

Item	FvRT User Manual	Date	2026/08/31
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FvRT Manual

The manual's contents will change when the software updates. To find the newest version of the manual, go <https://www.fatek.com/download.php?act=list&cid=154>

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1. FvRT introduce

Preface

The FATEK FvRT software primarily allows projects developed with the FvDesigner software to run on a computer. By leveraging the powerful computing capabilities, memory capacity, storage space, and open system architecture of the computer, it easily integrates with other peripheral devices or applications to meet the requirements of customer projects, such as the need for larger screen displays.

Through the various aesthetically pleasing objects provided by FvDesigner, its powerful communication capabilities, versatile data monitoring, and seamless integration with FBs PLCs, FvRT can meet the application needs of various industries. Additionally, it enables designers who were originally using HMIs to easily get started and quickly adapt, making the transition between projects more convenient, such as converting an HMI project into a computer-compatible project.



Figure 1 FvRT Schematic diagram

Features of FvRT

- The design interface is simple and easy to use, offering a variety of aesthetically pleasing objects, image libraries, and customizable keyboard functions. °
- There is no need to install WinProLadder; the running status of the FBs PLC program can be directly displayed in the application for convenient debugging.
- Supports data collection, alarms, recipes, operation logs, scheduling, data transmission, and scripting functionalities.
- Strong communication capabilities, supporting communication protocols from major PLC brands, multiple connections, custom communication protocols, and Modbus, among other features.
- Provides multiple languages and customizable system messages, making it easy to plan for multinational product applications.
- Simply install the IGU-FvRT USB Dongle on the running computer, and FvRT will operate normally.

System Requirements

Supported Operating Systems:

- Windows 8 (32 & 64 bits)
- Windows 10 (32 & 64 bits)
- Windows 11 (32 & 64 bits)

Installation

After running the installation package, the installation guide steps will appear. Please follow the steps in order to complete the installation.

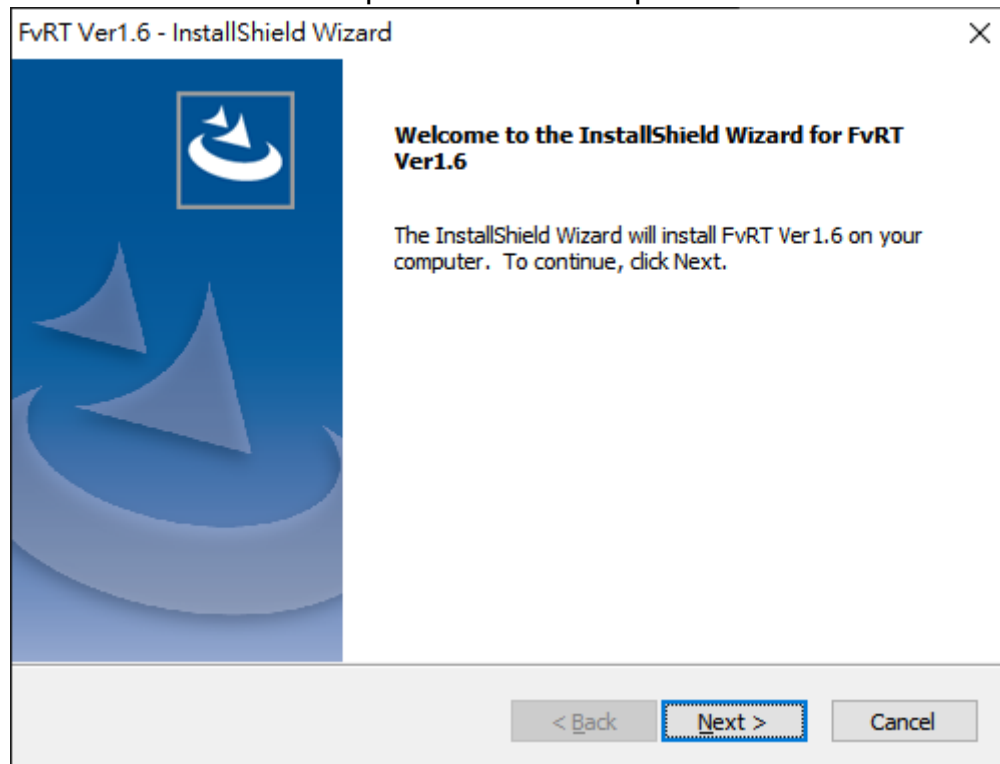


Figure 2 welcome page

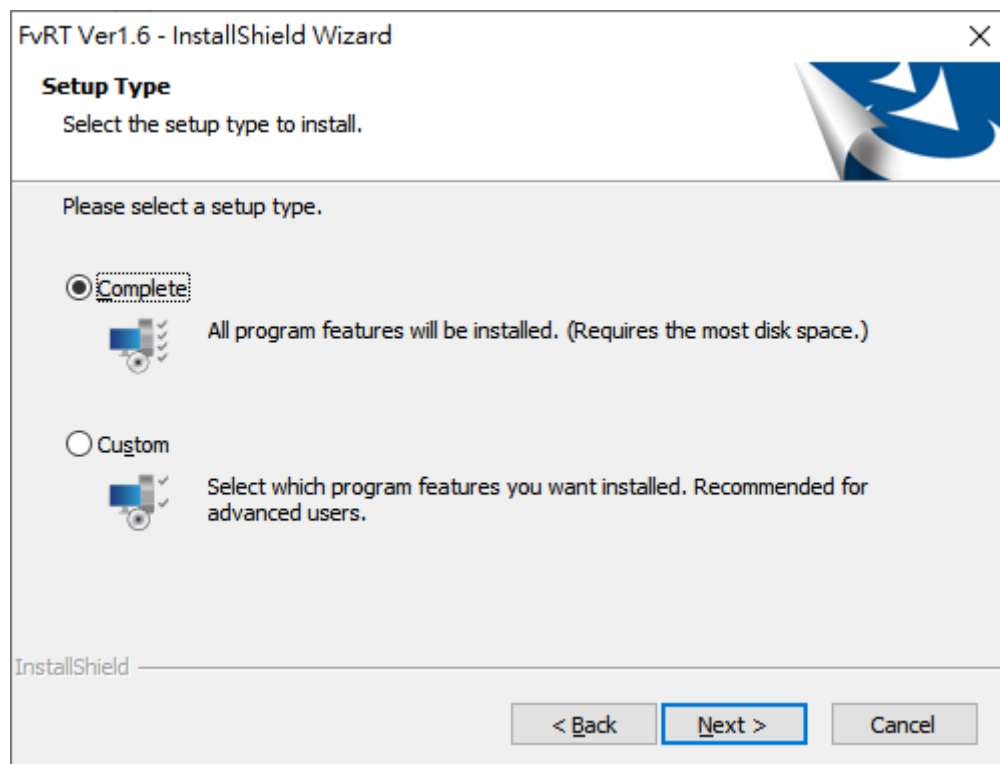


Figure 3 Complete or Custom

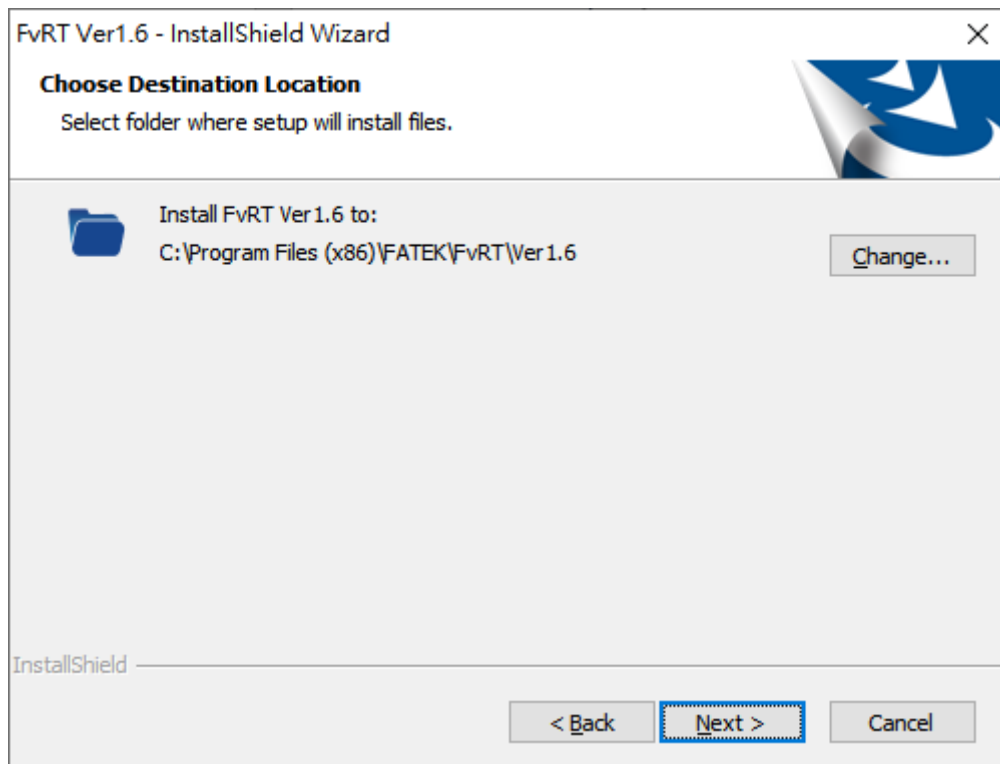


Figure 4 Storage path

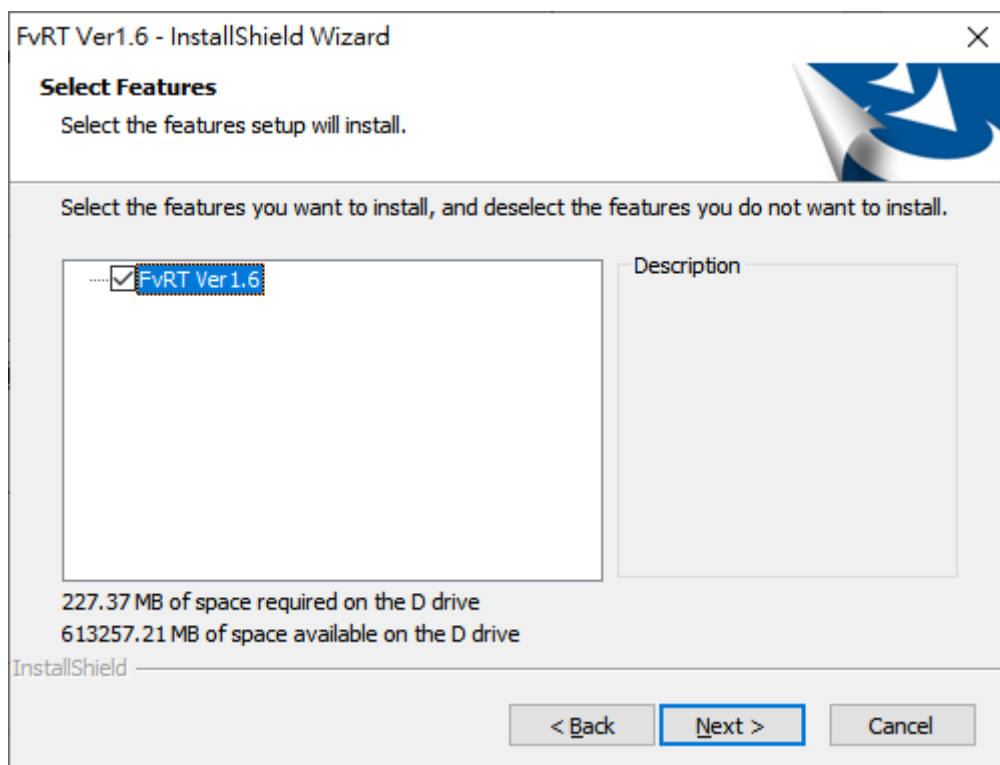


Figure 5 Select

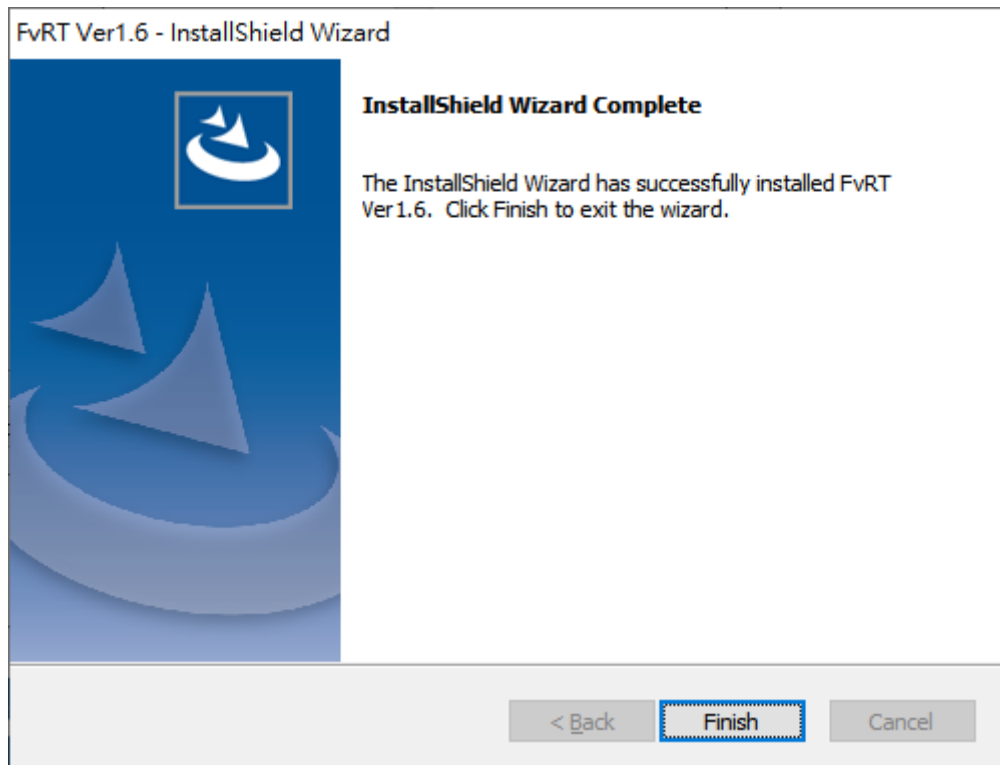


Figure 6 Finish

2. Hardware

This chapter will explain the product specifications and types of FATEK FvRT and the hardware description of the FvRT product IGU-FvRT (USB Dongle).

2.1 Specifications and types

The product types are listed in the table below, categorized by the number of external registers supported and the maximum number of types supported.

Table 1 FvRT types

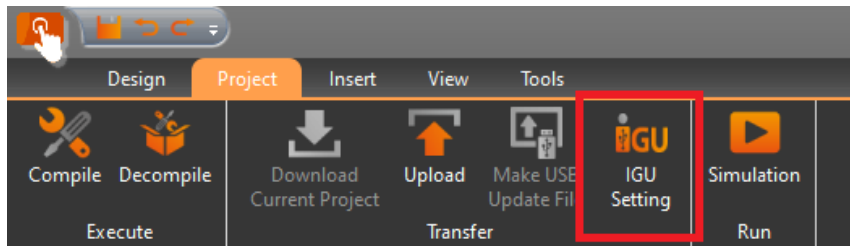
Product Category	External Registers	Max PLC types available
IGU-FvRT-0075-L002-B	75	2
IGU-FvRT-0150-L002-B	150	2
IGU-FvRT-0600-L006-B	600	6
IGU-FvRT-1200-L012-B	1200	12
IGU-FvRT-1500-L016-B	1500	16
IGU-FvRT-3000-L016-B	3000	16
IGU-FvRT-5000-L016-B	5000	16
IGU-FvRT-9999-L016-B	9999	16
IGU-FvRT-16000-L016-B	16000	16
IGU-FvRT-26000-L016-B	26000	16
IGU-FvRT-40000-L016-B	40000	16
IGU-FvRT-64000-L016-B	64000	16
*IGU-FvRT-0150-L002-HMI	150	2
*IGU-FvRT-0600-L002-HMI	600	2
*IGU-FvRT-1000-L003-HMI	1000	3
*IGU-FvRT-3000-L003-HMI	3000	3
*IGU-FvRT-5000-L003-HMI	5000	3
ADD 1 Link		
ADD 300 I/O tags		

Note: The * symbol indicates a limited-function version that does not support SQL, OPCUA, MQTT, ip camera, media player .

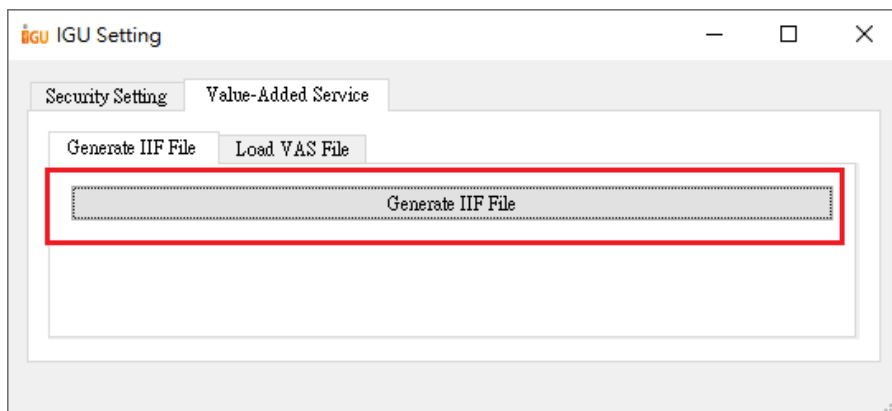
2.2 Value Added

If your available points are insufficient, you need to contact the sales team to apply for a value-added feature. ◦

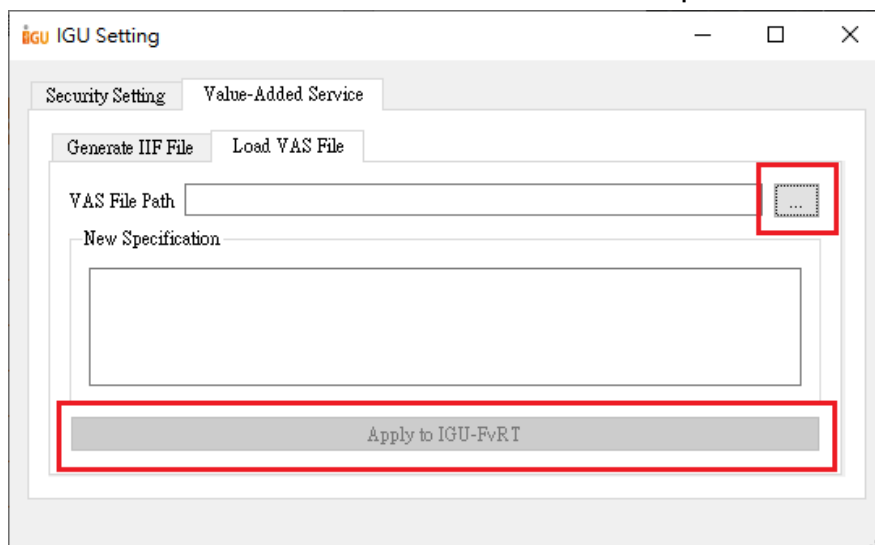
Insert the IGU-FvRT into your computer, then open FvDesigner and select "IGU Settings".



Switch to the corresponding tab and generate an .iif file. Send this file to the sales team



After the purchase is completed, the sales team will provide a .vas` file. Select this file and write it back to the IGU-FvRT to activate the purchased features.



2.3 Description

This section will describe the hardware appearance and specifications of the IGU-FvRT (USB Dongle).

2.3.1 Appearance

The image below shows the appearance of the IGU-FvRT (USB Dongle). When the IGU-FvRT is plugged into the USB port of a computer, the power light will light up in solid blue. When data is being read or written, the status light will flash in blue.



Figure 7 IGU-FvRT (USB Dongle)

2.3.2 Specifications

The table below shows the hardware specifications of the IGU-FvRT (USB Dongle).

Table 2 IGU-FvRT (USB Dongle) hardware specifications

Item	Specifications
Transfer Interface	USB 2.0
Status Light	Power light: the blue LED will be bright after plugging in the host Status light: This blue LED flashes when the action starts
Supply Power and Current Consumption	5V, 40mA, 0.2W
Operating Temperature	0 ~ 60 °C
Storage Temperature	-20 ~ 70 °C
Dimensions	55(length)x17(width)x8(height) mm
Weight	9g
Certification	CE

3. Software Interface Description

After installation, you can find the FvRT executable icon on the desktop.

Clicking on it will display the FvRT startup screen.

3.1 FvRT Usage

Step 1: Insert the USB Dongle into the USB port of the computer where FvRT will be executed.

Step 2: Launch the FvRT software. On the FvRT startup screen, under the "General" tab, the model of the IGU-FvRT (USB Dongle) currently detected by the computer, as well as the software version's release date, will be displayed in the lower-left corner.

Note: The IGU-FvRT has a validity period. Please confirm with your distributor, as it will no longer be usable once the expiration date is reached.

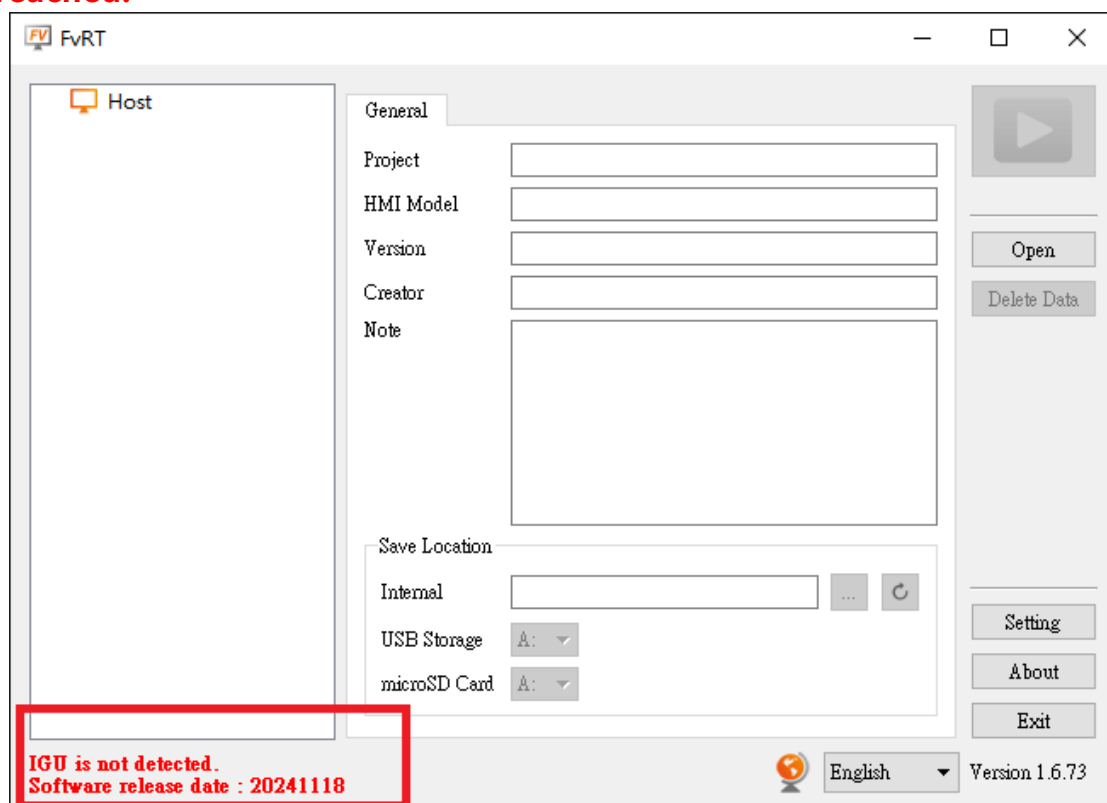
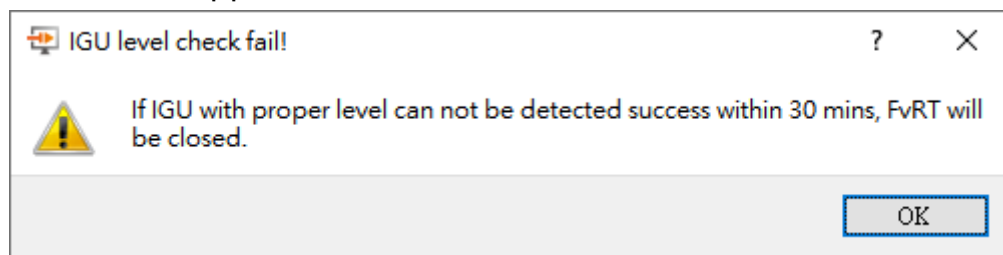


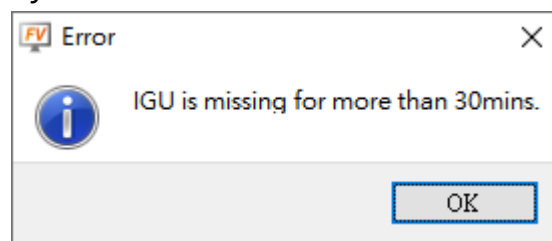
Figure 8 FvRT General

Notes :

1. FvRT can only run projects with the project model set to "PC" in FvDesigner.
2. The IGU-FvRT (USB Dongle) does not require a driver; simply plug it into the computer to use.
3. To provide users with a more convenient experience for using and testing FvRT, the system offers a 30-minute grace period. If FvRT fails to detect a suitable IGU-FvRT (USB Dongle) during startup, a reminder window will appear.



4. If no suitable IGU-FvRT (USB Dongle) is detected after 30 minutes, FvRT will automatically close.



3.2 FvRT Startup Screen Description

This section will explain the various settings on the FvRT startup screen. FvRT records the settings of previously opened projects, including storage location and port settings, for the user's convenience. These settings are retained until a new project is opened, at which point the old settings are cleared and replaced with the new project's settings. If the project has been modified and compiled by FvDesigner, it will need to be reopened.

3.2.1 FvRT Startup screen 【General】 Paging

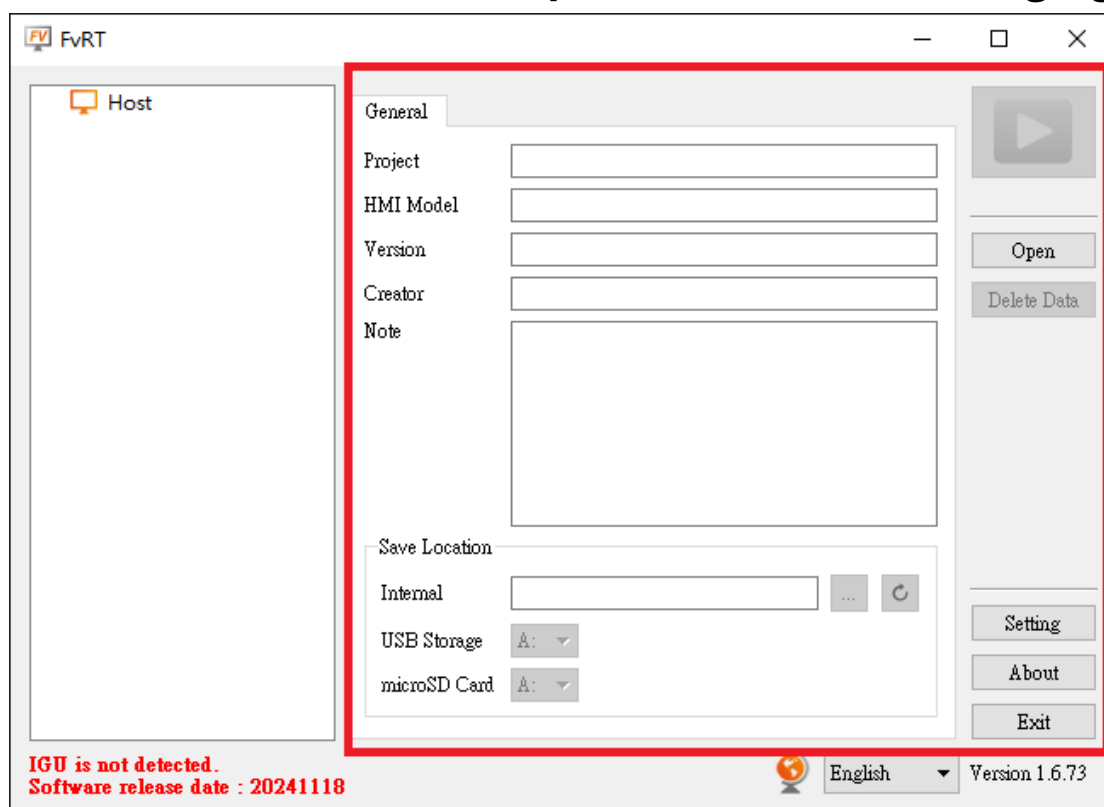
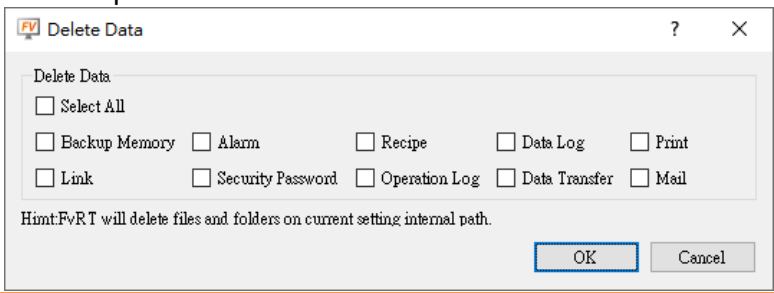


Figure 9 FvRT General

Table 3 FvRT General Settings

【Host】	Will display the linked device.
【General】	【Project】 Currently open the path to the project storage. 【HMI Model】 Open the model that project used.

	【Version】 Open the project using which version of the FvDesigner program. 【Creator】 Creator of opening project. 【Note】 Note of opening project.
【Save Location】	The location of the default storage will be with the project, before it start, can also modify this location. 【Internal】 If in project setting let the file export to 【Internal】 , then the file will store to this specify location. If this field is empty, the system will store to the default path. If use the default storage location, the system will create a project with the same name as the project name under the same path. For example: The project store in: C:\Files\Project11.fpj The system defaults to the 【Internal】 storage location: C:\Files\Project11\run\storage\ internal 【USB Storage】 If in project setting let the file export to 【USB Storage】 , then the file will store to this specify location. 【microSD Card】 If in project setting let the file export to 【microSD Card】 , then the file will store to this specify location.
【Host】	Will display the linked device.
	Excute the opening project.
【Open】	Open the project that already exist(the project that FvDesigner compiled complete). If the project have been modified and compiled by FvDesigner, need to reopen the project.
【Delete Data】	It will show the figure below after clicked, after check the item you want to delete, press 【OK】 button, will delete the

	selected destination file and folder from the selected internal path. 
【 Setting 】	Set up FvRT to operate the system and display behavior. For details.
【 About 】	Display version information, figure as shown below.
【 Exit 】	Close FATEK FvRT software.
	Select the language to switch the FvRT software interface, including English, Traditional Chinese, Simplified Chinese and Türk.

3.2.2 FvRT Startup screen 【Link】 Paging

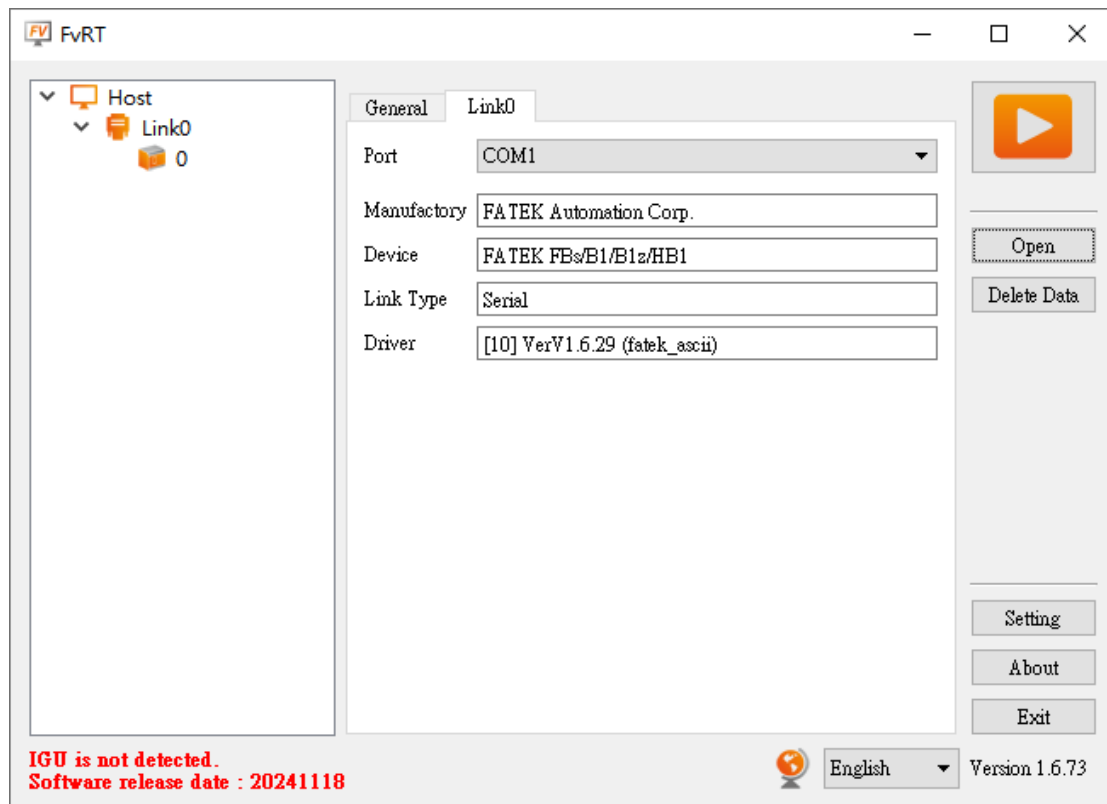


Figure 10 FvRT Links

Table 4 FvRT Links Setting

Item	Description
【 Port 】	This refers to the serial port running FvRT computer or industrial computer
【 Manufactory 】	Project uses the manufactory of driver.
【 Device 】	Project uses the type of driver.
【 Link Type 】	Project uses the type of link, such as serial or ethernet, etc.
【 Driver 】	Version of driver.

3.2.3 FvRT Startup screen 【Setting】 Paging

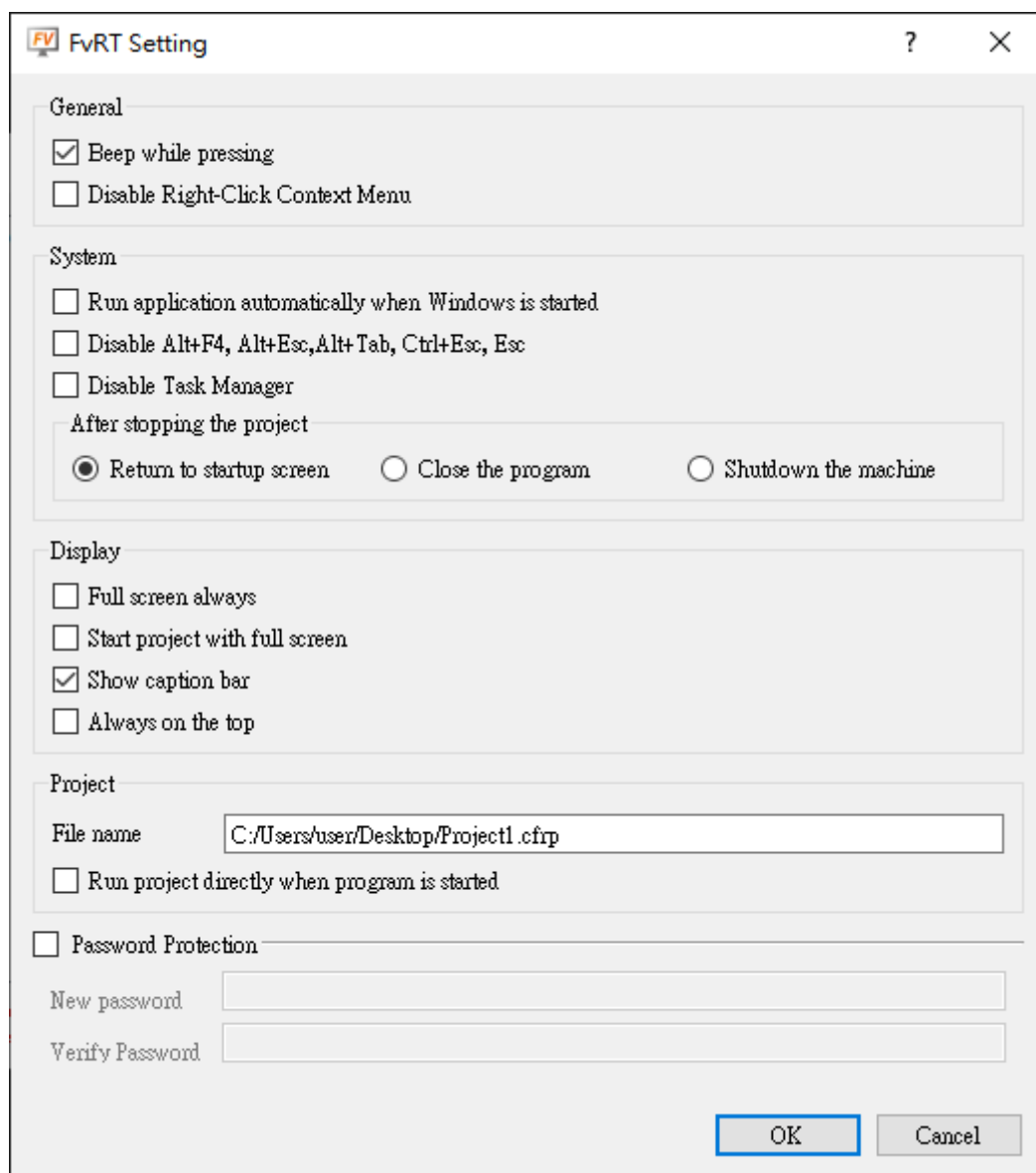


Figure 11 FvRT Setting

Table 5 FvRT Setting

Item	Description
【General】	【Beep while pressing】 Presses the object on the screen during the FvRT runtime, the computer or industrial computer will beeps. 【Disable Right-Click Context Menu】 Press the right mouse button while FvRT is running, no quick menu will appear.

【 System 】	【 Run application automatically when Windows is started 】 Check this option, will automatically excute FvRT when the computer or industrial computer is open. 【 Disable Alt+F4, Alt+Esc, Alt+Tab, Ctrl+Esc, Esc 】 Check this option, when the computer or industrial computer is excuting FvRT, Alt+F4, Alt+Esc, Alt+Tab, Ctrl+Esc, Esc and other hotkeys will be banned. 【 Disable Task Manager 】 Check this option, when the computer or industrial computer is excuting FvRT, task manager will be banned. 【 After stopping the project 】 【 Return to startup screen 】 After project is stopped, FvRT will return to startup screen. 【 Close the program 】 After the project is stopped, FvRT is closed at the same time. 【 Shutdown the machine 】 After the project is stopped, the computer or industrial computer will also shut down
【 Display 】	【 Full Screen Always 】 Check this option to show the entire screen. 【 Start project with full screen 】 Check this option to show the entire screen at the beginning of the project, follw-up you can press the right mouse button to appears a quick menu on anywhere of the screen, press 【 Restore 】 can return to normal screen display. 【 Show caption bar 】 Check this option,if the project is not displayed on a full screen, the caption bar will be displayed. 【 Always on the top 】 Check this option, the project is displayed in front of other Windows software
【 Project 】	【 File name 】 Display the current project path and project name, this can not

	be modified. 【 Run project directly when program is started 】 Check this option, when FvRT is executed, the project will be started directly.
【 Password Protection 】	【 Password Protection 】 If check this option, when FvRT excute the following function, will show enter password dialog, figure shown as below, enter the password for the user to continue. Include the following function : - Change the setting of FvRT. - Stop project. - Close project and FvRT software program. 【 New Password 】 If use the 【 Password Protection 】 function, need to enter new password here for the first time, if want to modify password, can enter the modify password here, if do not want to modify password, this field can be empty. 【 Verify Password 】 If use the 【 Verify Password 】 function, need to enter verified password here for the first time, if want to modify password, can enter the verify password here, if do not want to modify password, this field can be empty. 【 Verify Password 】 and 【 New Password 】 need to be tha same to normal use 【 Password Protection 】 function.

3.3 FvRT Runtime Options

This section describes the additional options available during FvRT runtime, including options on the title bar and options on the quick menu, etc.

3.3.1 Caption Bar Option

FvRT show caption bar during the run time, figure shown as below, the following options appear on the right side of the caption bar, the options are described in the following table.



Figure 12 FvRT window with a caption bar at run time

Table 6 Caption Bar Items

Item	Description
	The FvRT in the run time will be scaled to the notification area in the lower right corner of the computer after clicked.
	The FvRT in the run time will be scaled into the computer's work column after clicked.
	The FvRT in the run time will display as full screen after clicked.
	Will stop the project in and back to FvRT startup screen.

In addition, if an IGU-FvRT (USB Dongle) of a proper level cannot be detected during FvRT operation, a message of FvRT (IGU-FvRT Missing!!!) will be displayed in the title bar.

3.3.2 Quick Menu

Click the right mouse button during FvRT run time will show quick menu, figure as shown below, each option description as follows.



Figure 13 Quick menu

Table 7 Quick Menu Setting

Item	Description
【 Full Screen 】 / 【 Restore 】	Able to switch to full screen or normal screen display, if check 【 Setting 】 【 Full Screen Always 】 and will not show this option.
【 Setting 】	Display 【 Setting 】 dialog after checked, for user setting.
【 Stop 】	Stop project after checked, FvRT will return to startup screen.
【 Close 】	Close project after checked, FvRT will close at the same time.

4. Differences Between FvRT and HMI

For detailed differences in functionality, please refer to the table below. In this table, the HMI is represented by the P5070NA model. For other models, please refer to the model-specific functionality comparison table.

Table 8 FvRT HMI Differences

功能	FvRT	HMI(P5070NA)
Project Size	80MB	48MB
Backlight	No	Yes
FTP Server	No	Yes
FTP Client	No	Yes
VNC Server	No	Yes
Alarm Log	65535	10000
Maximum Number of Objects per Page in Charts	16	4

5. FvRT Customer ID

To protect the designer's intellectual property, FATEK provides this feature specifically for the FvRT product. This section will explain how to use the customer identification code feature in FvRT.

Both the project settings and the IGU-FvRT (USB Dongle) settings must have the same password in order for the project to run. In other words, when opening a project with a customer identification code in FvRT, the same identification code must also be set on the IGU-FvRT (USB Dongle) for the project to function properly.

5.1 Software Setting

Step 1: Execute FvDesigner Software, open default project, click on **【System】** in **【Project Explorer】**, and select **【Project Information】** to set the window.

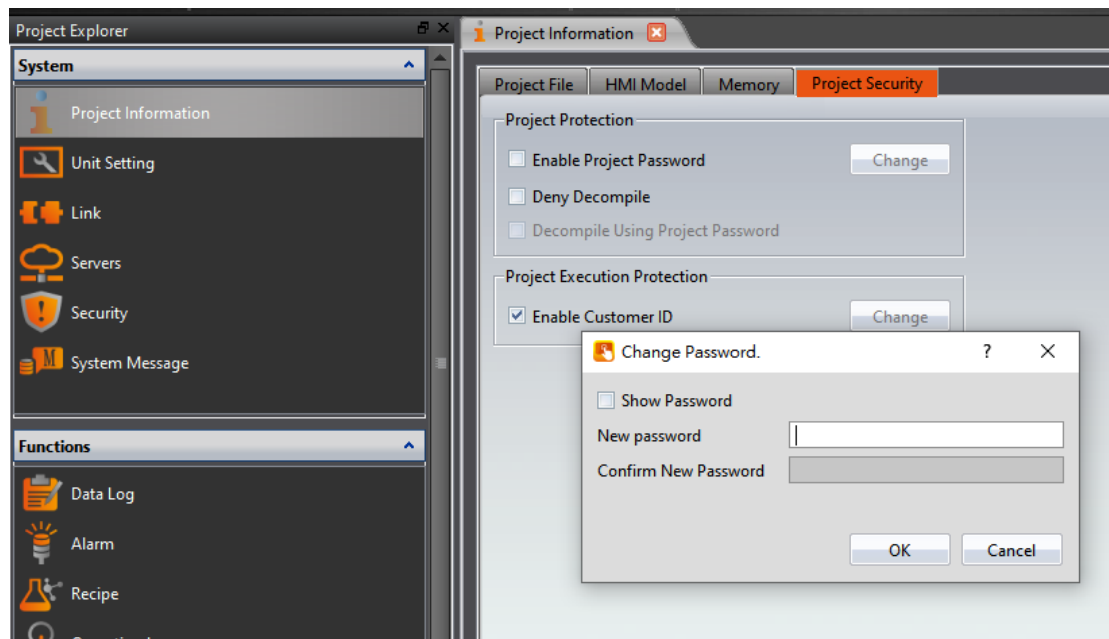


Figure 14 Enable the project's customer ID

Step 2: Select the **【Enable Customer ID】** , the window will display Set Password dialog box as shown in the following figure. Press the OK button after setting **【New Password】** and **【Confirm New Password】** .

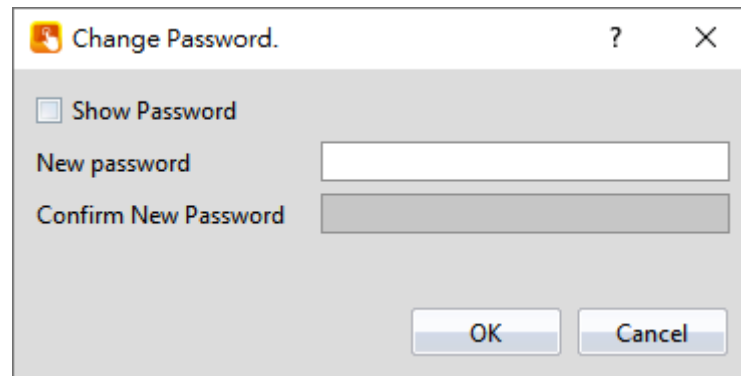


Figure 15 Change Password

Step 3 : Save and Compile Project.

If the project has a customer ID, but IGU-FvRT (USB Dongle) is not set or password is set differently, the following warning message will appear and FvRT can not execute this project.

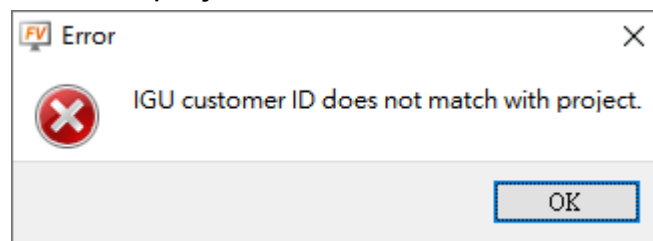


Figure 16 Not match message

5.2 IGU-FvRT (USB Dongle) Setting on FvDesigner

The following illustration shows how to set Customer ID on IGU-FvRT (USB Dongle).

Step 1 : Insert IGU-FvRT (USB Dongle) in a USB port on your computer, execute FvDesigner software , and click on **【Project】** , as shown below.

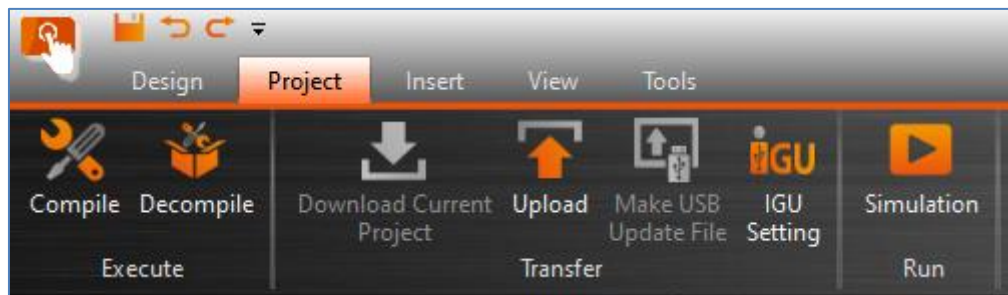


Figure 17 Project Page

Step 2: Click the IGU setting option. The **【Dongle Setting】** dialog box will appear. Click the **【Connect to Dongle】** button, the system will link to the IGU-FvRT (USB Dongle) which is inserted to the computer.

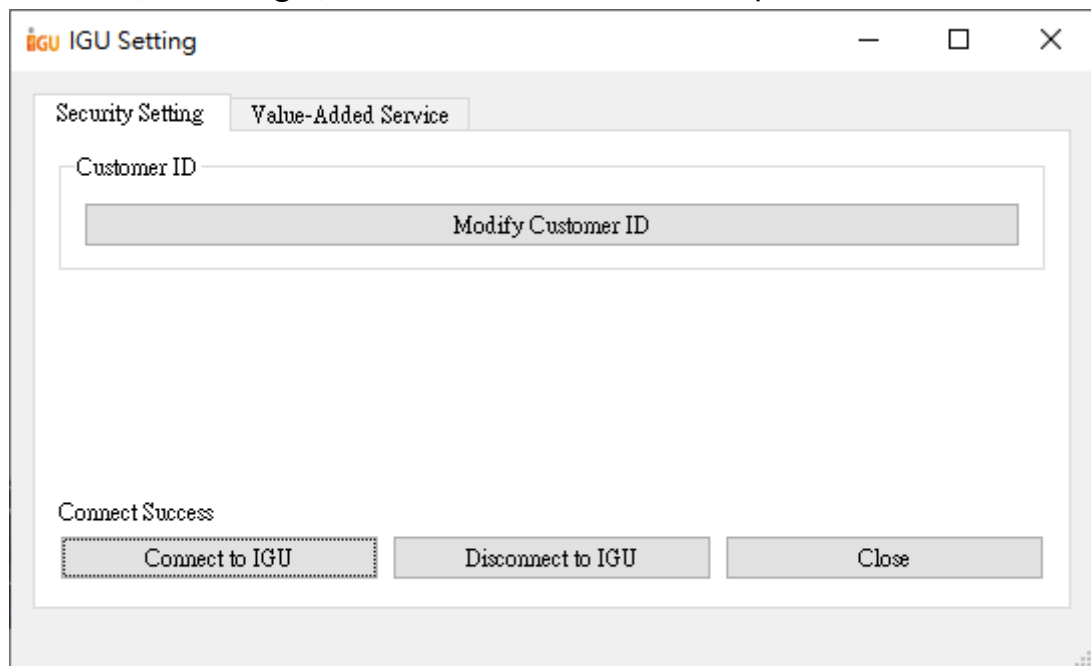


Figure 18 IGU Setting window

Step 3 : Click on **【Modify customer ID】** , the window will display **【Change Password】** dialog box as shown in the following figure. Press the **【OK】** button after setting **【New Password】** and **【Confirm New Password】** .

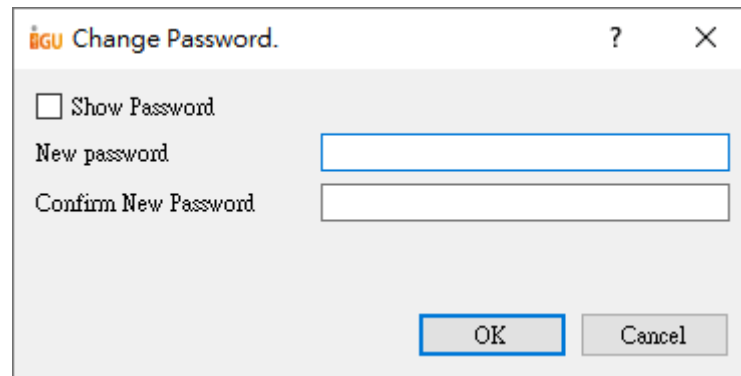


Figure 19 Change Password

Note 1: The customer ID of the project and the customer ID of the IGU-FvRT (USB Dongle) must be the same for FvRT to run correctly.

Note 2: If the IGU-FvRT (USB Dongle) has a customer ID set but the project does not have a customer ID, it means the project is not using a customer ID, and it will still run normally in FvRT.

6. FvRT with FATEK IoT

To make FvRT more convenient for users, starting from version **V1.7.15_B25391**, IoT is supported.

FvRT's IoT supports both **iMonitor** and **iAccess** functions.

Note 1: When using iAccess Insight, only remote screen monitoring is supported.

Note 2: To use this feature, you need to purchase an IGU-FvRT manufactured after 2025/08/25.

6.1 Setup Steps

Step 1: Launch the FvRT application. You will see the IoT settings option on the screen.

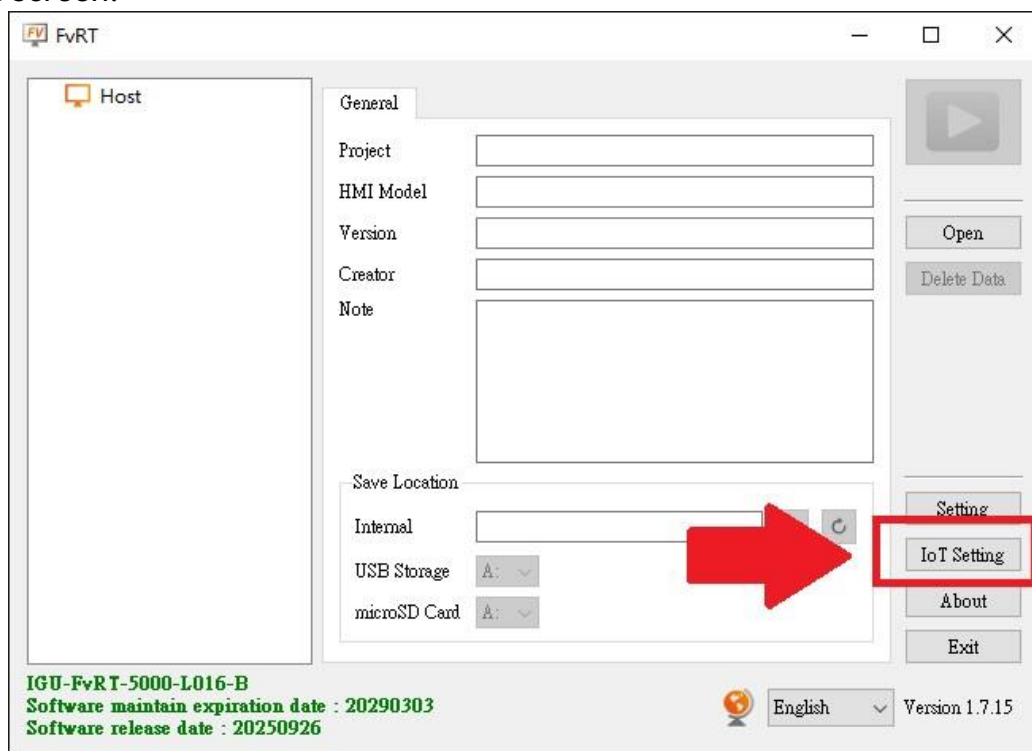


Figure 20 IoT Settings Option in FvRT

The IoT enable setting for FvRT is stored on the computer. If multiple computers are to use IoT, each computer must open the settings page and check Enable.

Step 2: After confirming that the IGU-FvRT dongle is plugged into the computer, open the settings page. You will see the HWID of the dongle. After checking Enable, you can enter the Service Password and LID.

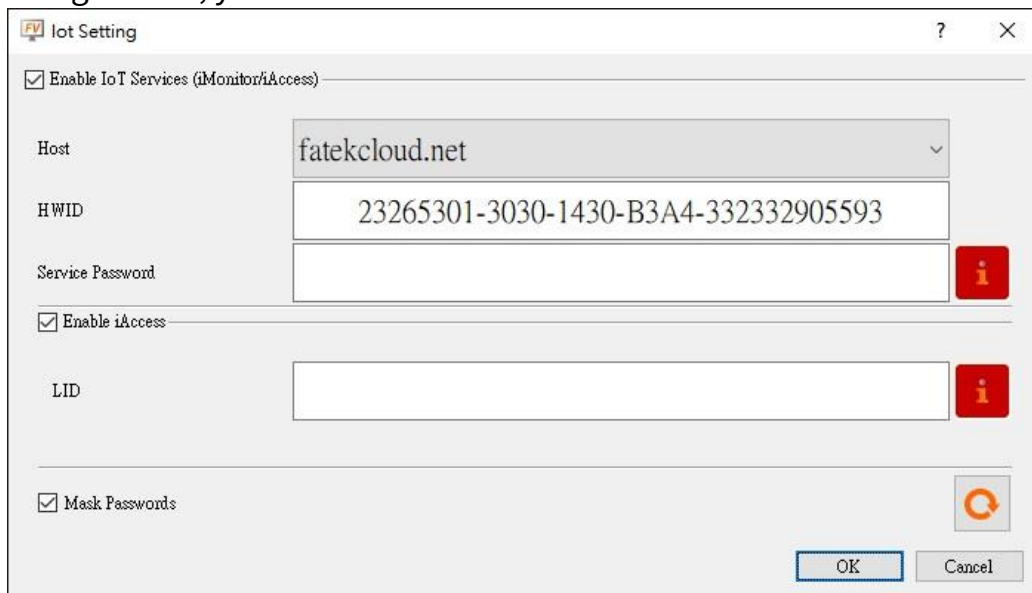


Figure 21 IoT Settings Page in FvRT

Step 3: In the account, add a new device. When entering the HWID on the Add Device page, set the Product Type to FvRT.

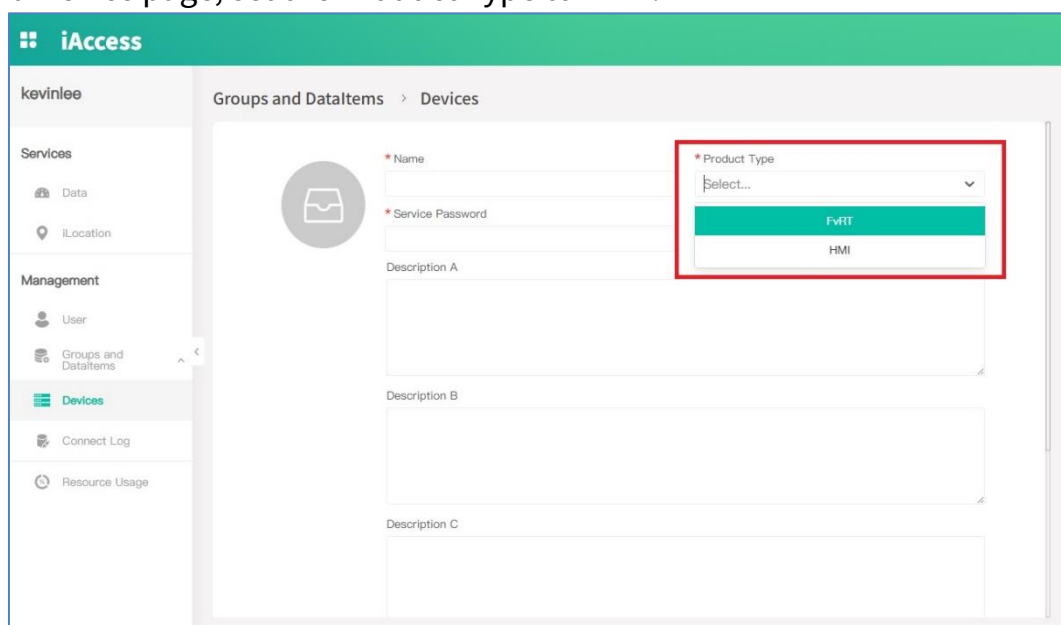


Figure 22 Adding an FvRT Device