07 Tools

last modified by Joey

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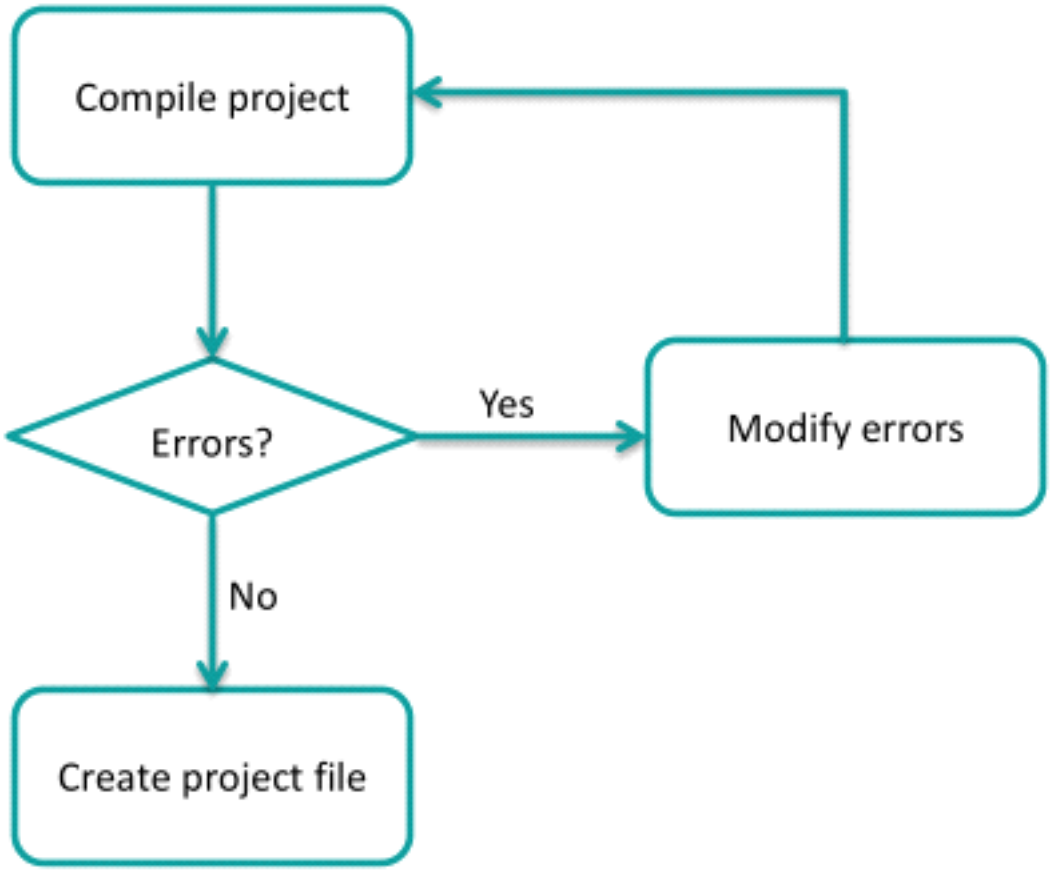
Compile Project

This chapter provides information about the compiling project and a description of how to using compiling function and modify errors according to compiling outputs. Compiling project is the one of most important steps, it checks project, saves all settings and then creates project file.

General procedure

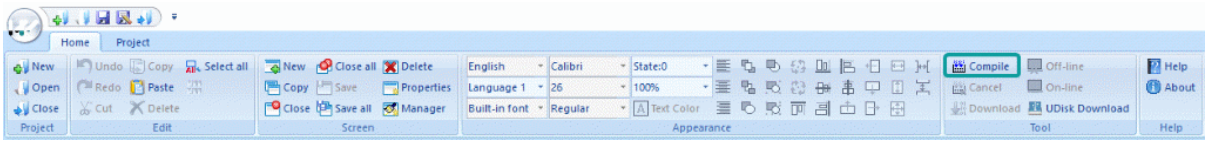
Users could use "PIStudio" to execute compiling, and check results in output windows. The follow procedure shows how compile a project.



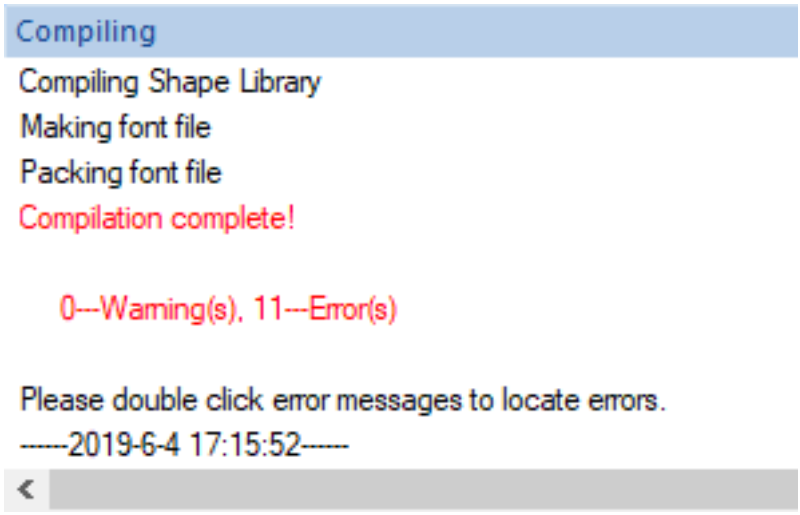
Users need to check the result, and modify errors. Project file is only created when compiling is successful.

Operating procedure

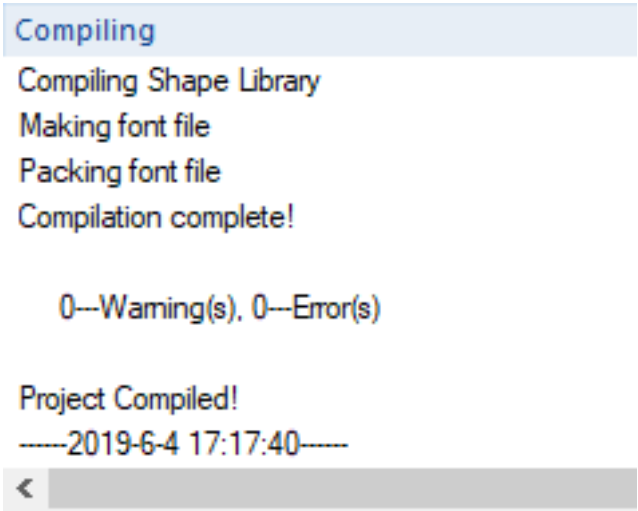
1. Finish project programming.
2. Click "Compile" button.



1. Check the compiling windows in below of software interface.



1. Check the information of error (in red).
2. Compile project again after modification.
3. Until get successful information of compilation.



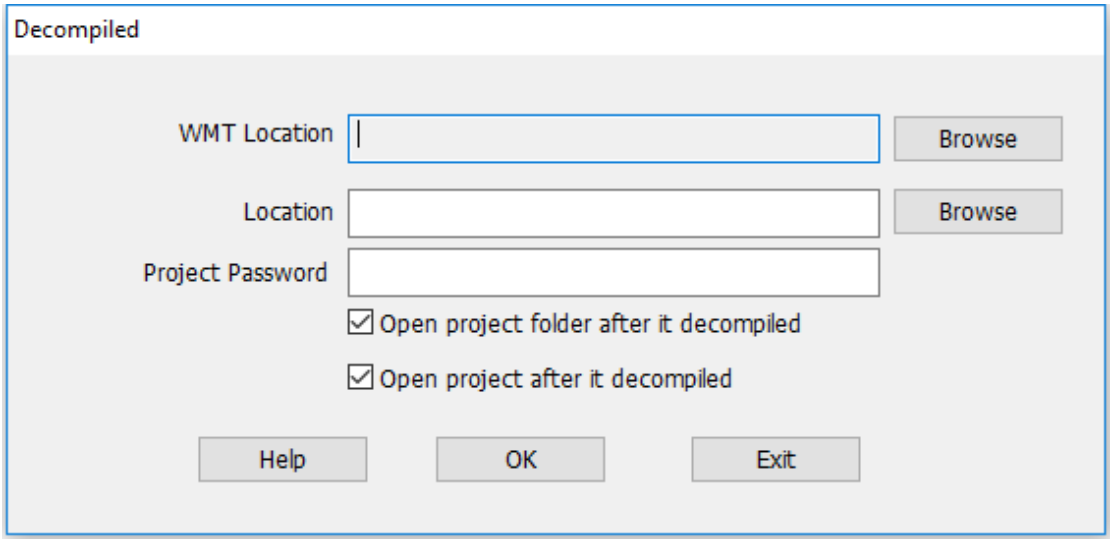
Result

After compilation, PIStudio creates .wmt file for download.

Decompile

When uploading a project from the HMI to the PC, the "**.wmt" file is obtained, which needs to be decompiled before it could be opened with the PIStudio software.

This section introduces this tool in detailed.



Operating procedure

1. Open "Decompiledv tool.
2. Select WMT file by clicking "Browse" in "WMT location".
3. Set save path in "Location".
4. Enter password in "Project Password" (Enter as needed).
5. Click "OK" to perform the operation.

Result

A project folder is created.

Simulation

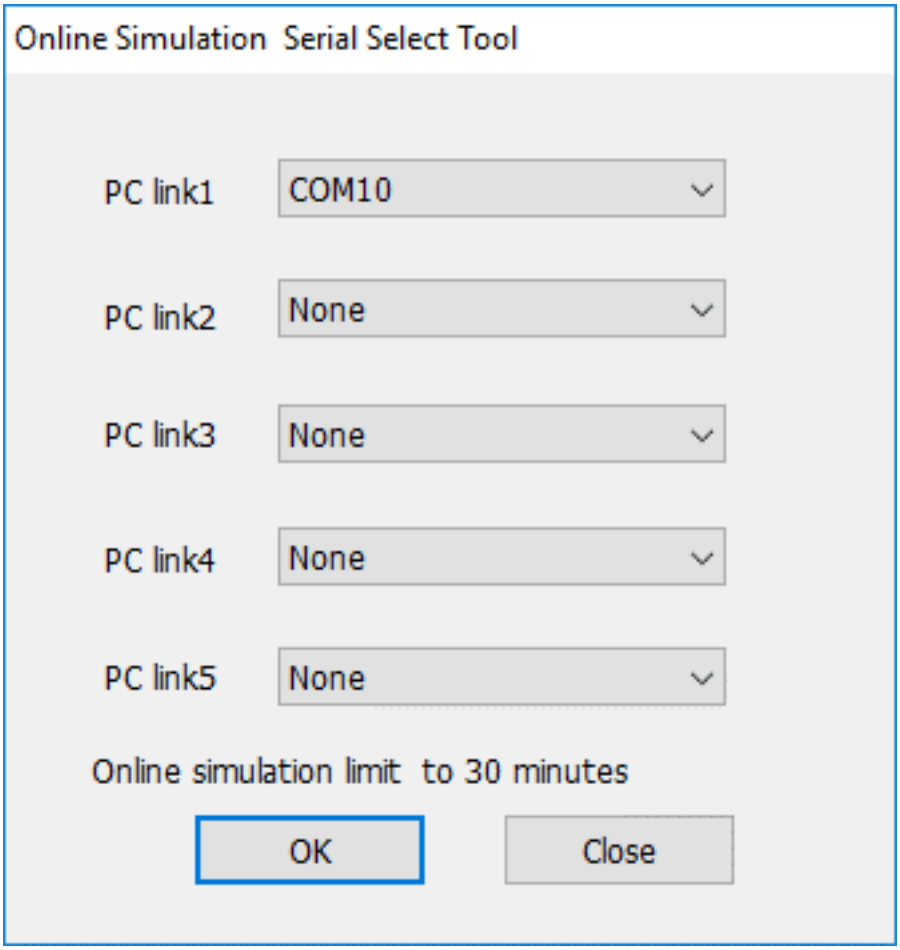
The following steps will show how to use simulator in PIStudio.

Operating procedure of offline simulation

1. Click "off-line" to open the simulation window.
2. Check HMI screen in window.

Operating procedure of online simulation

1. Click "on-line" to open "online simulation serial select tool" .
2. Select COM port in PC for link.



1. Click "OK" to open simulation window.
2. Check HMI project in window.

#**Note:** If HMI project uses Ethernet communication, no need selects any port in online simulation.

Off-line

Introduction

[Off-line] provides function to users for checking the HMI project display on PC.

Requirement

Project is compiled and .wmt file exists

Operating Procedure

1. Click [Off-line] button;
2. Check project display and some non-communication functions in Off-line simulator;

On-line

Introduction

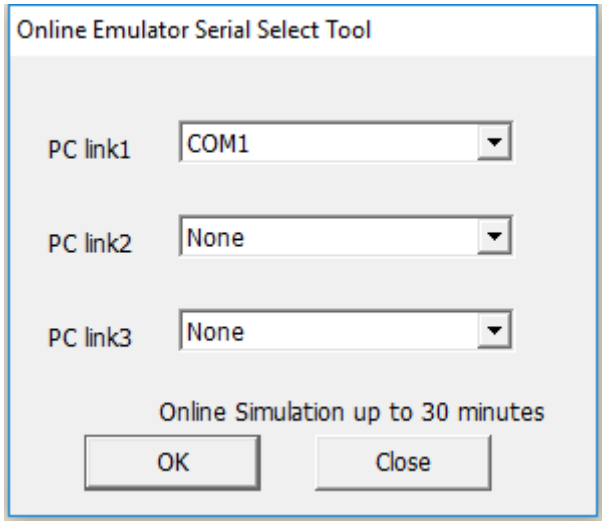
[On-line] provides function to users for checking the HMI project and communication.

Requirement

1. Project is compiled and .wmt file exists;
2. PC is connecting with PLC device;

Operating Procedure

1. Click [On-line] icon to open the online simulator
2. The [Online Emulator Serial Select Tool] pop-up automatically, as following picture shows, the detailed description showed in following content.



- PC link1/ PC link2/ PC link 3 correspond to HMI protocol list number;
- COM ports in the drop-list correspond to PC port.
- If online is for testing ethernet protocol, there is no need to select.

Result

1. On-line simulator runs HMI project;
2. HMI project is communicating with PLC device;

#Note:

- Most Desktop only has RS232 port, if users need to use RS485 and RS422, please use converter for them.
- Simulation only work for 30 minutes.

Download project

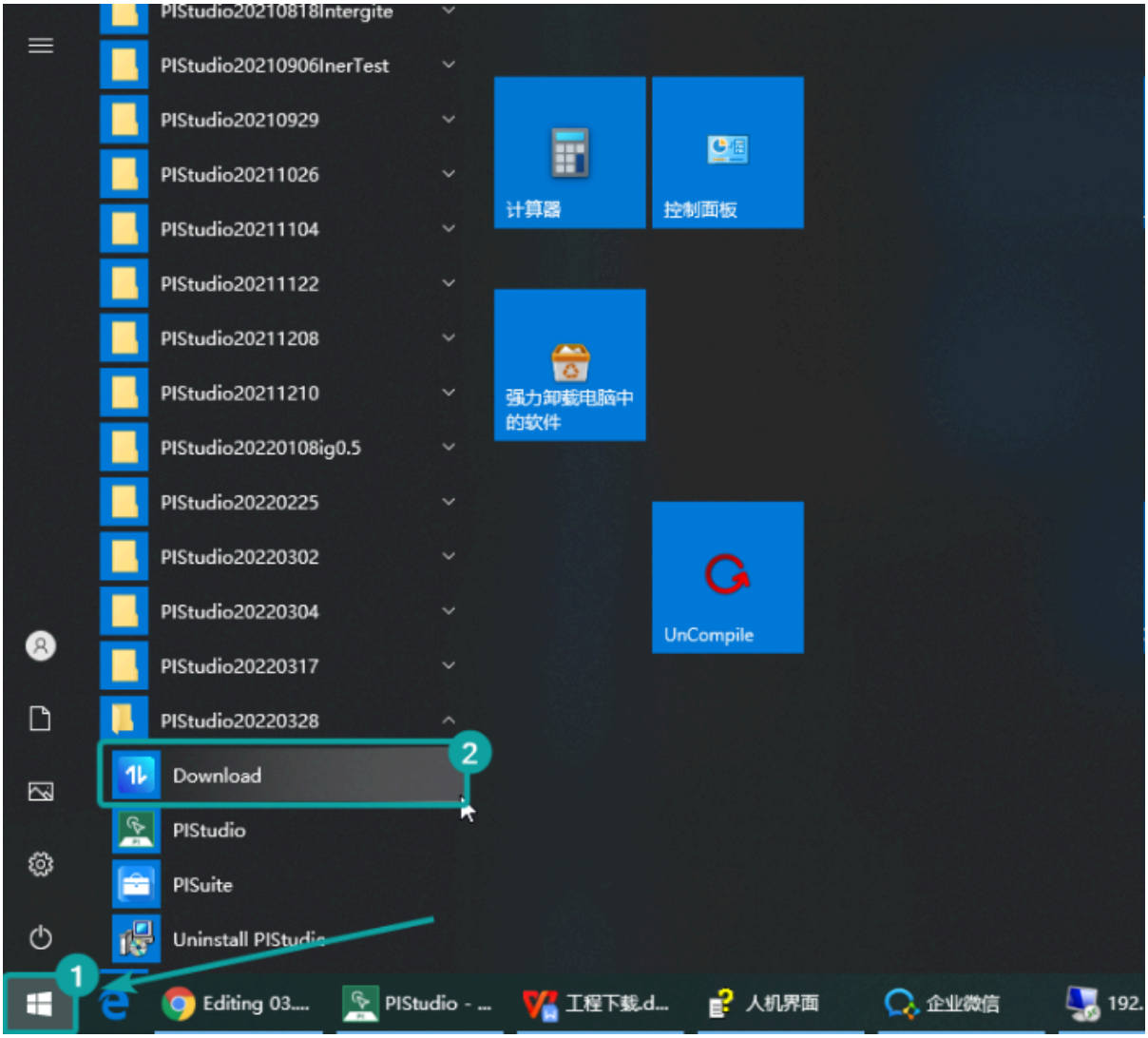
This chapter provides information about the download project and a description of how to download project to HMI.

Project Upload/Download

Not opening the project file directly, while open the download tool from PIStudio shortcut menu from Start menu to upload, download project or firmware.

Operating Procedure

1. Connect HMI via USB programming cable (D type USB cable).
2. Find the download tool from shortcut menu.
3. Download or upload the file according to need.


PIStudio20210818Intergite
PIStudio20210906InerTest
PIStudio20210929
PIStudio20211026
PIStudio20211104
PIStudio20211122
PIStudio20211208
PIStudio20211210
PIStudio20220108ig0.5
PIStudio20220225
PIStudio20220302
PIStudio20220304
PIStudio20220317
PIStudio20220328
Download
PIStudio
PISuite
Uninstall PIStudio
计算器
控制面板
强力卸载电脑中的软件
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1
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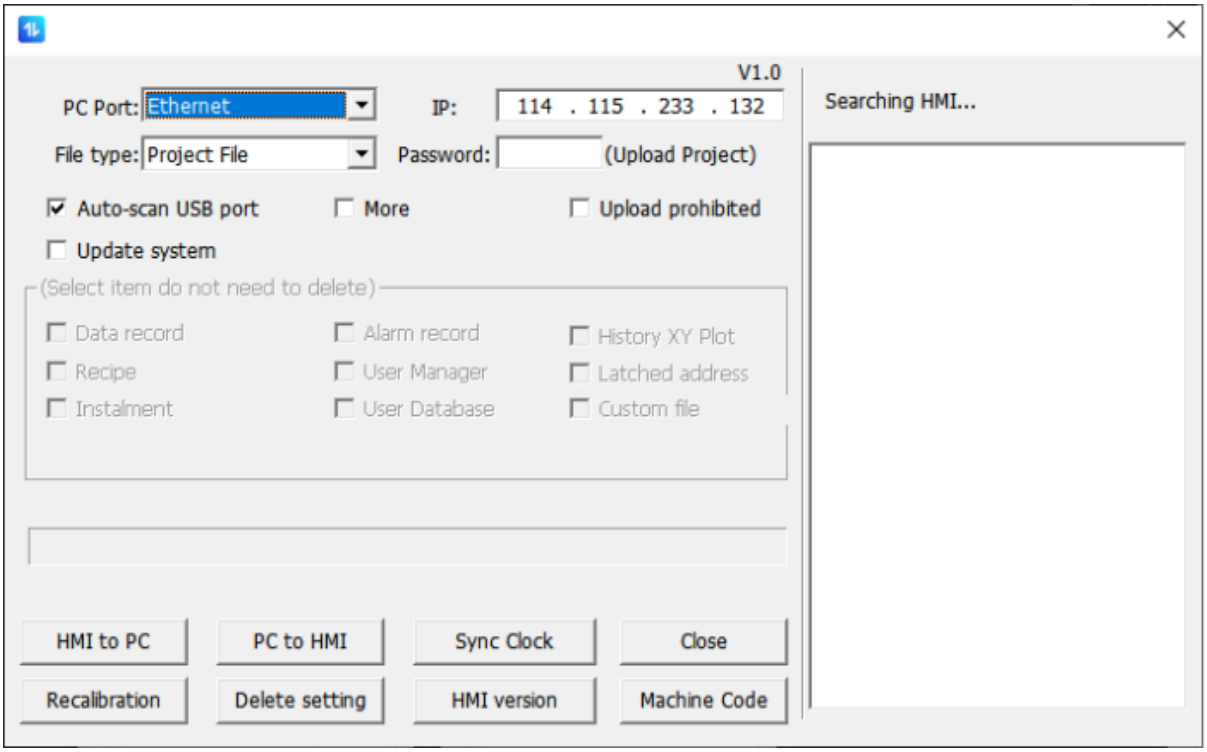
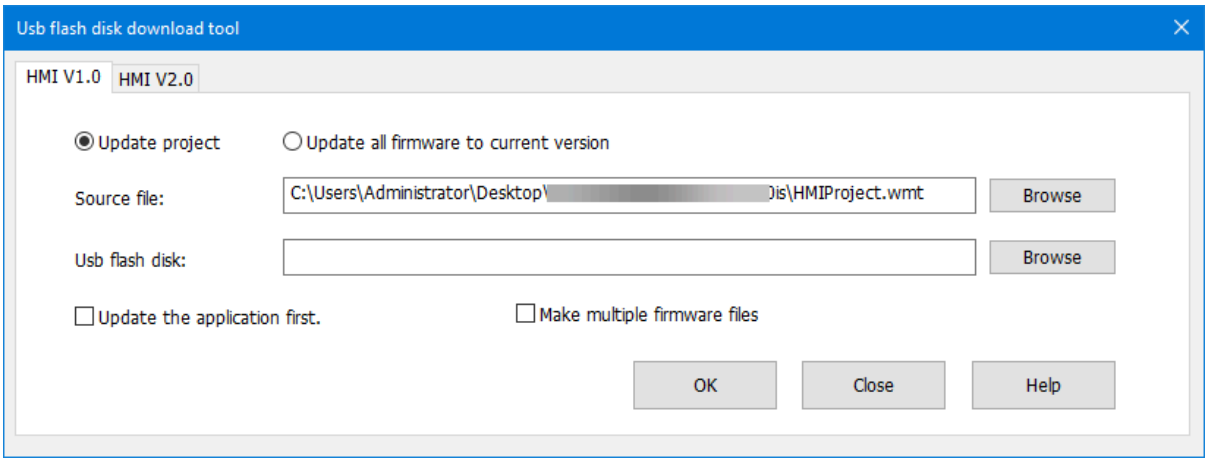
Editing 03....
PIStudio - ...
工程下载.d...
人机界面
企业微信
192.



UDisk Download Tool



Udisk Download

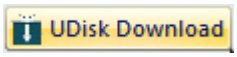
Introduction

"USB flash disk download tool" could create project and firmware updating file. This section introduces how to use this tool.

Generate the U disk file (Project file, firmware file, current version firmwares), then insert the UDisk into HMI, enter the HMI background interface(long press the upper right corner) to process the update operations.

Operating Procedure

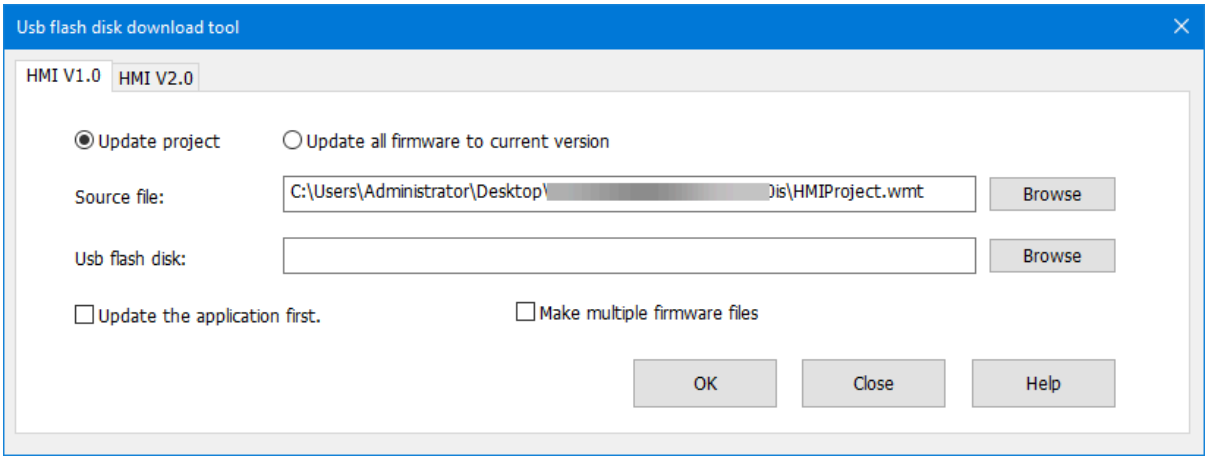
1. Open the PIStudio.

2. Click on 

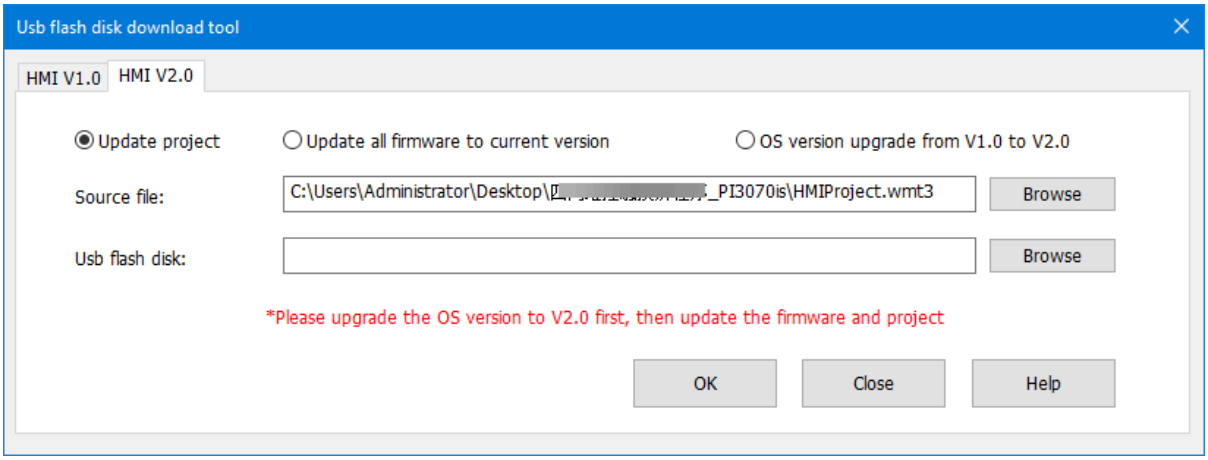
from toolbar.
3. Select the file type want to update with.
4. Finish the generation into Udisk.
5. Insert Udisk into HMI.
6. Long press the HMI upper right corner for lasting over 5 seconds, it will enter the background setup.
7. Update the file from Update tab.

The difference between HMI V1.0 and HMI V2.0: Long press the upper right corner of HMI for over 5 seconds to enter the HMI backgroud to view HMI version information.

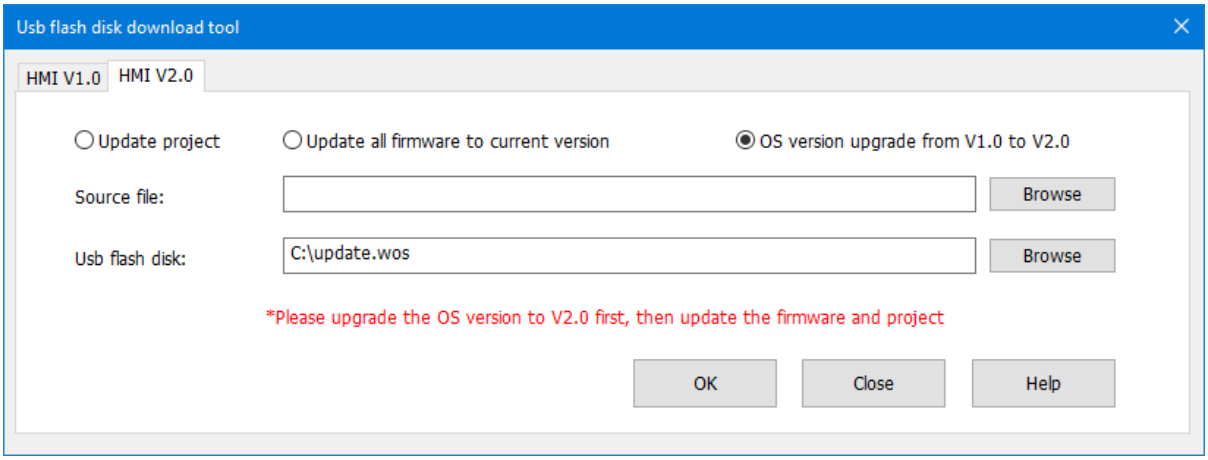
1. If it is HMI V1.0, when you create project, you should select the interface of HMI V1.0.



1. If it is HMI V2.0, when you create project, you should select the interface of HMI V2.0.

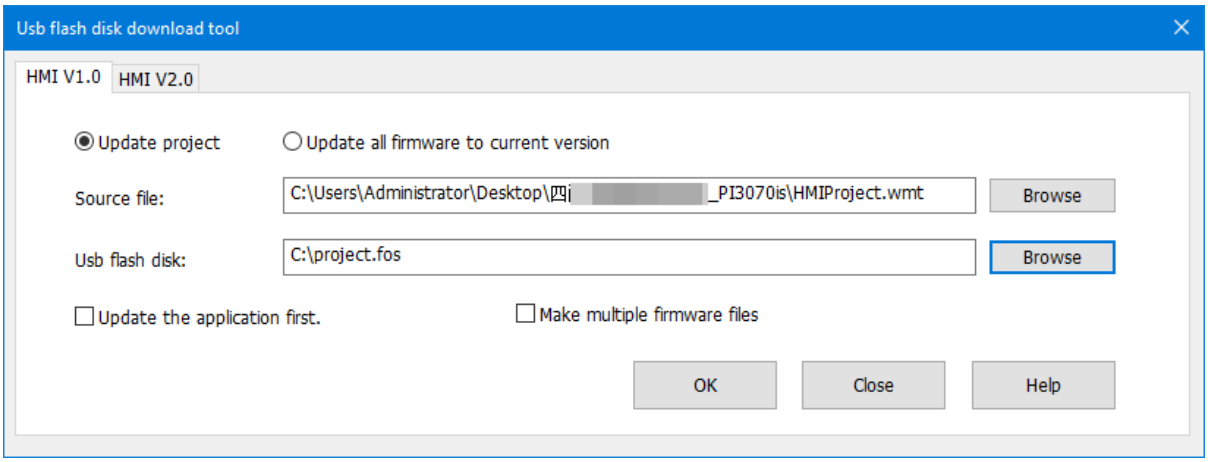


#Note: If the system version is HMI V1.0, you need to select "OS version upgrade from V1.0 to V2.0" before you download the files of V2.0. After the HMI system is upgraded to V2.0, you could download the project and firmware.



Update project

(1) Create one project (HMI V1.0)



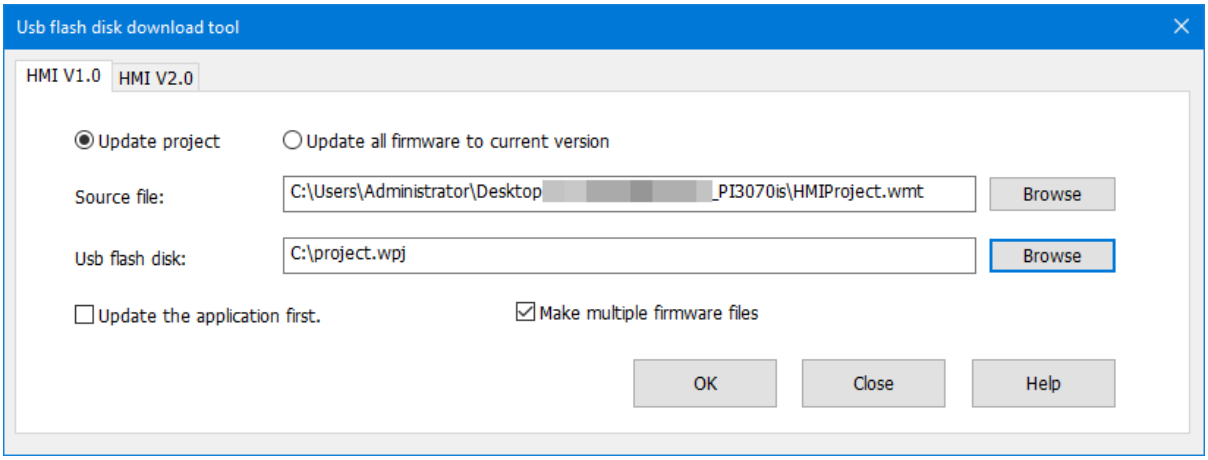
Operating procedure

1. Click "Udisk download" to open tool window in HMI V1.0.
2. Select "Update project" option.
3. Set project in "source file". The file format is ".wmt".
4. Set USB flash disk path. The default file is "project.fos" and cannot be changed.
5. Select "Update the application first] according to requirements, this option means if USB flash disk contains project and firmware updating files at the same time, it will update project firstly.
6. Click [OK] to execute the operation.
7. Copy the project file "project.fos" to Udisk, and insert the Udisk to HMI to download the project.

#Note:

- The default file name of Udisk is "project.fos" and cannot be changed.
- Only one "project. fos" file can be stored in the root directory of a Udisk.

(2) Create multiple projects (HMI V1.0)



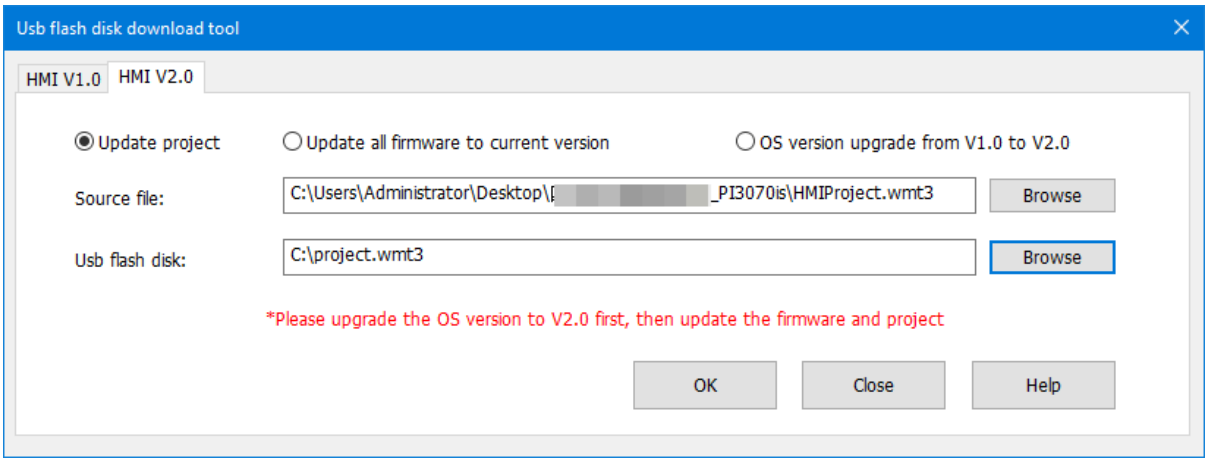
Operating procedure

1. Click "Udisk download" to open tool window in HMI V1.0.
2. Select "Update project" and "make multiple firmware files".
3. Set project in "source file". The file format is ".wmt".
4. Set USB flash disk path and create project "XX.wpj".
5. Select "Update the application first] according to requirements, this option means if USB flash disk contains project and firmware updating files at the same time, it will update project firstly.
6. Click [OK] to execute the operation.
7. Copy the project file "XX.wpj" to Udisk, and insert the Udisk to HMI to download the project.

#Note:

- The project file name in the USB flash drive can be modified, but the file suffix cannot be changed (the project file suffix is "wpj".)
- The root directory of a USB flash drive can store multiple "XX. wpj" and "XX.wos" files.
- It is only supported by V2.0 and above.

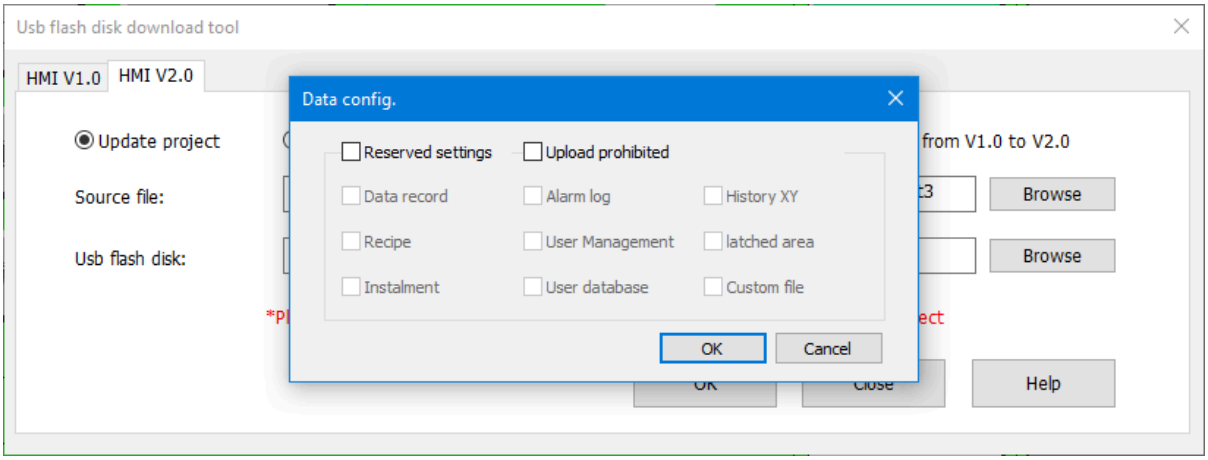
(3) Create projects (HMI V2.0)



Operating procedure

1. Click "Udisk download" to open tool window in HMI V2.0.
2. Select "Update project".
3. Set project in "source file". The file format is ".wmt3".
4. Set USB flash disk path. The default file is "XX.wmt3".
5. Select "Update the application first] according to requirements, this option means if USB flash disk contains project and firmware updating files at the same time, it will update project firstly.

6. Click [OK] to execute the operation. It will pop-up below window.



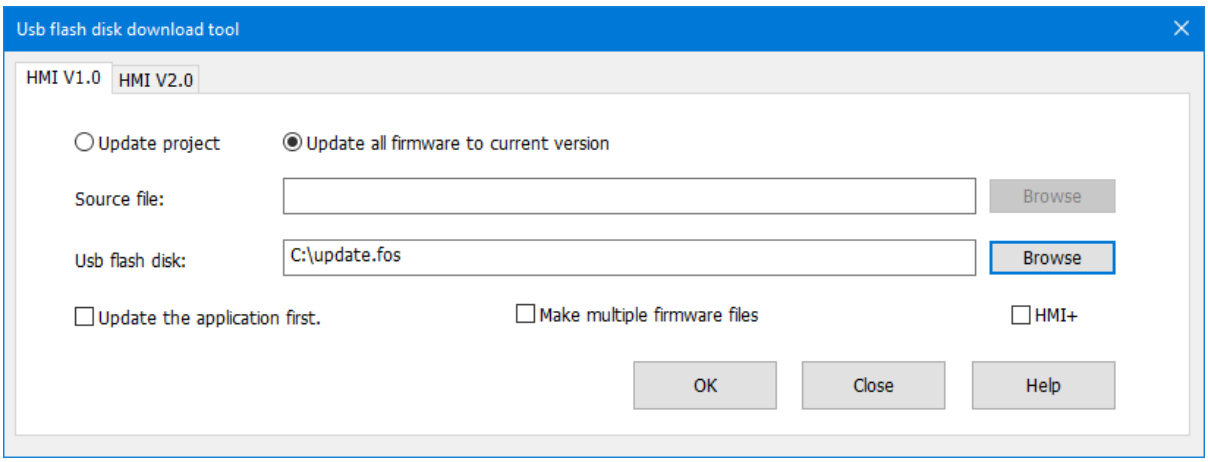
1. Copy the project file "project.fos" to Udisk, and insert the Udisk to HMI to download the project.

#Note:

- The project file name in the USB flash drive can be modified, but the file suffix cannot be changed (the project file suffix is "wmt3".)
- The data configuration interface is to save some of the configuration files of the original project (please choose carefully so as not to cause application errors).
- Click :OK", it will delete all data or delete data that is not selected according to the check box . Click "Cancel" to save all the data.
- If "Upload prohibited" is checked, projects in HMI will be prohibited from being uploaded to the computer, which is currently only supported by HMI V2.0 or later.

Update firmware

(1) Create one firmware file (HMI V1.0)



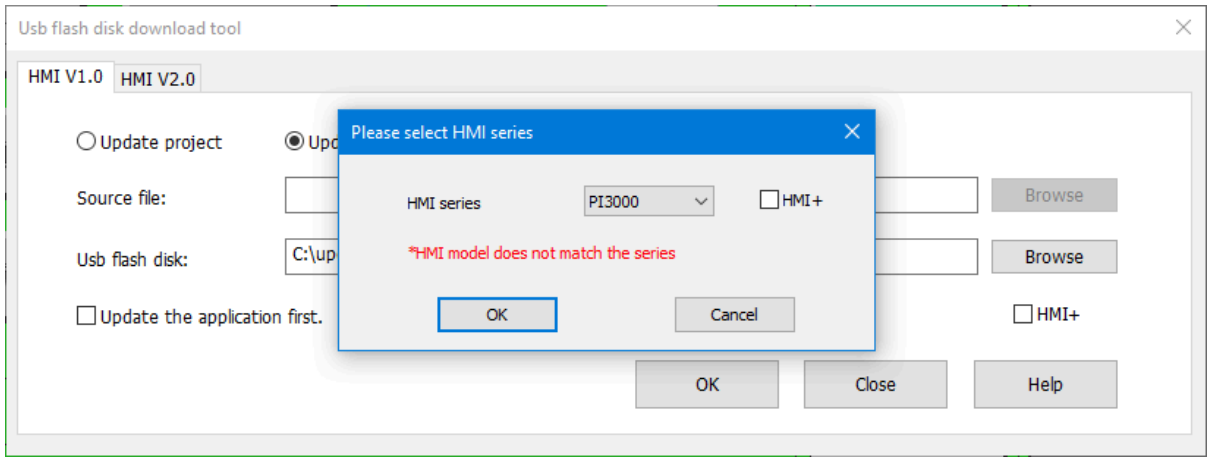
Operating procedure

1. Click "Udisk download" to open tool window in HMI V1.0.
2. Select "Update all firmware to current version".
3. Set USB flash disk path. The default file is "update.fos".
4. Click [OK] to execute the operation.
5. Copy the project file "update.fos" to Udisk, and insert the Udisk to HMI to update system version.

#Note:

- The default file name of Udisk is "update.fos" and cannot be changed.
- Only one "update. fos" file can be stored in the root directory of a Udisk.

(2) Create multiple firmware files (HMI V1.0)



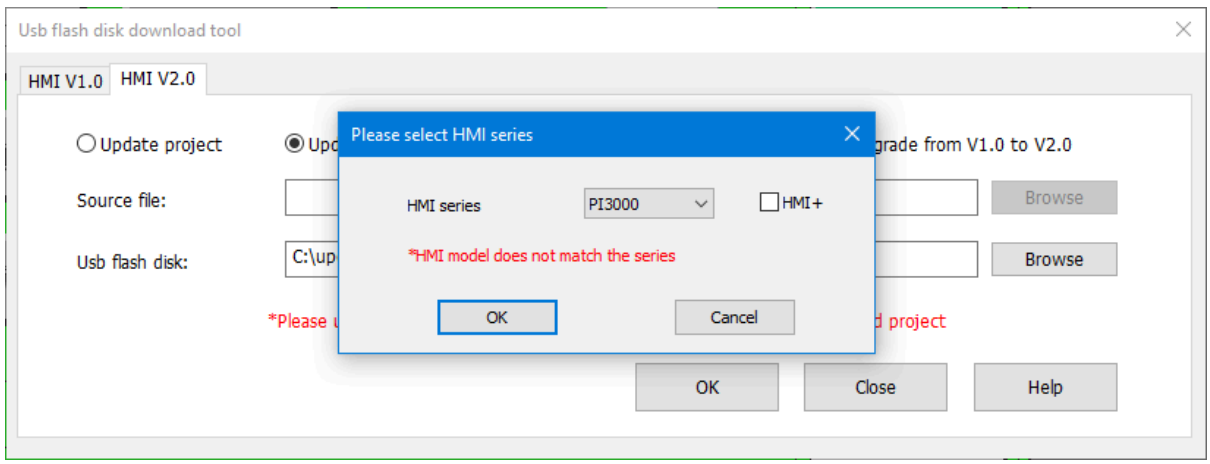
Operating procedure

1. Click "Udisk download" to open tool window in HMI V1.0.
2. Select "Update all firmware to current version" and "make multiple firmware files".
3. Set USB flash disk path and create project "XX.wos".
4. Click "OK" to execute the operation and pop-up a screen to select the corresponding HMI series.
5. Copy the project file "XX.wos" to Udisk, and insert the Udisk to HMI to update system version.

#Note:

- The firmware file name in the USB flash drive can be modified, but the file suffix cannot be changed (The firm file suffix is "wos".)
- The root directory of a USB flash drive can store multiple "XX. wpj" and "XX.wos" files.
- The HMI firmware file varies in HMI series. Please select corresponding HMI, otherwise there would be an error.

(3) Create firmware file (HMI V2.0)



Operating procedure

1. Click "Udisk download" to open tool window in HMI V2.0.
2. Select ""Update all firmware to current version".
3. Set USB flash disk path. The default file is "XX.osf3".
4. Click "OK" to execute the operation and pop-up a screen to select the corresponding HMI series.

5. Copy the project file "XX.osf3" to Udisk, and insert the Udisk to HMI to update system version.

#Note:

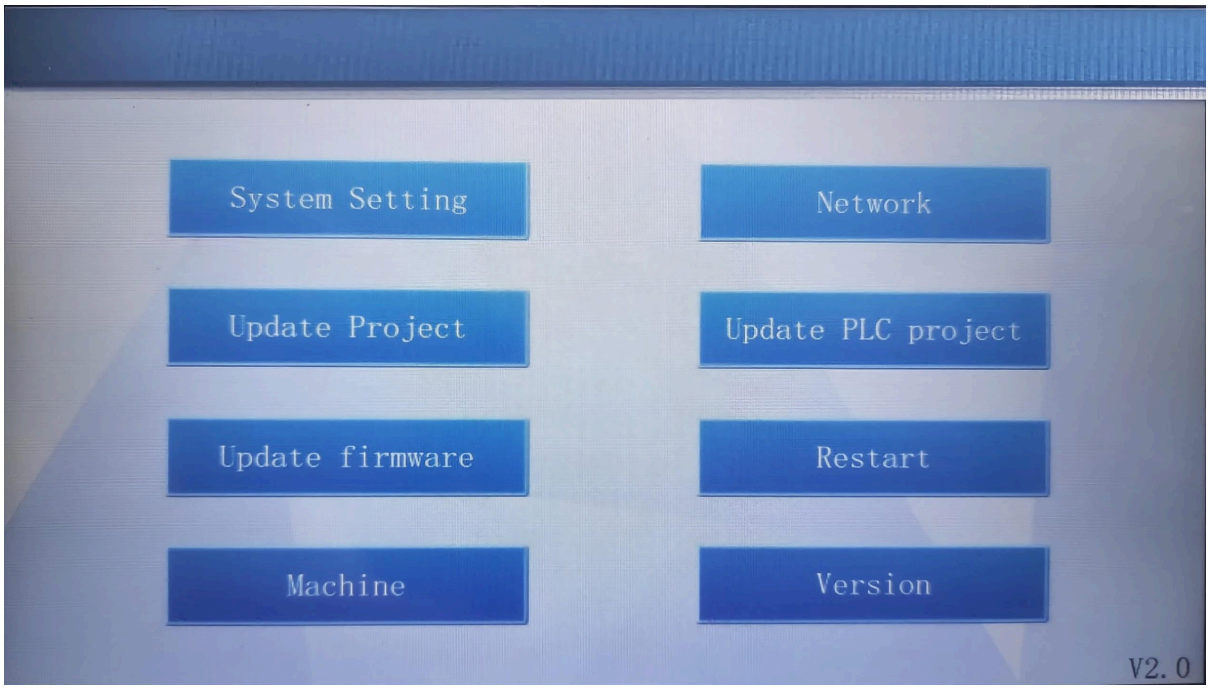
- The firmware file name in the USB flash drive can be modified, but the file suffix cannot be changed (The firm file suffix is "osf3".)
- The firmware file "XX.osf3" could be downloaded to HMI through download tool.

HMI Setting

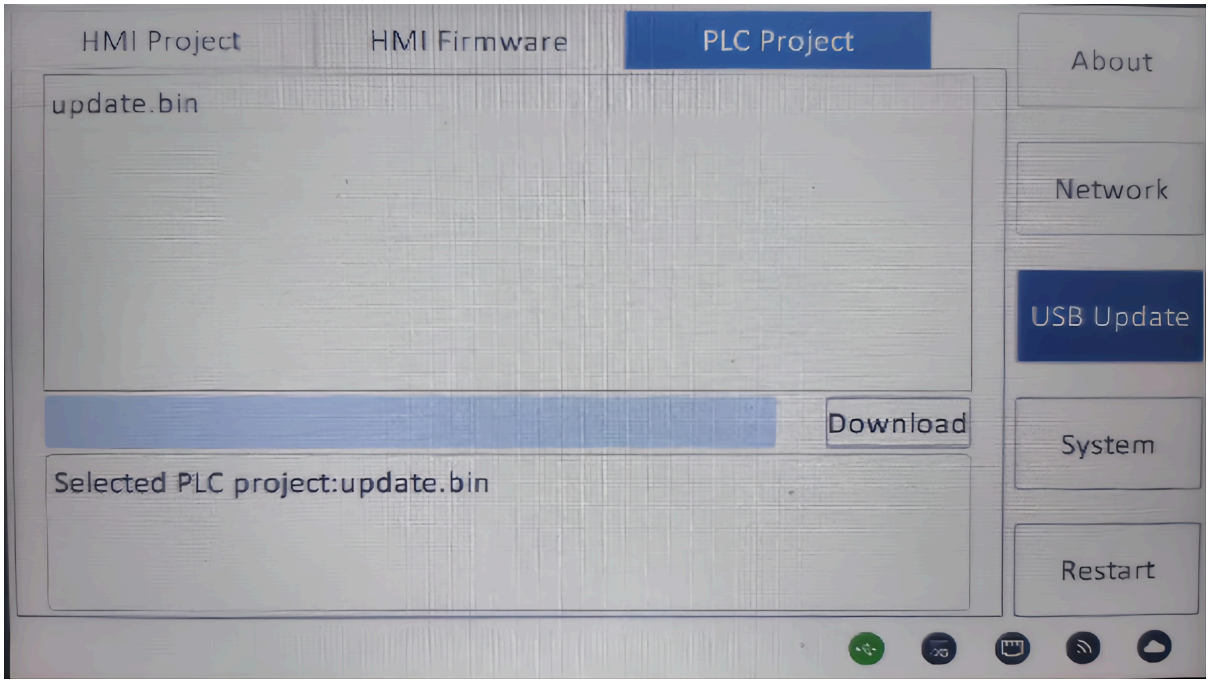
please click "HMI Setting" for the details.

Udisk Download PLC program

(1) HMI background



(2) ig seies HMI background



Procedure of downloading PLC program

1. Use PLC programming software to make a U disk PLC program file "update.bin".
2. Store the file on a Udisk /SD card.
3. When the HMI and PLC are communicating normally, insert the U disk or SD card into the HMI interface and switch the DIP switch of PLC to "stop".
4. Long press the upper rignth corner of HMI to enter the background.
5. When the HMI display "Updated, please restart HMI.", PLC program download is complete.

#Note:

- Only Wecon PLC programs are suppored to download.
- USB flash disk and SD card are supported to download PLC program.
- PLC program file name is "update.bin".
- When downloading PLC program, HMI would read and write data to PLC. You just need to wait patiently. When the upgrade is complete, there will be a corresponding prompt.
- When the upgrade contains subroutine encryption, the upgrade time will be longer than without subroutine encryption.
- USB HUB is not supported.
- You should format the SD card before downloading PLC programs using an SD card.

Prompt messages are as follows.

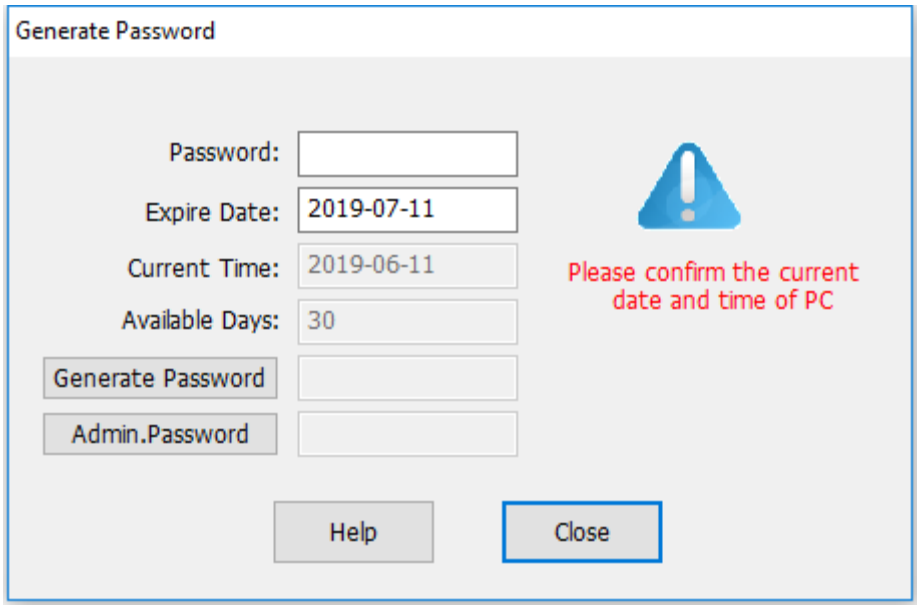
- **Prompt:** Failed to open COM!
- **Prompt:** Failed to read file!
- **Prompt:** The PLC Version is mismatch!
- **Prompt:** The download password is error!
- **Prompt:** The download Program ID is error!
- **Prompt:** The PLC has download Program ID,download `error!`
- **Prompt:** Download timeout,please check your connection and retry `again!`
- **Prompt:** Update PLC subProgram is `failed!`
- **Prompt:** PLC is not supported `UnUpload!`
- **Prompt:** PLC is not supported `subProgram!`
- **Prompt:** PLC is not supported `ProgramID!`
- **Prompt:** Update PLC Program is `failed!`
- **Prompt:** Update PLC Program is Successful!

Password tool

The password tool is used for setting the password for dynamic installment payments.

Dynamic installment function creates a "dynamic password" by the "key" and "expiration". In the same project, the dynamic installment and static installment are mutually exclusive.

This section will introduce how to use this tool.



Description

- **Password:** It is for entering password, which set in "Project Settings". Each project has a unique password. Enter the key and set expire time to generate a new password.
- **Expire Date:** It is for setting expire date for installmen.
- **Current Time:** Just display current date, read only.
- **Available Days:** Display the current time and the interval between expire time and current time.
- **Generate Password:** Click it to generate the password according to the password and expire time. This password is used for setting expire time.
- **Admin Password:** It is available for every payment; this password will end all payments. A password will generate a corresponding unique Admin password. Once you enter the correct Admin password, the installment function would be closed and won't pop-up again.

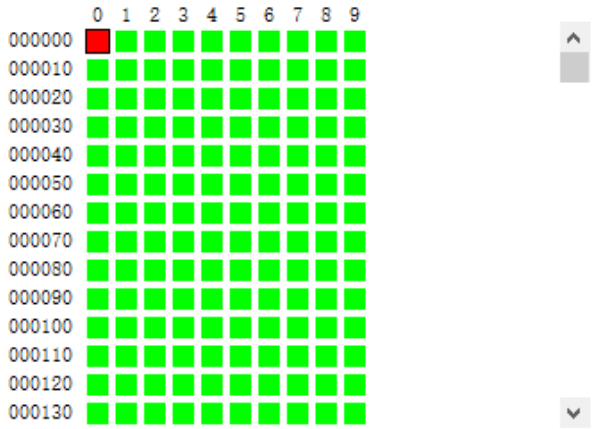
Address List

Introduction

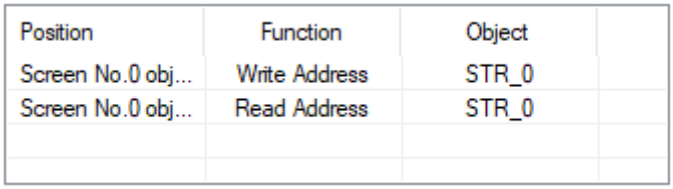
[Address list] could display all addresses which are used in project, this section will introduce this tool in detailed.

Description

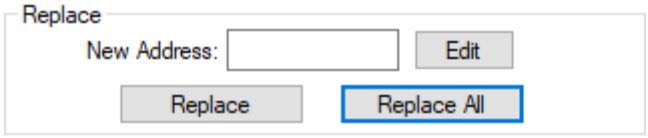
- **Connection:** Select HMI connection, such as COM2 Modbus RTU;
- **Address mode:** Select word address or bit address;
- **Address type:** Select register, or function code, such as 4;
- **Station:** Select connected device station;
- **Start address:** Set start address in window;
- **Window:** Display all addresses start from [Start address], red means occupied, green means unoccupied, as below figure shows;



- **Information:** It is display the selected address information in project, as below figure shows;



- **Replace:** Enter new address to replace the selected address in project;



Download Tool

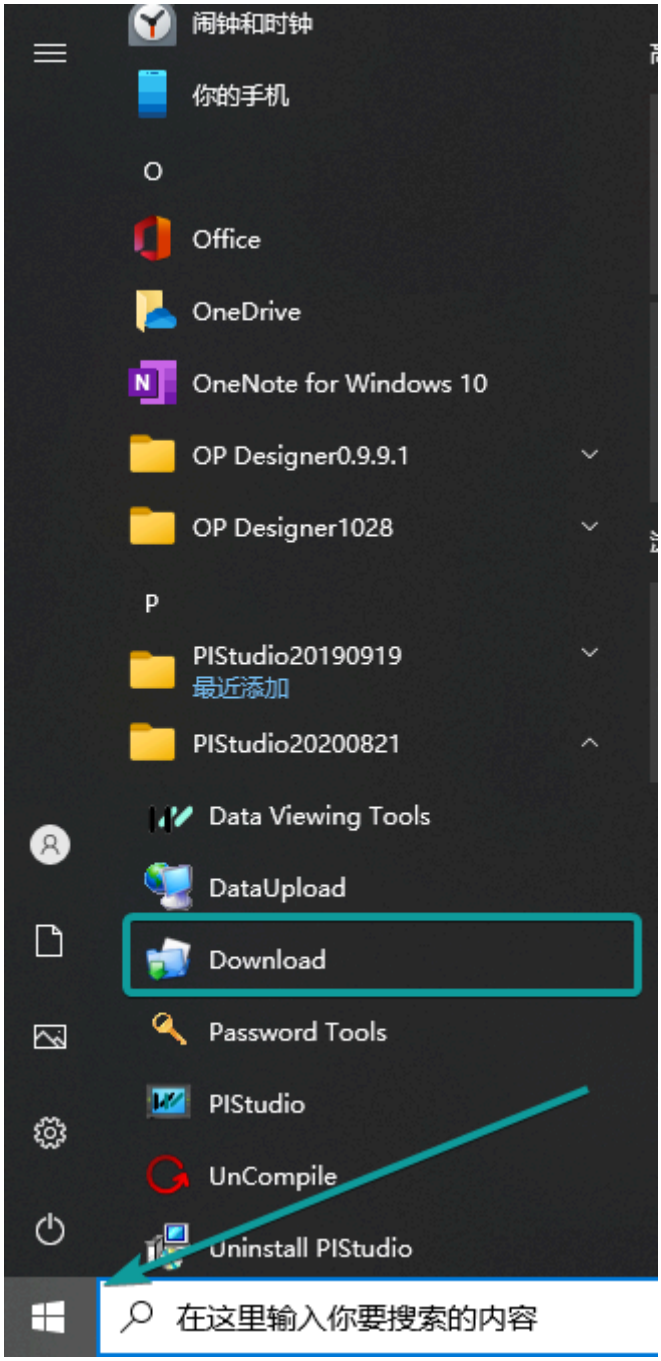
Introduction

The download tool is mainly used for project transfer, and also comes with other functions, such as synchronization time, checking firmware version, and so on.

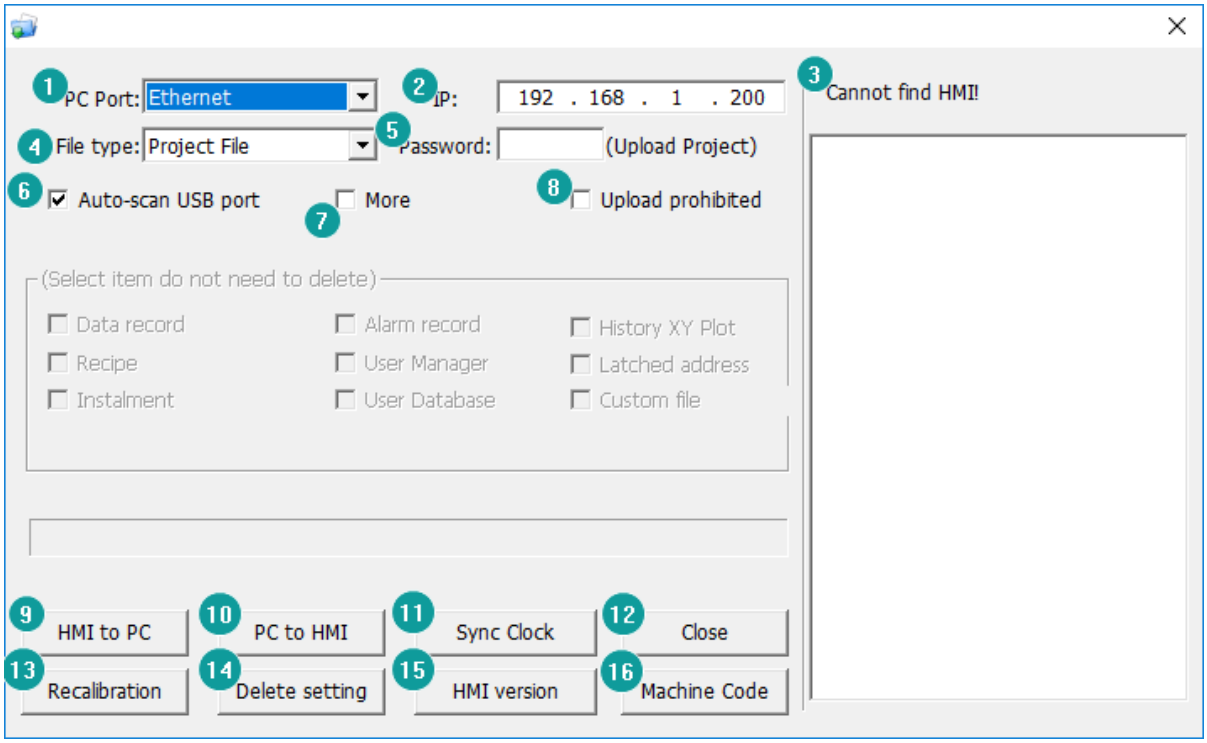
Where to enter

The download tool is on the shortcut menu. Click the Start>PIstudio>Download

- The tool opened in the PIStudio just for downloading. But following method can let the tool able to download and upload at the same time.



Description



No.	Function	Description
1	PC port	Connection method between PC and HMI, there are mainly USB port and Ethernet port;
2	IP	HMI IP address for download (Only valid when Ethernet download);
3	Cannot find HMI	Ethernet download is selected,the tool would automatically searches for the HMI on the s
4	File type	Select the file type :project (.wmt) or image file (.osf2);
5	Password	Only valid when uploading. It is “Designer Password” from Project Settings
6	Auto-scan USB port	USB download is priority by default;
7	More	When it is checked, the following checked options will be reserved. Otherwise,all the files
8	Upload prohibited	Check it to indicate that the project will not be uploaded to the computer;
9	HMI to PC	Upload the project file from HMI to PC
10	PC to HMI	Download the file to HMI
11	Sync clock	Synchronize the current PC's time to HMI;
12	Close	Close the download tool window
13	Recalibration	Delete exists calibration file and enter calibration screen
14	Delete settings	Delete exists configuration files, such as parameter configuration files, protocol configurat
15	HMI version	Detect and pop-up HMI version
16	Machine code	Get the HMI machine ID, and it will copy to the pasteboard of PC

Operation Procedure of Download by USB

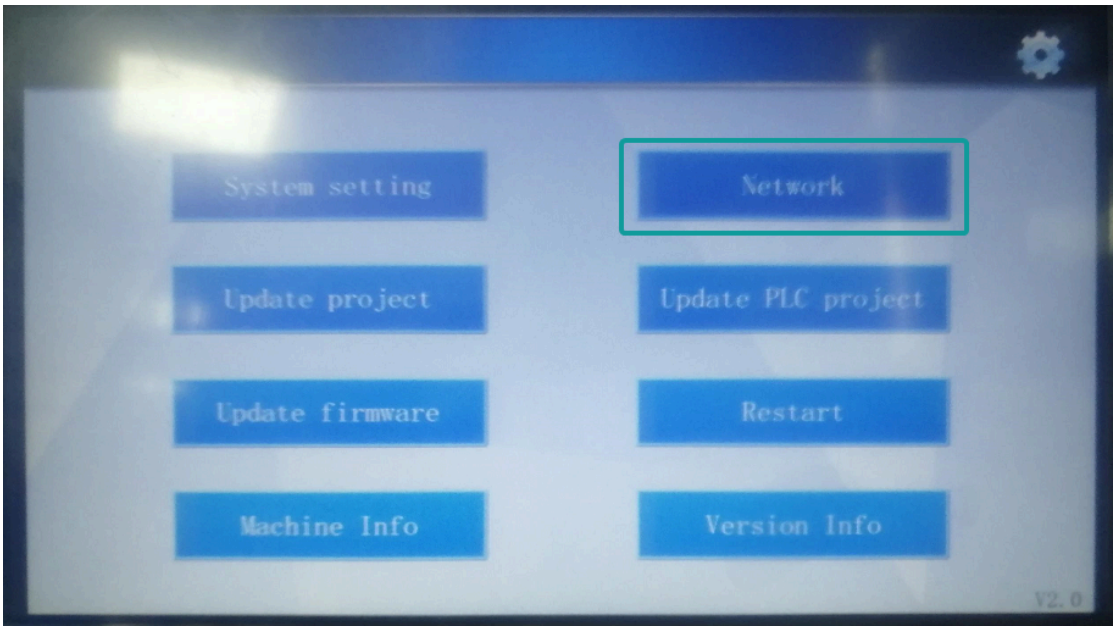
1. Complete project programming and compile the project;
2. Connect HMI via USB programming cable;
3. Click the Download in toolbar;
4. Check the [PC Port] drop-list menu, if it shows [USB: Download], it means HMI is accessed by PC via USB download cable. Or select serial port;
5. Click [PC to HMI] button to execute project download;

Operation Procedure of Download by Ethernet

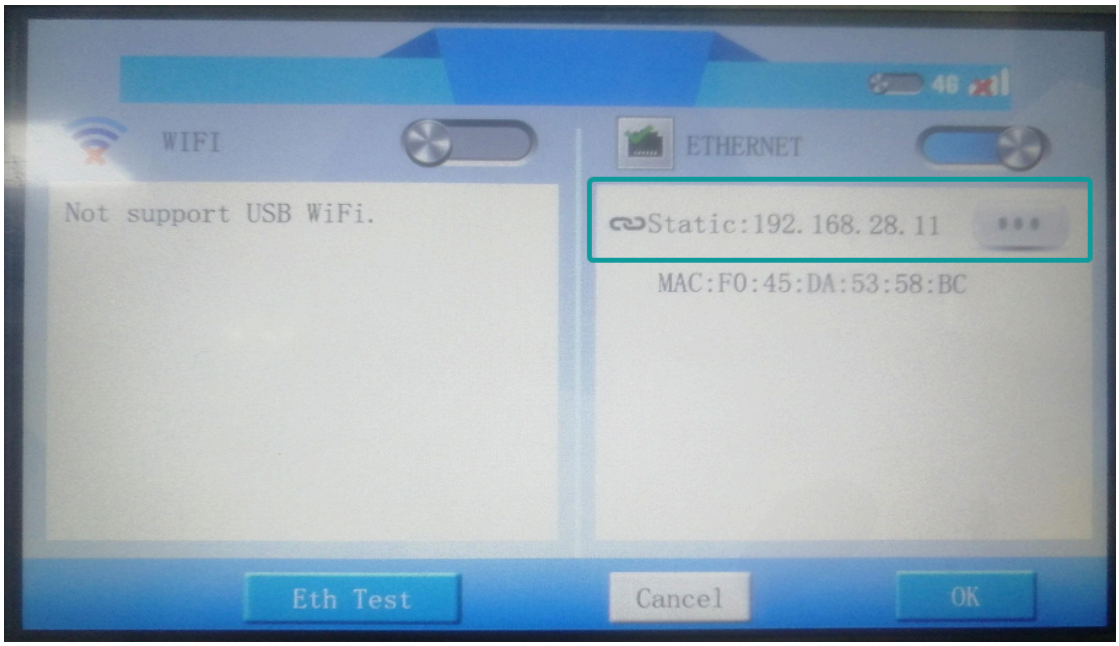
1) Complete project programming and compile the project;

2) Set HMI IP

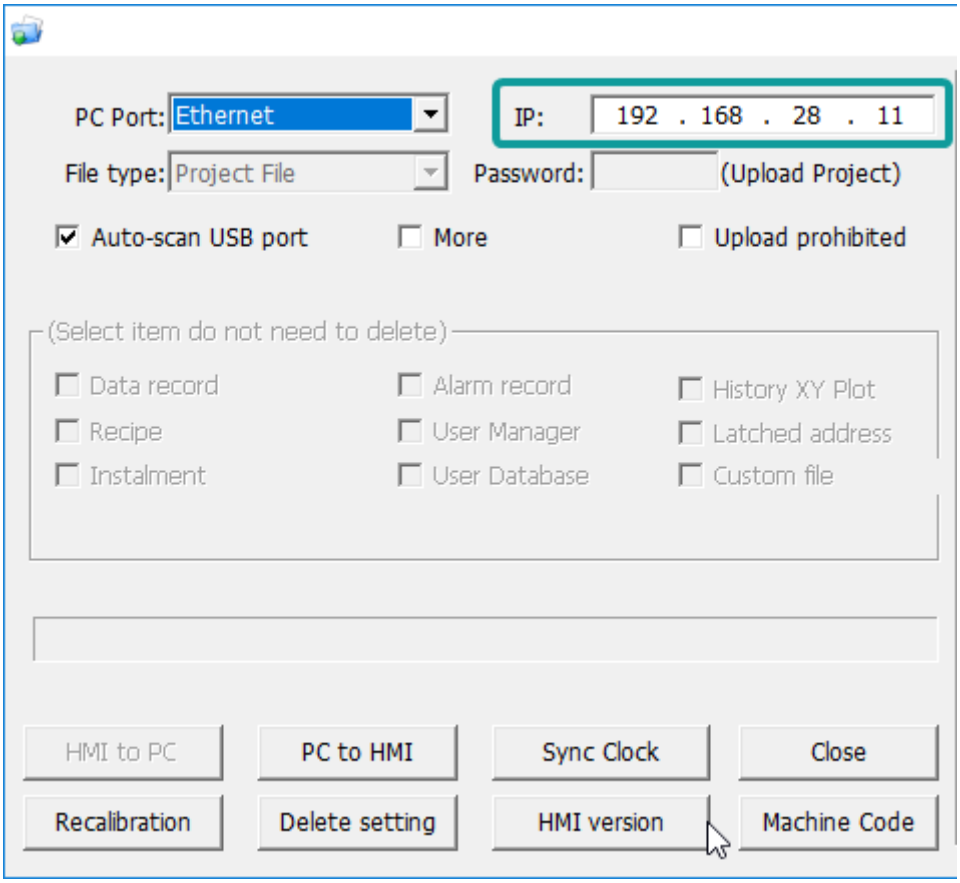
1. Holding Press upper-right corner of screen into backstage screen as below shows;



1. Click [Network]into setting screen as below shows;



1. Connect HMI via Ethernet cable;
2. Click the Download in toolbar;
3. Check the [PC Port] drop-list menu, please select [Ethernet], and enter HMI IP address, as below shows;

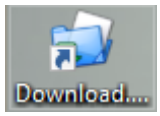


1. Click [PC to HMI] button to execute project download;

Operation Procedure of Upload by USB

Many users need to upload the project from HMI to PC.

1. Open the Download.exe directly, as below shows.



1. Connect the HMI to PC via USB programming cable;
2. If HMI is accessed, it will show [USB: Download] in [Download] menu;
3. Click [HMI to PC] button to execute project upload;
4. The .wmt file will be upload to PC;

Operation procedure of upload by Ethernet

1. Open the Download.exe directly;
2. Connect the HMI to PC via Ethernet cable;
3. Check the [PC Port] drop-list menu, please select [Ethernet], and enter HMI IP address;
4. Click [HMI to PC] button to execute project upload;
5. The .wmt file will be upload to PC;

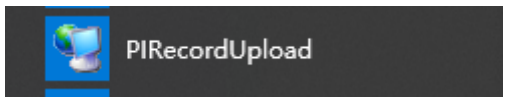
#Note:

- If user doesn't want this project be uploaded from HMI, please check [Upload prohibited] option;
- There are some items for saving HMI device setting, if user check the option, the corresponding setting in HMI will be reserved;

- If the project is set design password, nobody could upload it without password;
- If the project is set [Upload prohibited], nobody could upload it from HMI;
- If HMI isn't accessed by PC via USB programming cable, please install the USB driver firstly. The USB driver file is contained in PIStudio software installation folder.

Data Record Upload (Only ig series)

Introduction

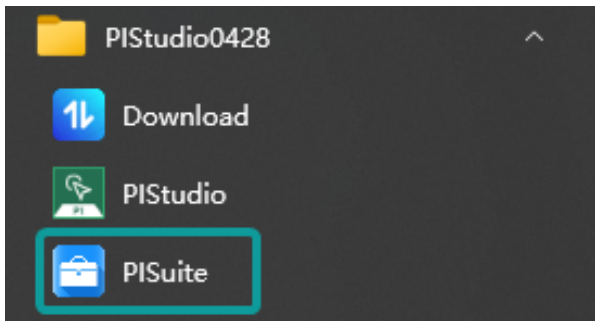


Data record upload tool could monitor the status of the device in real time, update and export the configuration (Data Record, Alarm Record, Operation record, Recipe) simultaneously, and the user can add, modify, delete, and clear the device configuration.

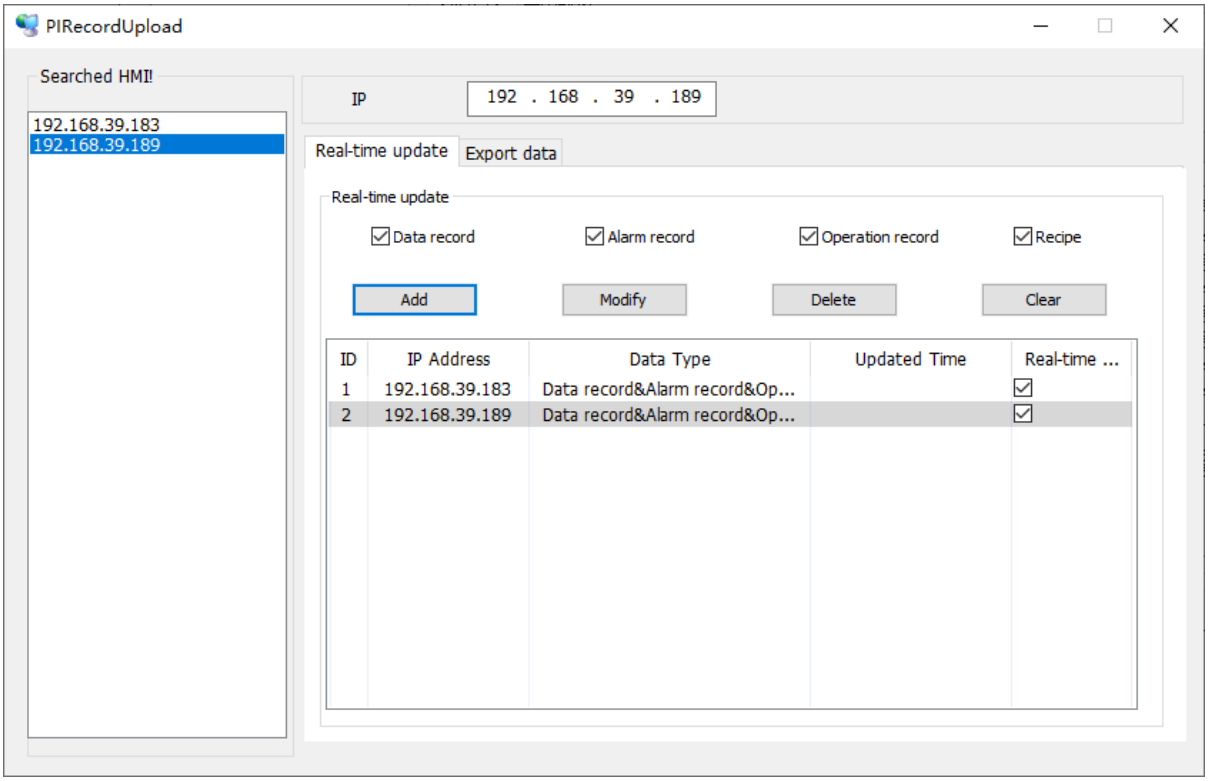
(1) Real-time Update: After adding HMI, it is checked the Real-time update by default, get the data from the HMI per 15s, save it under the folder "data" of the installation path, and update the synchronization time and real-time update status.

#Note:

- When modifying, deleting the device, and clearing the list, make sure that the "Real-time Update" is not checked, otherwise an error will be prompted.
- Enter from the start menu of windows, find the installed shortcut of PIStudio:



- Click to pop up the PIRecordUpdate, as shown in the figure below.



1. **Searched IP:** Display the IP address of the same network segment of online HMI.
2. **IP:** Display the IP address you selected. You may also enter IP address.

If user permission for data upload is configured on the screen, the user name and password are required to unlock the configured user permission when the data upload tool synchronizes or exports data in real time.

(2) Device monitoring: Display the current device's IP address, data type, Real-time update status and other information.

The real-time update status is divided into the following states:

- **Normal:** PC can detect the HMI and check the real-time update option.
- **Abnormal:** PC cannot detect the HMI and check the real-time update option.
- **No communication:** unchecked the real-time update option.

3. Export data: check the data option you want to export from a certain IP address.

- The data record file is: DataLogFile.db
- The alarm record file is: AlarmFile.db
- The operation record file is: UserMgrFile.db
- The recipe folder is: RecipeFile

#Note:

If the project is configured with multiple groups of data record options, it will be saved in DataLogFile.db, and the table name is "Tb_" + group name.