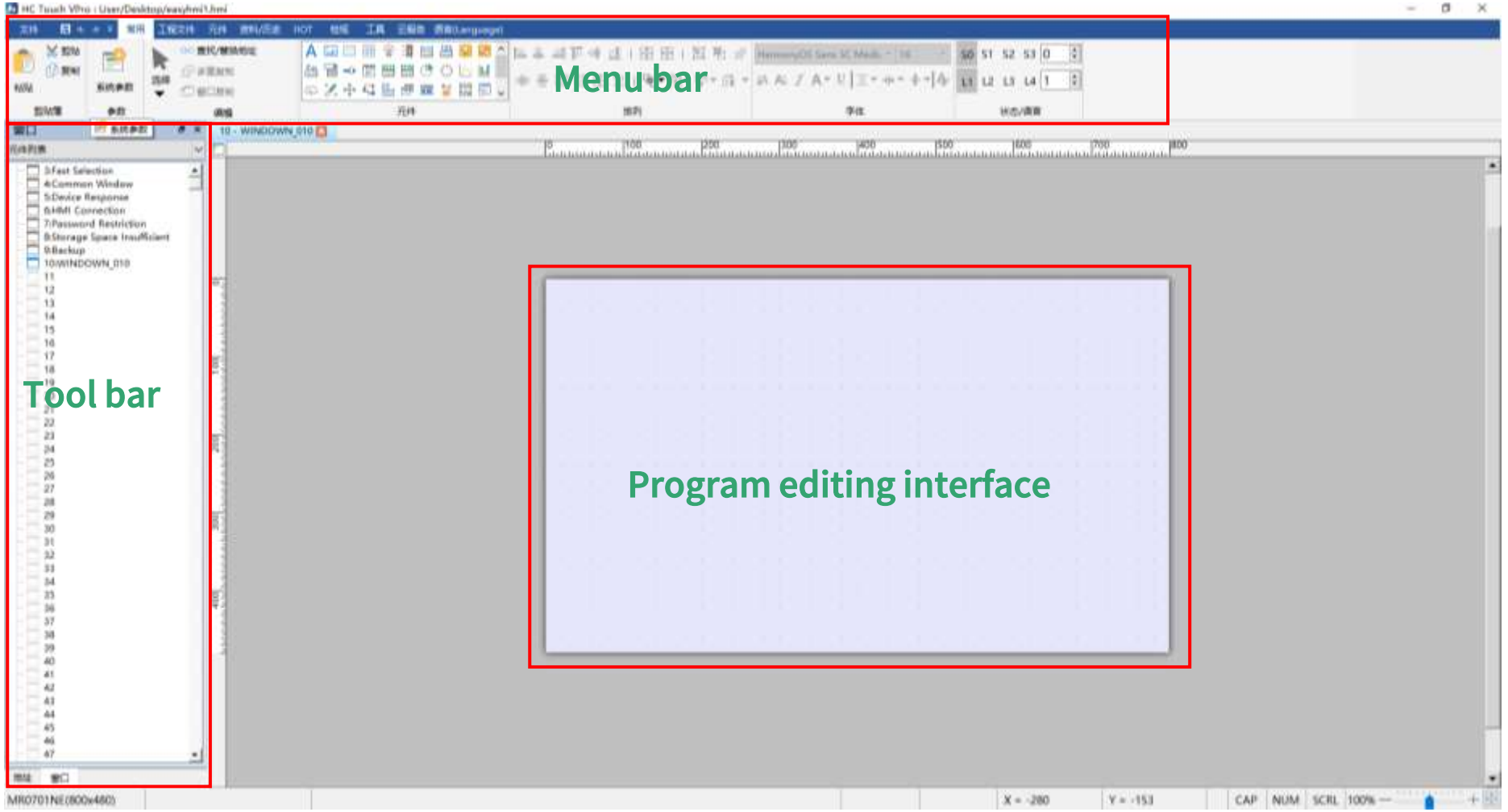
5. Easy Debugging: Supports offline/online simulation, transparent transmission, remote download and other functions, facilitating on - site debugging.

6. Cloud Services: IoT series HMIs support remote download of HMI projects, network transparent transmission, and mobile APP monitoring/operation of devices.

HC Touch VPro

Software intro

An Overview of the Software Interface



- The layout of the software interface after opening the project is shown in the figure above. The overal l interface is mainly divided into the menu bar, the toolbar, and the program editing interface.

Software intro

Introduction of the Menu Bar - 1

介绍
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File

Home

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Object

Software intro

Introduction of the Menu Bar - 2

- The menu bar is the most frequently used during the editing of the HMI program. Using the menu bar flexibly can enable you to complete the project more quickly.

- Data/History

- IIOT

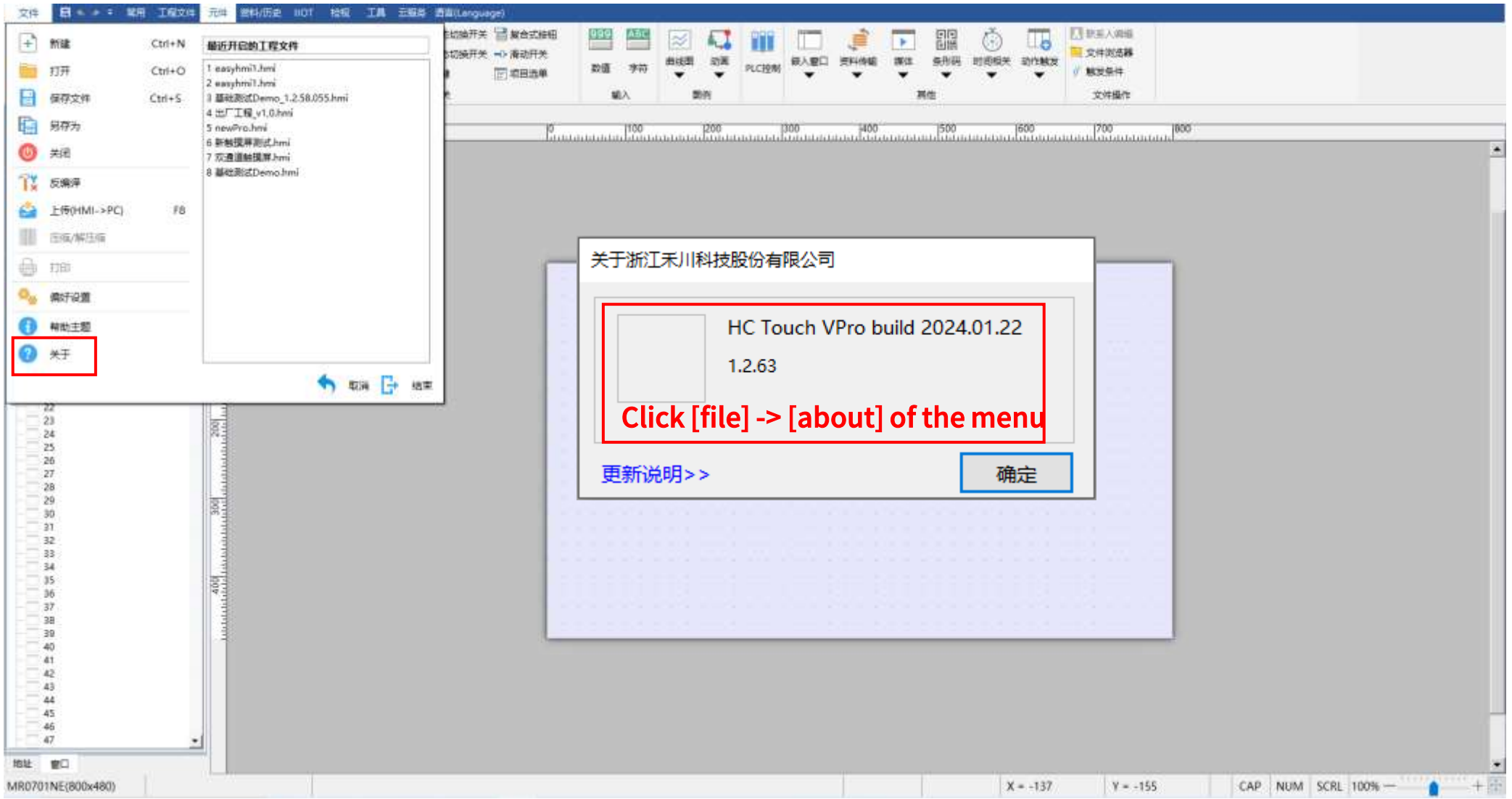
- View

- Tool

- Cloud

Software intro

Software version

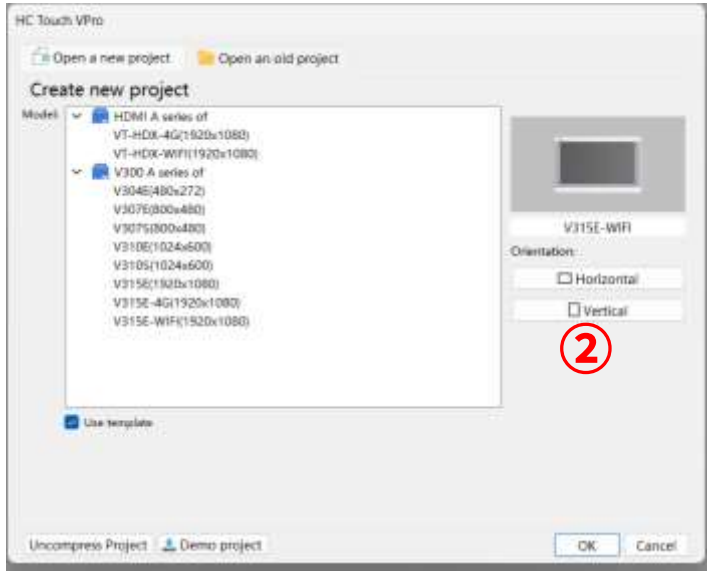


Note: If the software version is too low, some functions may not be available or other abnormalities may occur. You need to update it online or contact the customer service to upgrade to the latest software version.

CONTENTS

Create a new project

- **Step ①: Click "File" -> "New" in the menu bar**
- **Step ②: In the New Project window, select "Open New File", then choose the model of the HMI**



System Parameters - 1

- **Click “Home" -> "System Parameters" in the menu bar.**

1. Devices: Used to set the properties of the devices that the HMI is intended to connect to, including the local device, remote HMIs, or controllers.

2. HMI Properties: Set the HMI model, HMI orientation, clock source, printer*1, and the width of the scroll bar, etc.

3. General Properties: Set various parameters related to the screen operation, such as the initial window, properties of the public window, screen saver settings, default keyboard settings, etc.

Note: *1. The printer function is still under development.

System parameters intro -2

4. System Settings: Set various parameters of the HMI, such as the default display language, communication delay, automatic logout of permissions, sound control, etc.

5. Remote *1 : Set the relevant settings when the HMI is connected remotely.

6. User Password: Set user permissions and passwords, and multiple types of permissions can be configured. There are two modes: the general mode and the advanced security mode.

7. Time Synchronization/Daylight Saving Time*1: Keep the time of the HMI consistent with the NTP server.

Note: *1. Functions such as remote access, time synchronization, and DST(daylight saving time) are still being improved and cannot be used for the time being.

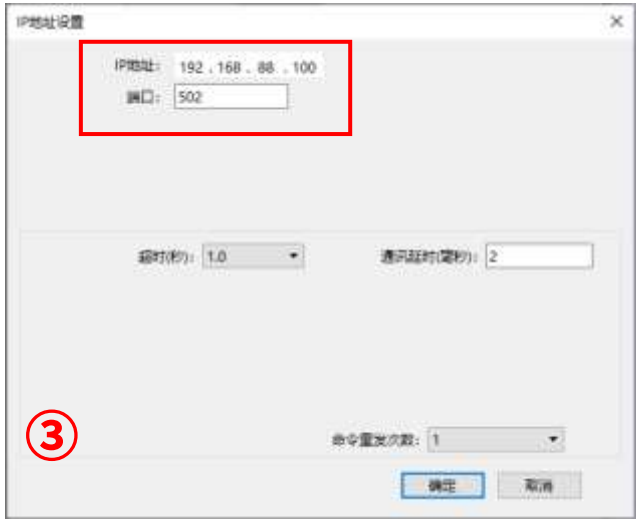
Communication between HMI and Controller - Ethernet Communication Setup

- **Click on [Common] -> [System Parameters] in the menu bar.**

1. Step ①: In the system parameters window, select the [Device] section and click the [Add Device] button.

2. Step ②: In the device properties window, select the protocol driver*1 of the controller and the communication interface type, and then click the [Settings] button below.

3. Step ③: In the device properties window, select and set the communication parameters. (Taking the M511S controller as an example, the IP address is 192.168.88.100 and the port number is 502.) Finally, click [OK].



Note: *1. You can also click on [Address Configuration] and select the protocol driver in the pop-up window.

Communication between HMI and Controller - HMI Settings

- **Ethernet communication requires that the HMI and controller are on the same network segment, and the HMI IP is set as follows**

1, step ①: HMI power on, open the system settings (HMI settings button in the lower right corner of the point open, select the first is the system settings, you need to enter the password (default: 111111);

2, Step 2: Enter the system, in the [Network] column select the use of the following IP address, and configure the IP address is shown below (to IP address 192.168.6.121 as an example); finally click [Apply] -> [OK]

HMI communicates with the controller - Serial Port Setting

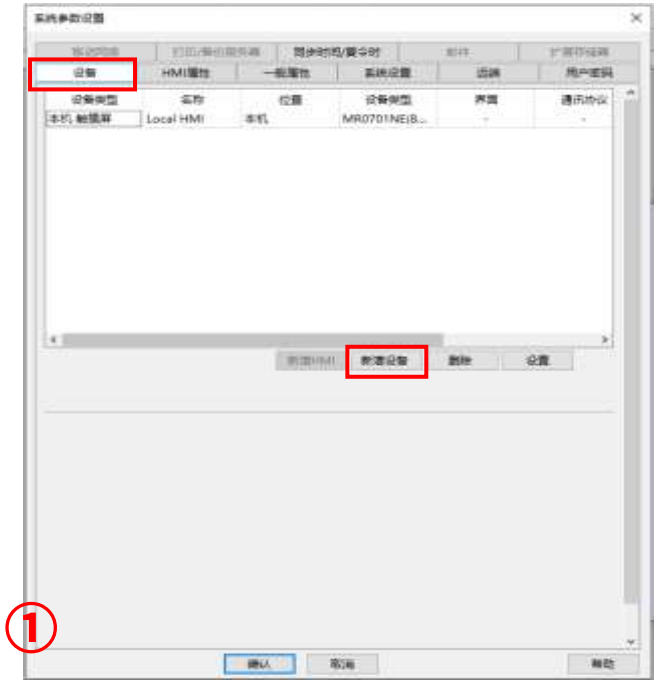
- **Click [Home] -> [System Parameters] in the menu bar;**

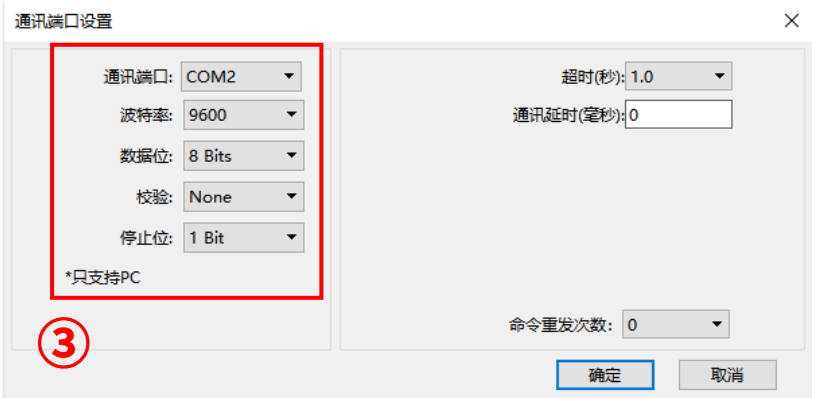
1. Step 1: In the system parameters window, select the [Device] column, click the [New Device] button:

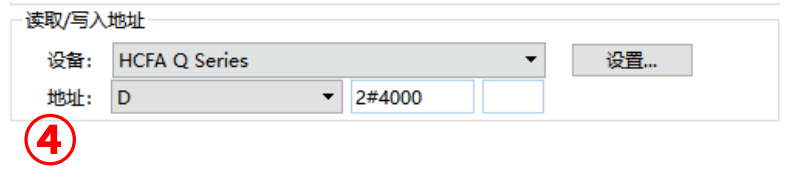
2. Step 2: In the device properties window, select the controller's protocol driver * 1 and the interface type of communication, and then click on the following [Set] button;

3. Step 3: In the device properties window, select and set the communication parameters (here with the M511S for 4 85 communication as an example, the communication parameters for the baud rate of 9600, 8 data bits, 1 stop bit, no pa rity), and finally click [OK];

4. Step 4: configure the address in the component properties, the need to modify the communication station number, as shown in Figure 4 ("2 #" on behalf of the station number 2) settings:







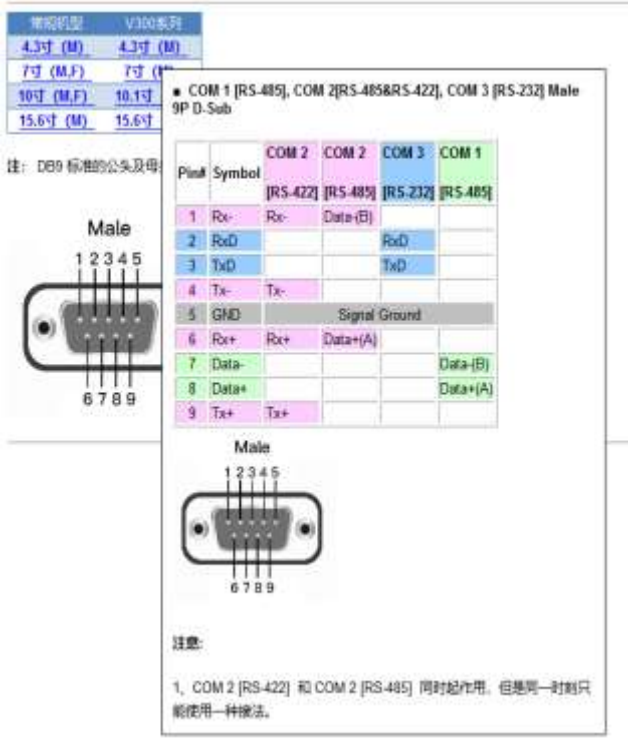
HMI and controller serial communication wiring

HMI Serial Communication Pin Definition

You can click [Communication Port Pin Definition View] in the Device Properties window as shown below:

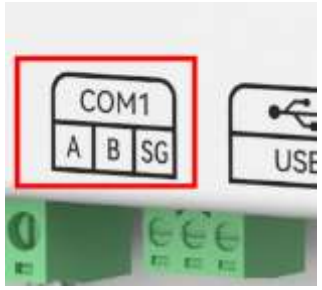
Click the corresponding size of the touch screen model in the help to view the pin description;

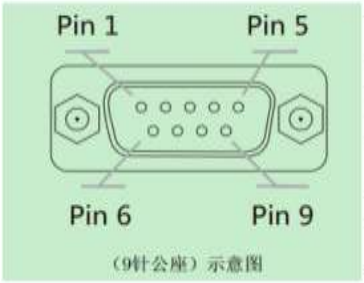
Note: The touch screen pins of the engineering prototype refer to [Conventional Model];



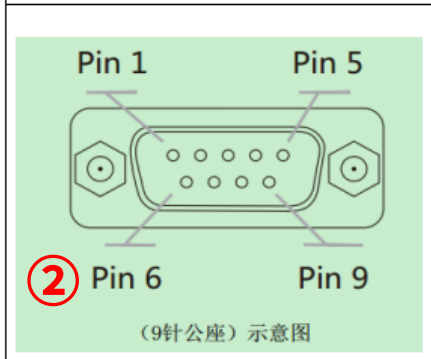
HMI and controller serial communication wiring

- ① 7-inch/10.1-inch HMI PORT1 interface *1 diagram is shown below:



7寸/10.1寸的DB9端口定义		
COM2/COM3 通讯端口（9针公座）	Pin1	Rx-(B) (COM2 RS422 RS485)
	Pin2	RxD (COM3 RS232)
	Pin3	TxD(COM3 RS232)
	Pin4	Tx- (COM2 RS422)
	Pin5	GND
	Pin6	Rx+(A) (COM2 RS422 RS485)
	Pin7	
	Pin8	
	Pin9	Tx+ (COM2 RS422)

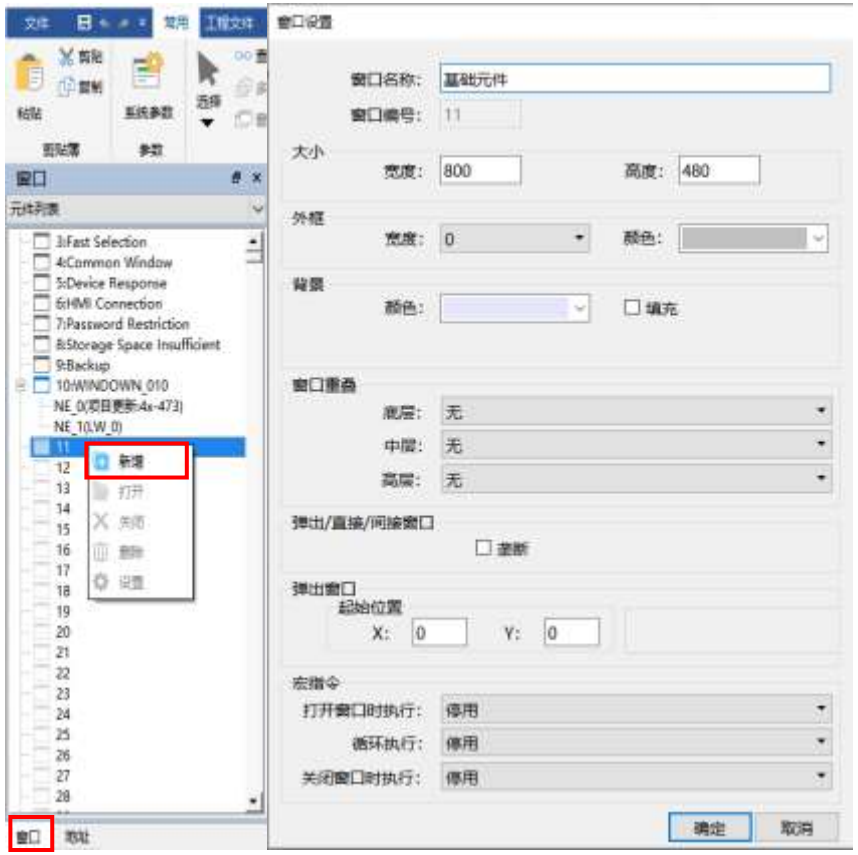
- ② 4, 3 inch / 15.6 inch HMI PORT2 interface DB9 pin definition, as shown below:

4.3寸/15.6寸的DB9端口定义		
COM1/COM2/COM3 通讯端口（9针公座）	Pin1	Rx-(B) (COM2 RS422 RS485)
	Pin2	RxD (COM3 RS232)
	Pin3	TxD(COM3 RS232)
	Pin4	Tx- (COM2 RS422)
	Pin5	GND
	Pin6	Rx+(A) (COM2 RS422 RS485)
	Pin7	B(COM1 RS485)
	Pin8	A(COM1 RS485)
	Pin9	Tx+ (COM2 RS422)

Note: *1, 4.3‘and 15.6’ touchscreens do not have a PORT1 interface.

Create new window

- **Step 1: After selecting [Window] in the left toolbar, select a blank window in the catalogue tree and click [Add] with the right mouse button;**



- **Step 2: After setting the screen-related properties in the pop-up window, click OK to create a new screen; the screen properties are described as shown below:**

1、Name: the name will be displayed in the control bar of the window and the catalogue tree of the toolbar [Window];

2、Size: set the size of the window, the default and the resolution of the HMI;

3, window overlap: when the same component needs to be placed in more than one window, then you can use the overlapping window to achieve; up to three windows can be selected as the background, the background window within the window components will be appearing in the window in order;

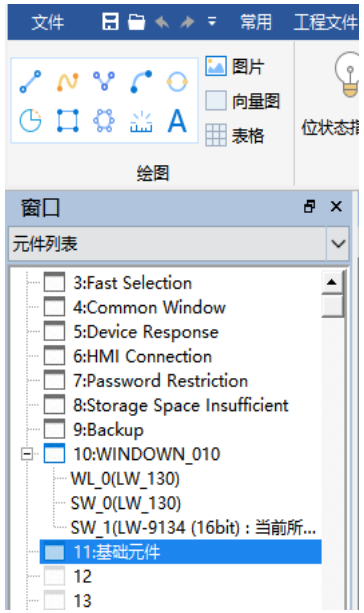
4、Monopoly: after checking the it, the window as a pop-up/direct/indirect window use, the window is popped up after his pop-up window and the background window operation will be completely suspended;

5、Pop-up window: the basic window can also be used as a pop-up window, you can set the pop-up coordinates, the origin of the coordinates is the upper left corner of the screen;

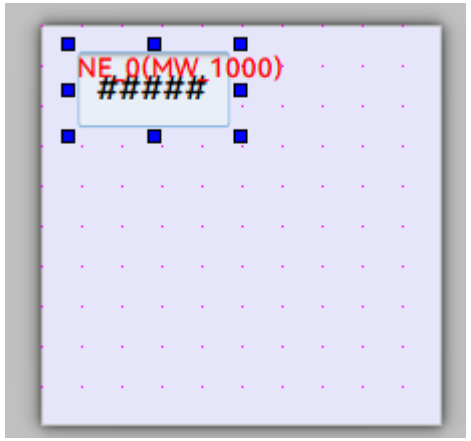
6、Macro Command: Set the macro command to be executed cyclically when the window is opened/closed;

Edit Project Screen

- Step 1: After selecting [Window] in the left toolbar, double-click to select the window established in th e catalogue tree [Basic Components]; click on the d esired control in the [Components], [Information/H istory] in the menu bar; take [Numerical Values] as an example:



- Step 2: Click the menu bar [Object] -> [Numeric], configure the address, format, etc. in the compo nent properties window, click [OK]; click to place the [Numeric] component in the program editing interface;



Basic Functions of the Software

Save Project and Project Encryption

- Save Project *1: You can use the shortcut key (Ctrl+S), or click [Save File] in the File menu bar.

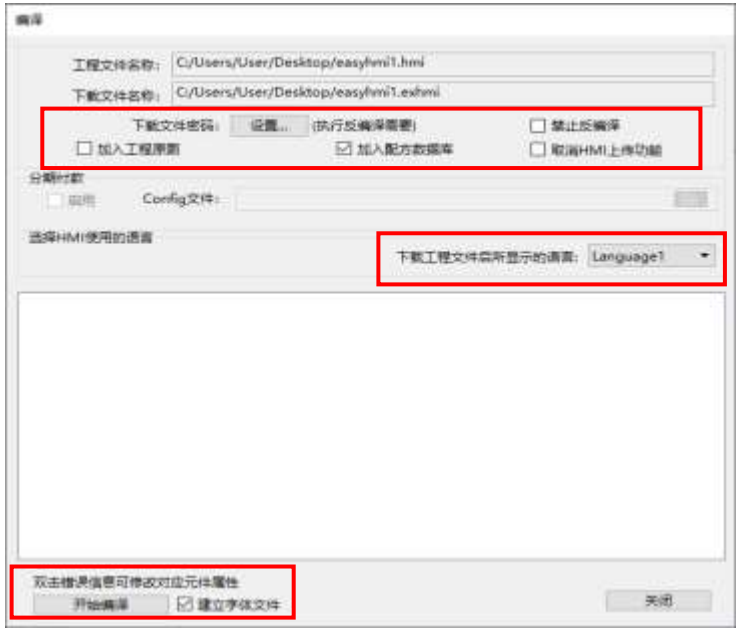
  Project Encryption: Click [Home] -> [System Parameters] in the menu bar; I n the popped-up System Parameters window, select the User Password col umn, check the option of Enable Project File Password, and set the passwo rd; After completing the settings, before editing the project file, the user w ill be required to enter the password, and can only access the project file b y entering the correct password.

Note：*1. When creating a new project, you need to save it first. The project file will be generated only after setting the project name and save directory.

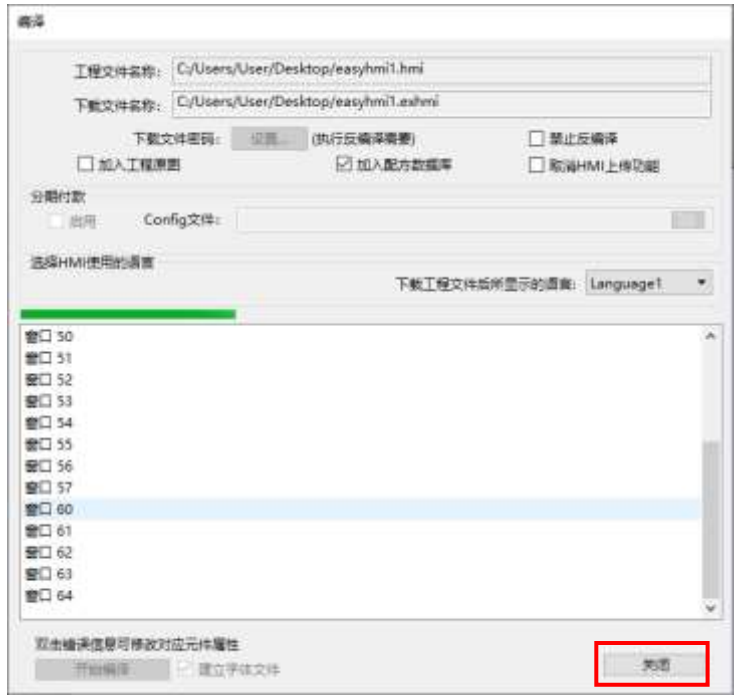
Project Compilation

- Step ①: Click [Project] -> [Compile] in the menu bar.

- Step ②: Configure the compilation and download parameters, and finally click [Start Compilation].;



- Step ③: The progress bar will indicate the compilation progress. Once the compilation is finished, the window will display the compilation details. Finally, click [Close] to finalize the compilation task.



Project Download - Network Download

- Step ①: Click [Project] -> [Download (PC→HMI)] in the menu bar.

- Step ②: The project will be automatically compiled before downloading. You can only download the project after the compilation is successful. In the Download (PC→HMI) window, there are two methods as follows:

  1. Download by specifying the IP address: Set the IP address of the HMI (take the IP address of the HMI as 192.168.88.121 as an example here);

  2. Download by specifying the HMI name: Use [Search All] to search for all HMIs within the same network domain.

- Step ③: After configuring the relevant parameters, click [Download]. The progress bar in the middle will display the download progress. Once the download is completed, a window indicating that the HMI has been restarted successfully will pop up. Click [OK] to complete the download task.

Note: Do not interrupt the connection to the HMI during the download process, and refrain from performing any other operations; otherwise, it will affect the transmission.

Project Download - USB Flash Drive Download 1

- Step ①: Click [Project] -> [Create Download Data] in the menu bar.

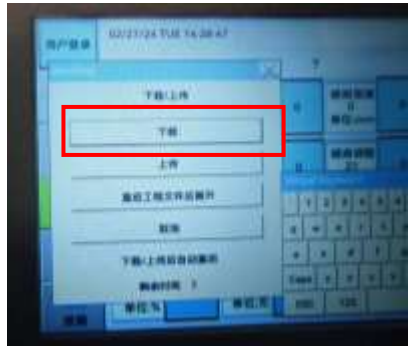
- Step ②: The project will be automatically compiled before downloading. You can only start downloading the project after the compilation is successful. In the pop-up window, select the directory where the project will be saved (In here, save it in the installation directory of the USB flash drive).

- Step ③: Click [Create]. Once completed, a pop-up window will appear indicating that the download data has been successfully created.

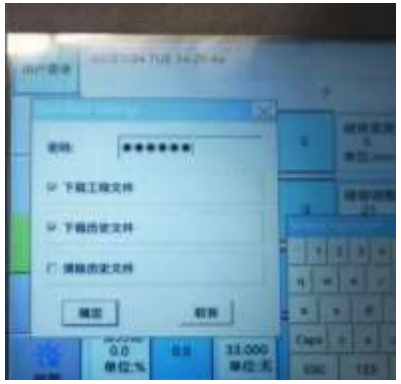
Note: Do not interrupt the connection to the HMI during the download process, and refrain from performing any other operations; otherwise, it will affect the transmission.

Project Download - USB Flash Drive Download 2

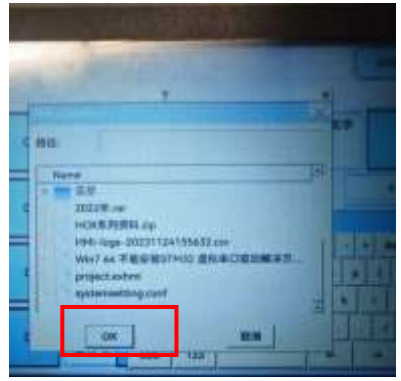
- Step ④: Plug the USB flash drive into the touchscreen, then select [Download] in the pop-up window on the HMI.



- Step ⑤: Configure the download settings in the pop-up window on the HMI, enter the download password (the default password is 111111), and then click [OK].



- Step ⑥: Select the project package to be downloaded in the pop-up window on the HMI, click [OK], and wait for the download to complete.



Note: Do not interrupt the connection to the HMI during the download process, and refrain from performing any other operations; otherwise, it will affect the transmission.

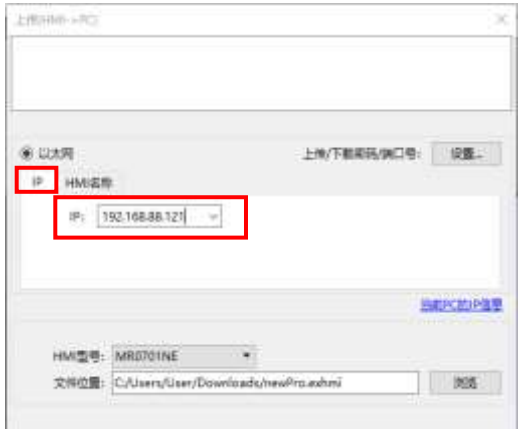
Project Upload - Network Upload 1

- **Step ①: Click [Upload (HMI->PC)] under [File] in the menu bar.;**

- **Step ②: In the pop-up "Upload (HMI->PC)" window, there are two methods:**

1. Upload via Specified IP: Set the IP address of the HMI (e.g., `192.168.88.121`).

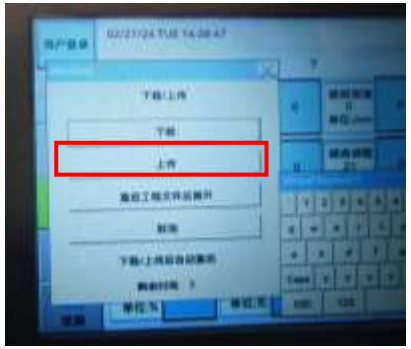
2. Upload via Specified HMI Name: Click [Search All] to scan for all HMIs within the same network domain.



- **Step ③: Select the HMI model and the project save path, click [Upload], and wait until the data reception is complete.**

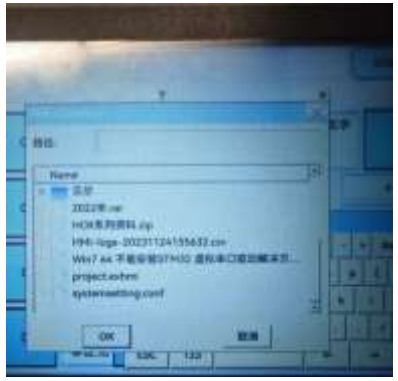
Project Download - USB Drive Upload 1

- Step ①: Plug the USB flash drive into the touchscreen, then select [Upload] in the pop-up window on the HMI.



- Step ②: Configure the download settings in the pop-up window on the HMI, enter the download password (the default password is 111111), and then click [OK].

- Step ③: Select the upload path of the project in the pop-up window on the HMI, click [OK], wait for the prompt indicating successful upload, and then unplug the USB flash drive.

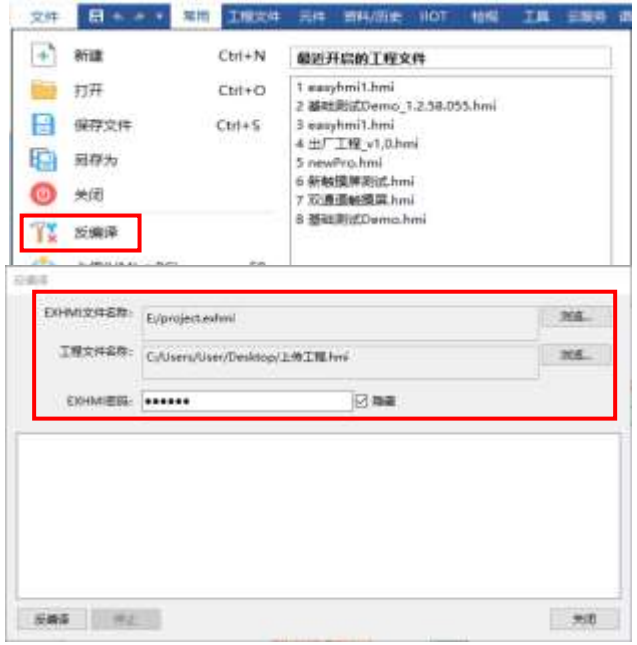


Note: Do not interrupt the connection to the HMI during the download process, and refrain from performing any other operations; otherwise, it will affect the transmission.

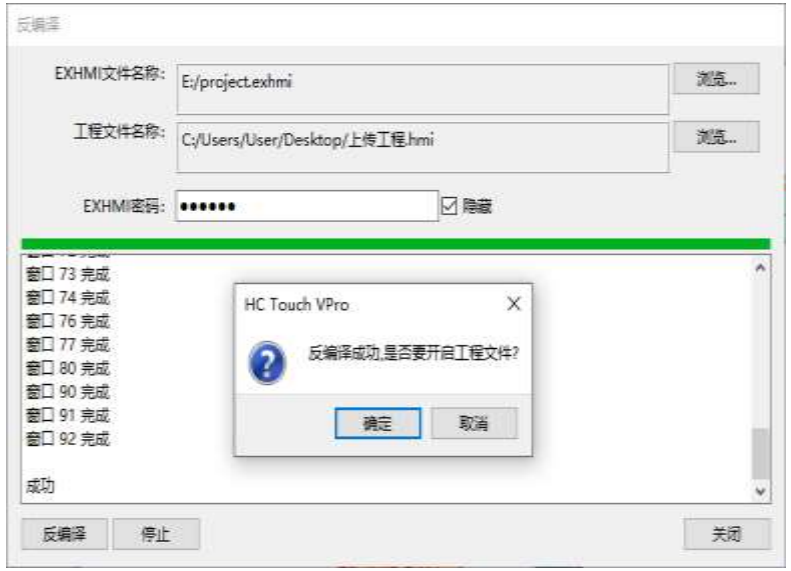
Project Upload - Decompile

- **Step ④: The project files uploaded via USB or network cannot be directly opened with software and need to be decompiled. Click [Decompile] for the project file in the menu bar. The steps are as follows:**

  1. Select the uploaded EXHMI project file.
  2. Set the name and file path for the decompiled project.
  3. Enter the decompilation password set for the project (default password: 111111).
  4. Click [Decompile].



- **Step ⑤: After waiting for the decompilation to complete, use the software to open the compiled HMI project file.**



Multilingual and Font Explanation

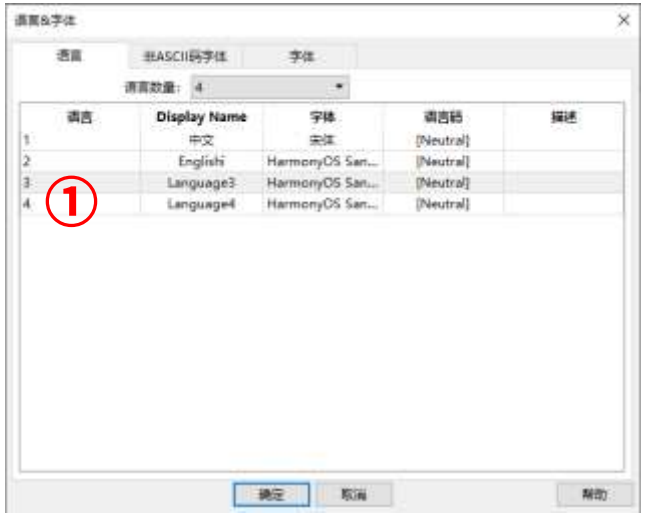
- **[Language & Font] You can set the language and font of the existing labels.**

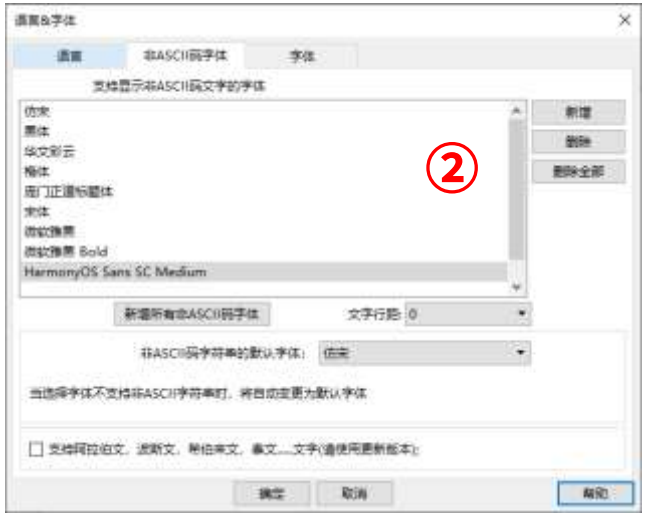
- **Click [Project] -> [Language & Font] in the menu bar.**

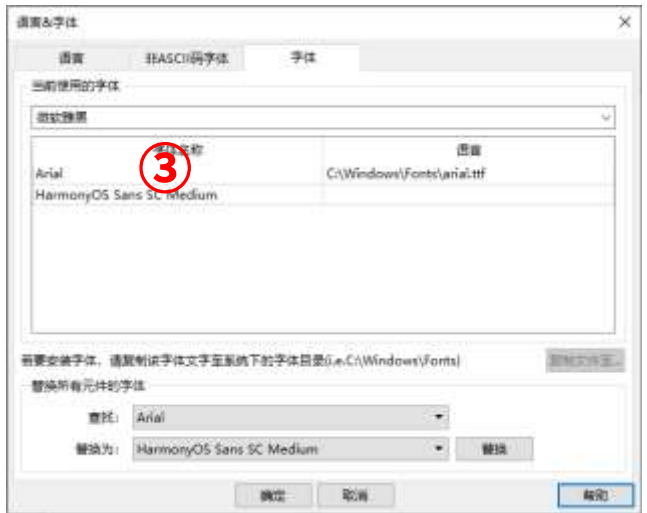
① Languages: Configure the number of languages supported by the project and the fonts used for ea ch language. Up to 23 different languages can be displayed.

② Non-ASCII Fonts: Configure fonts for non-ASCII characters (e.g., Chinese, Japanese, Cyrillic).

③ Fonts: Displays the fonts currently used in the project file. You can replace existing fonts wi th other available ones.





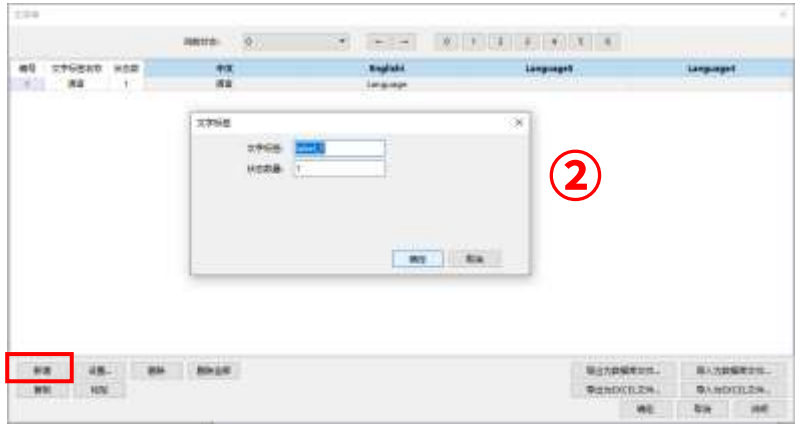


Explanation of Multilingual Usage 1

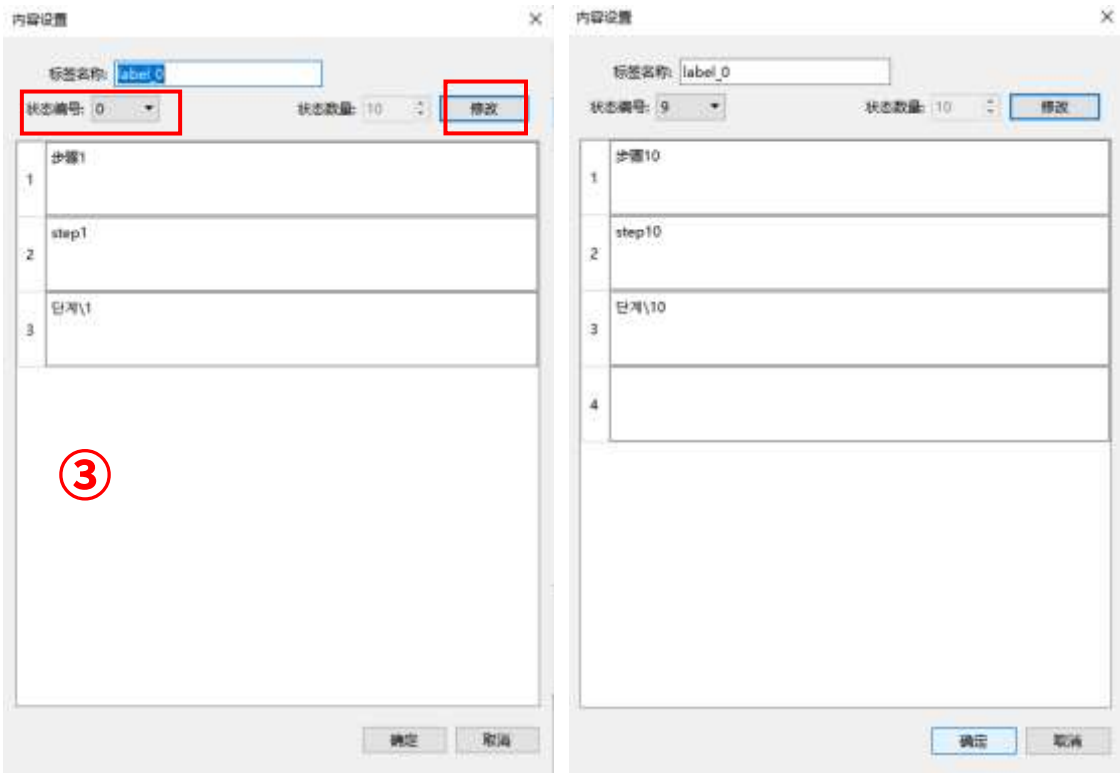
- **When using multiple languages in a project, first create a text label library, enable the text label library on the control's label page, then select the required labels. The steps are as follows:**

Step ①: Click [Project] -> [Label] in the menu bar.

Step ②: In the text library window, click [Add], set the title and number of states in the text label window, and then click [OK].



Step ③: Select the newly created label and click [Settings] to edit the language content for different states or modify the number of states.



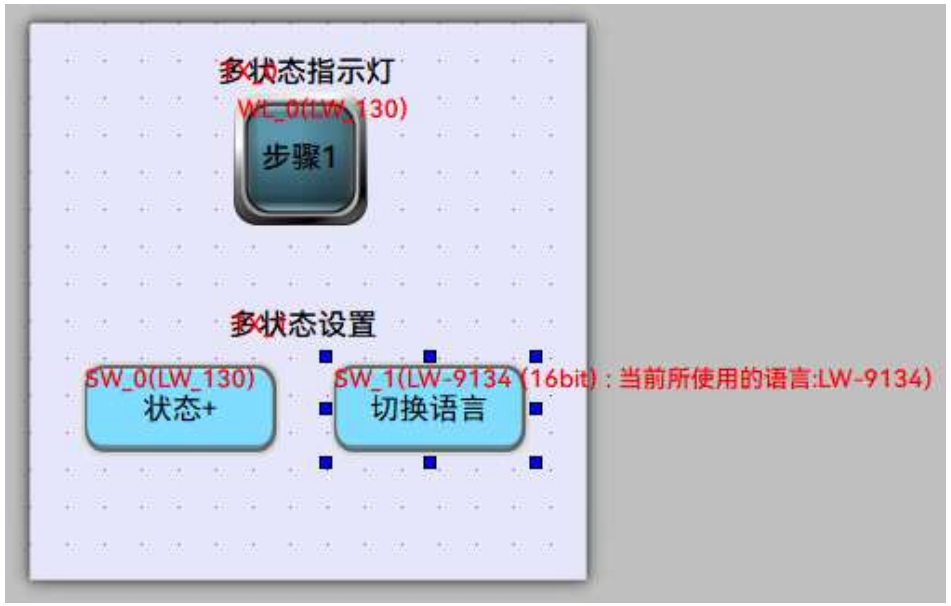
注：文字标签库可以导入/导出excel文件后，再进行编辑。

Explanation of Multilingual Usage 2

Step ④: In the [Labels] tab of the component properties window, check [Use Text Library], then select a predefined text label from the drop-down menu on the right. *1 Example using the [Multi-State Indicator] component:

Step ⑤: Change the value of system register LW-9134 (current language in use) to switch the HMI's current language. The valid range is 0-22, corresponding to a maximum of 23 languages. Use the [Multi-State Setting] component to configure a cyclic increment (JOG+) function (Settings: Minimum 0, Maximum 2, Increment 1) to control language switching, as shown below:

LW-9134 (16bit) : language mode

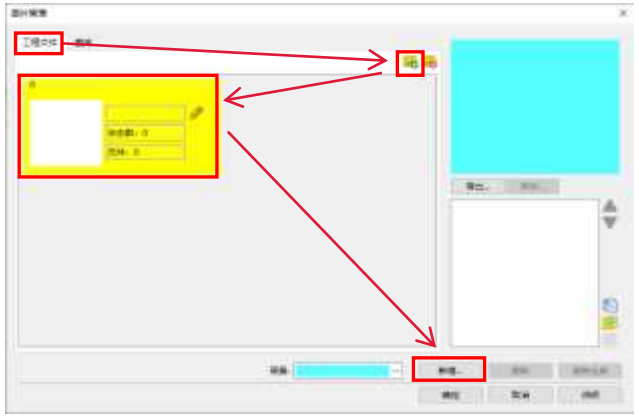


Note: *1. Only the text size can be set individually in the text properties. Other properties, including text color, alignment, and blinking, are the same as those of Language 1.

Importing External Images into the Gallery 1

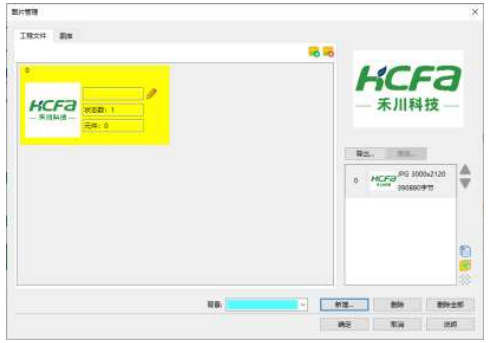
- **Click [Project] -> [Picture] in the menu bar to pop up the Image Management Window. The steps for importing external images ar e as follows:**

Step ①: After selecting the Project Files tab i n the Image Management Window, click [Add Picture], c hoose the picture library to which you want to add im ages, and then click the [Add] button.



Step ②: Select the image(s) you want to insert and click [Open].

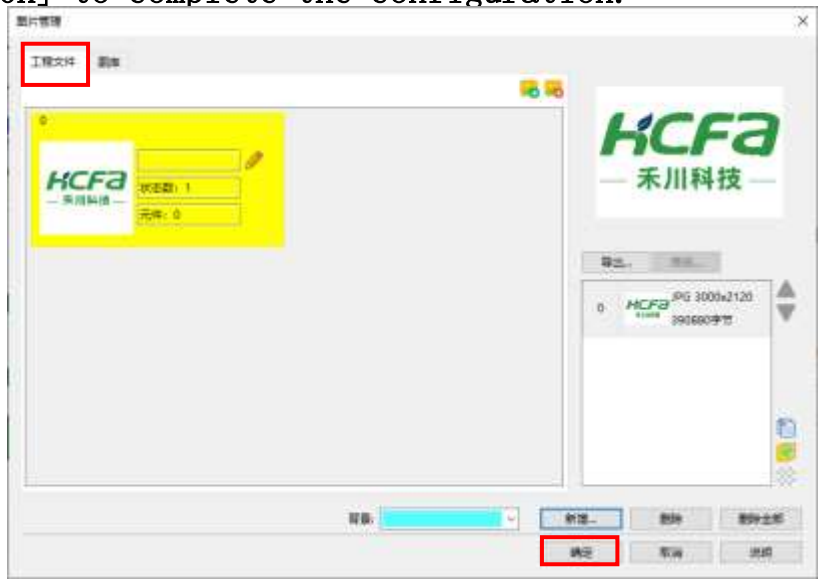
Step ③: Click [Confirm] in the pop-up editing w indow to complete loading the external image. For mul tiple states, continue to add new images.



Importing External Images into the Gallery 2

Step ④: In the [Picture] tab of the component properties window, check [Use picture], then click the [Library] button.

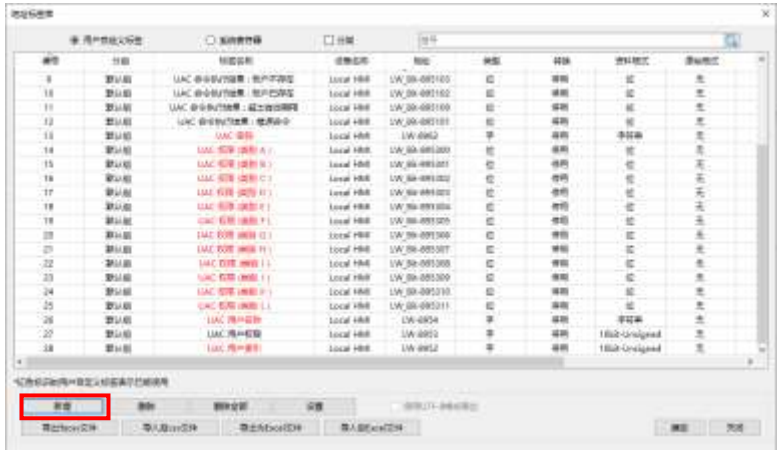
Step ⑤: In the [Project] tab of the picture Management Window, select the newly added picture and click [OK] to complete the configuration.



Explanation of Address Label Libraries

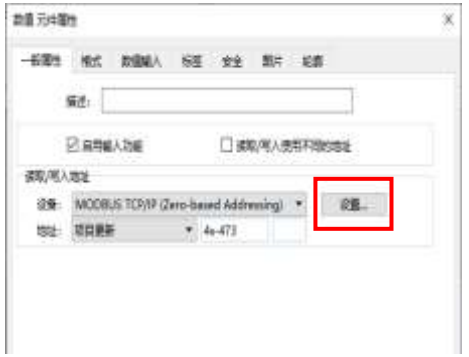
- **Defining frequently - used addresses in the address label library *1 can save the tedious address input. The steps for using label communication are as follows:**

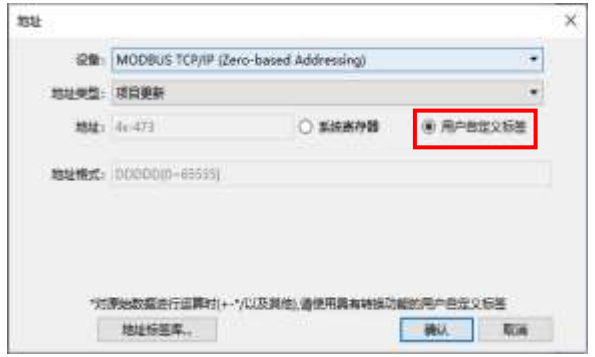
Step ①: After clicking [Project] → [Address] in the menu bar, click [Add] in the Address Label Library window.



Step ②: In the Address Label window, set relevant attributes such as Name, Address, Synchronization Address, etc *2, then click [OK] to complete adding the address label.

Step ③: Editing window to use the address label.

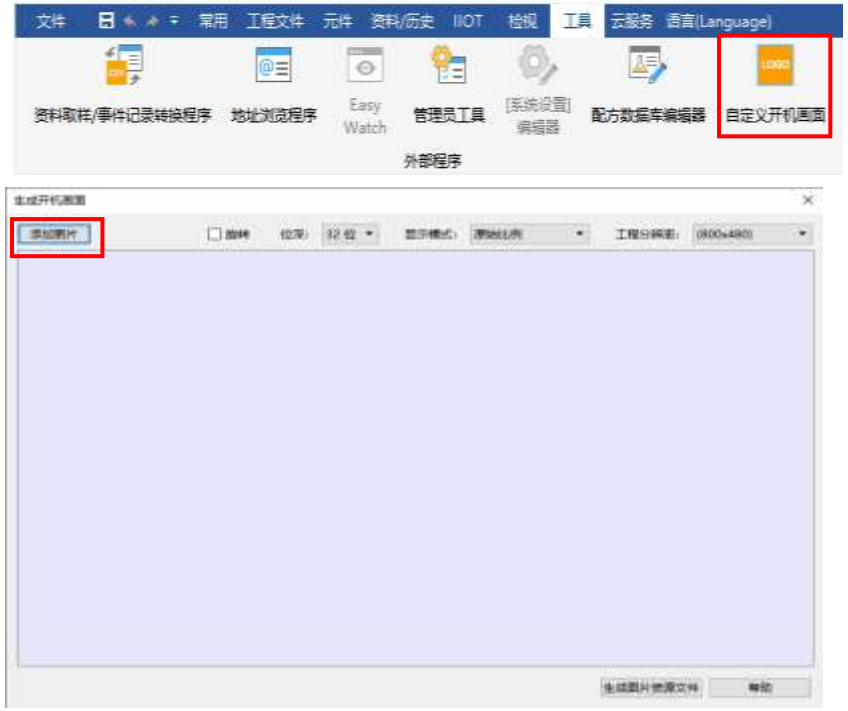




Custom Boot Screen 1

- **Here are the steps to design the boot screen for an HMI:**

Step ①: Click [Tools] -> [Make Boot Logo] in the menu bar, then click [Add Image] in the Boot Screen Generation window; select the boot screen image in the window.



Step ②: In the Boot Screen Generation window, you can preview the image. Click [Generate Image Resource File] to save it to your computer.

Custom Boot Screen 2

Step ③: Click Download Project in the project file, check User-Defined Boot Screen, then click Browse. In the pop-up window, select the newly generated boot screen source file (e.g., Custom Boot Screen_800x480_logohmi).

② Finally, select the target HMI device, click [Download], and wait for the HMI to restart and load the custom boot screen.

Basic Functions of the Software

System registers

- Open [Project] → [Address] in the menu bar, and expand the System Register branch to view.

编号	标签名称	设备名称	地址	类型	读/写	断电保持	描述
91	LB-9153 : 自动连接设备 4 (以太网) (当状态为 ON)	Local HMI	LB-9153	位	读/写	无	
92	LB-9154 : 自动连接设备 5 (以太网) (当状态为 ON)	Local HMI	LB-9154	位	读/写	无	
93	LB-9155 : 自动连接设备 6 (以太网) (当状态为 ON)	Local HMI	LB-9155	位	读/写	无	
94	LB-9156 : 自动连接设备 7 (以太网) (当状态为 ON)	Local HMI	LB-9156	位	读/写	无	
95	LB-9157 : 自动连接设备 8 (以太网) (当状态为 ON)	Local HMI	LB-9157	位	读/写	无	
96	LB-9158 : 自动连接设备 9 (以太网) (当状态为 ON)	Local HMI	LB-9158	位	读/写	无	
97	LB-9189 : 自动连接设备 40 (以太网) (当状态为 ON)	Local HMI	LB-9189	位	读/写	无	
98	LB-9190 : 自动连接设备 (USB) (当状态为 ON)	Local HMI	LB-9190	位	读/写	无	
99	LB-9191 : 与设备的通讯状态 (USB), 设 ON 重连一次	Local HMI	LB-9191	位	读/写	无	
100	LB-9192 : 禁止弹出设备 (USB) 的 "Device No Response" 窗口 (...	Local HMI	LB-9192	位	读/写	无	
101	LB-9196 : 本机 HMI 只支持检视功能 (当状态为 ON)	Local HMI	LB-9196	位	读/写	无	
102	LB-9197 : 只允许远端 HMI 使用检视功能 (当状态为 ON)	Local HMI	LB-9197	位	读/写	无	
103	LB-9198 : 禁止本机 HMI 触发宏指令 (当状态为 ON)	Local HMI	LB-9198	位	读/写	无	
104	LB-9199 : 禁止远端 HMI 触发宏指令 (当状态为 ON)	Local HMI	LB-9199	位	读/写	无	
105	LB-9200 : 与设备 1 的通讯状态 (站号 0, COM 1), 设 ON 重连一次	Local HMI	LB-9200	位	读/写	无	
106	LB-9201 : 与设备 1 的通讯状态 (站号 1, COM 1), 设 ON 重连一次	Local HMI	LB-9201	位	读/写	无	
107	LB-9202 : 与设备 1 的通讯状态 (站号 2, COM 1), 设 ON 重连一次	Local HMI	LB-9202	位	读/写	无	
108	LB-9203 : 与设备 1 的通讯状态 (站号 3, COM 1), 设 ON 重连一次	Local HMI	LB-9203	位	读/写	无	
109	LB-9204 : 与设备 1 的通讯状态 (站号 4, COM 1), 设 ON 重连一次	Local HMI	LB-9204	位	读/写	无	
110	LB-9205 : 与设备 1 的通讯状态 (站号 5, COM 1), 设 ON 重连一次	Local HMI	LB-9205	位	读/写	无	
111	LB-9206 : 与设备 1 的通讯状态 (站号 6, COM 1), 设 ON 重连一次	Local HMI	LB-9206	位	读/写	无	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