| Item number | FvRT Manual | Date | 7/13/2021 | Version | 1.5 |
|---|---|---|---|---|---|
| | | | | Total number of pages | 60 |

# FvRT Manual

FATEK

The manual's contents will change when the software updates. To find the newest version of the manual, go to http://www.fatek.com/tw/ . The download is located under the support section.

**FATEK CORPORATION**

Version change instruction

| Version | Change Date | Change Content |
|---|---|---|
| V1.4.15 | 2017/8/21 | Version 1 |
| V1.4.16 | 2017/9/21 | Distinguish between for 1 PC only and for multiple PCs, and provide 10 minutes of buffer time for users to try |
| V1.5.5 | 2018/5/9 | 1. With the modification of FvDesigner V1.5.X<br>2. Unable to detect an appropriate level of IGU-FvRT, providing 30 minutes of buffer time<br>3. FvRT level changed from 9 levels to 7 levels of For 1 PC Only and For Multiple PCs. |
| V1.5.33 | 2019/4/18 | 1. Cancel For 1 PC only and For Multiple PCs<br>2. Add IGU-FvRT-0075-L002-B |
| | 2021/7/13 | Cancel for supporting windows XP |
| | | |

# Table of Contents

# List of Table

# List of Figure

# FvRT Manual

# FvRT Introduction

## Preface

FATEK FvRT software mainly to let the project that FvDesigner software developed can run on the computer or industrial computer, combined with the computer's powerful computing power, memory capacity, storage space and open system architecture, easy to integrate with other peripherals or apps to meet the needs of customer project applications, such as the need for a larger screen display and so on.

Through FvDesigner provides a variety of beautIGUl objects, powerful communication capabilities, multiple data monitoring, and with the FBs PLC a high degree of integration with the perfect match to meet the needs of various industries, moreover, the original use of HMI designers can be easy to get started, and the conversion of the project are more convenient, such as the original HMI project can be converted into a project that can be run by computer.

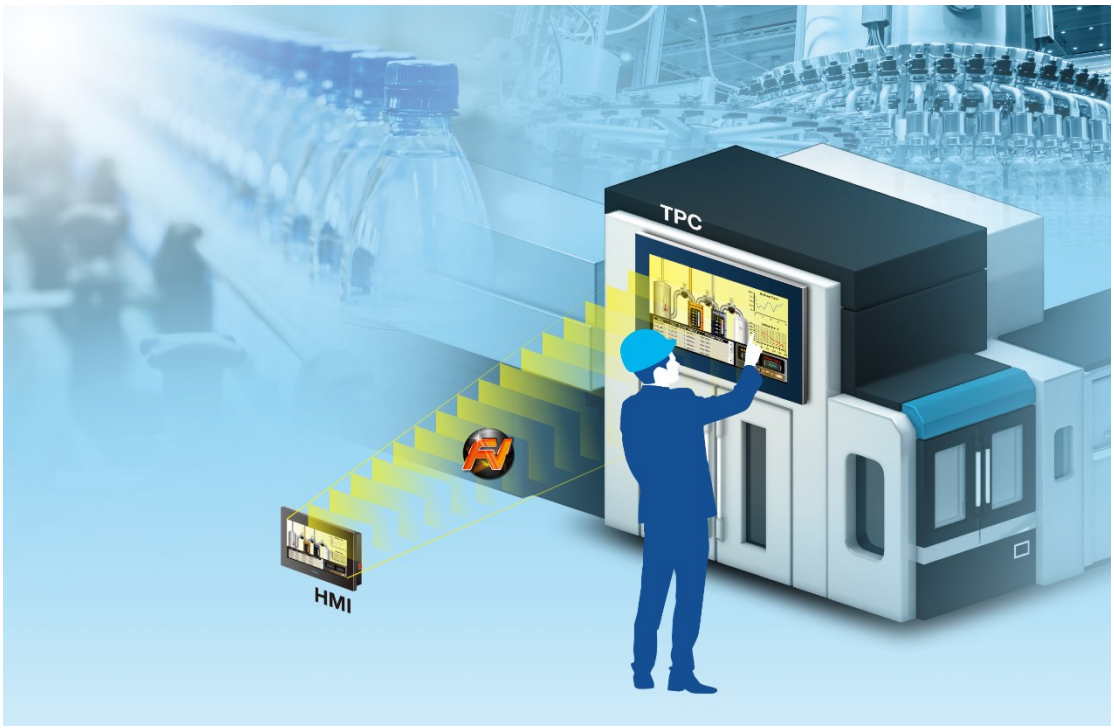



Figure 1 FvRT illustration

## FvRT Features

- Easy to design screen, and provides varity of beautIGUl objects, image library and customized keypad function.
- No need to install WinProLadder, can show FBs PLC program directly on the application to facilitate debugging.
- Support the function of data log, alarm, recipe, operation log, schedule, data transfer and script, etc.
- Powerful communication ability, support the function of communication protocol of each brand PLC, multi-link, user-defined protocol and Modbus Gatewa, etc.
- Provide multi-language and custom system messages, easy to plan cross-country product applications.
- Only need to install the IGU-FvRT USB dongle on a running computer, FvRT can work properly.

## System Requirement

Support OS: Windows7 (32&64 bits)
Windows8 (32&64 bits)
Windows10 (32&64 bits)

## Software Installation

The installation boot step is displayed after the installation package is executed. Please confirm the installation steps in sequence.


Figure 2 Installation welcome page

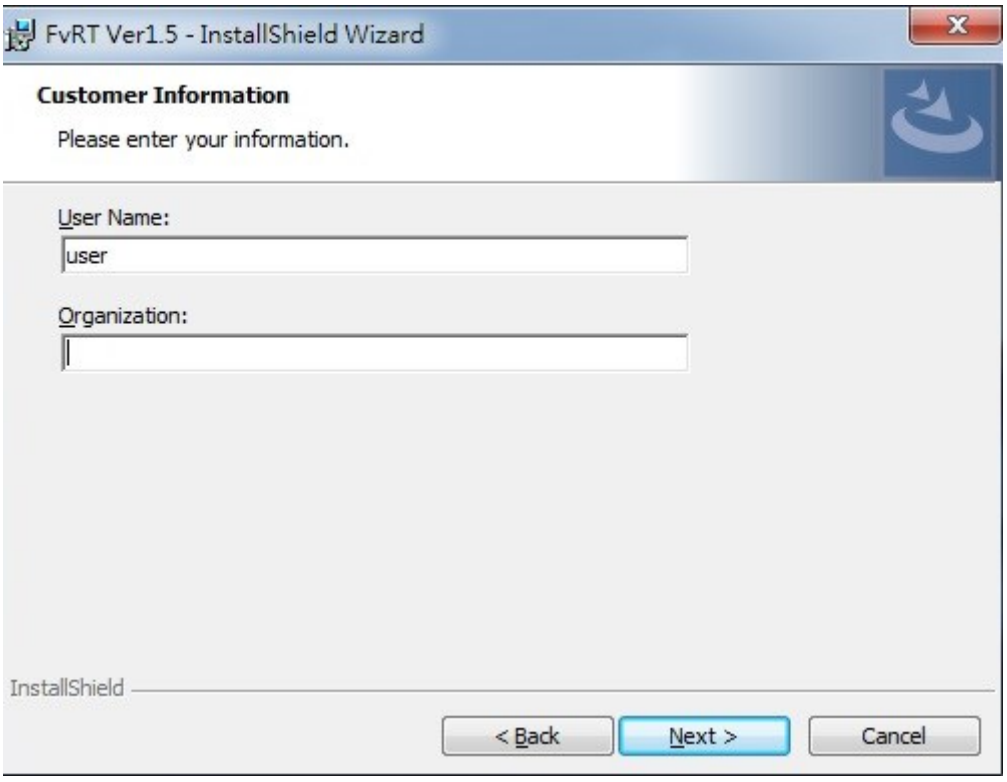



Figure 3 Customer Information

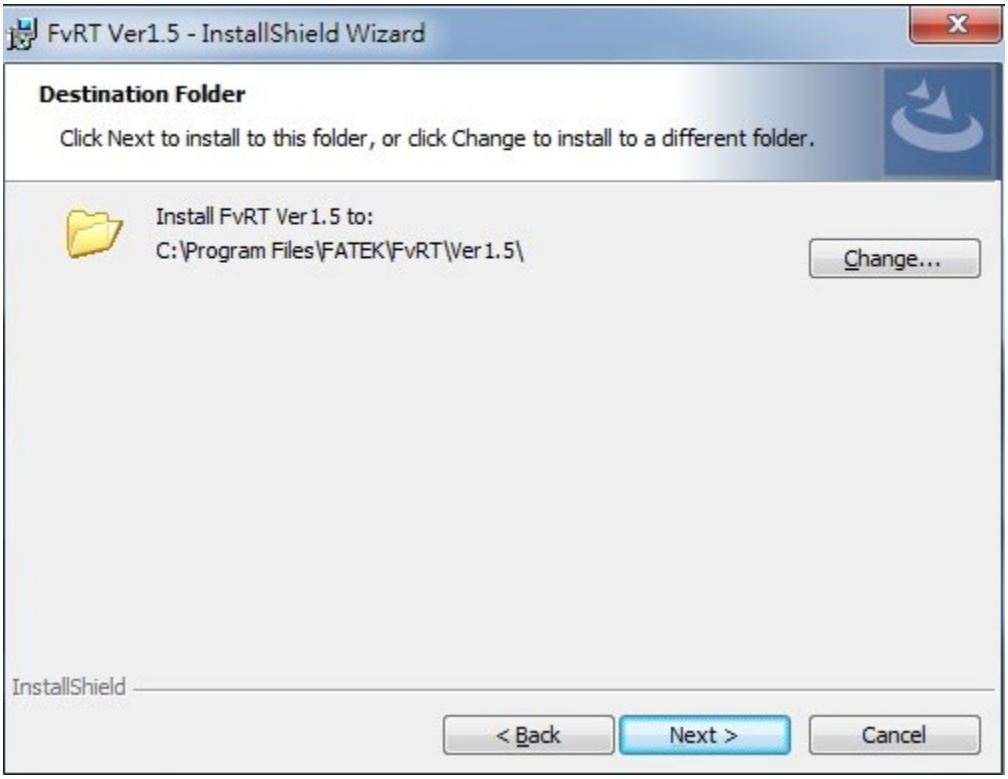



Figure 4 Choose Destination Folder

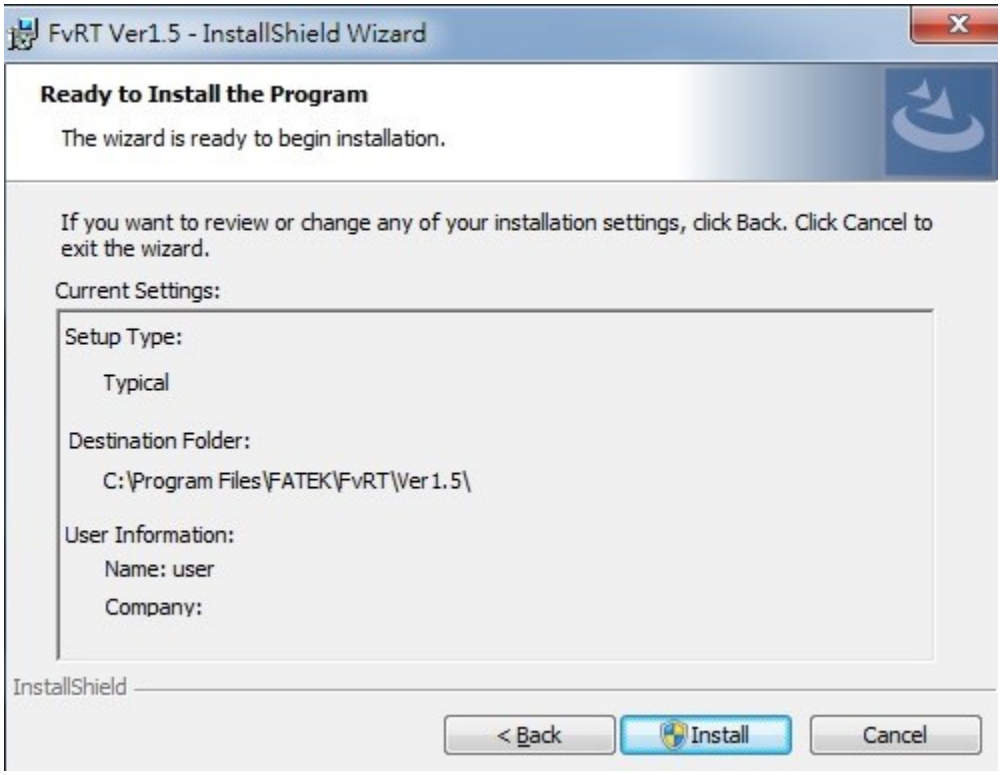



Figure 5 Confirm before install

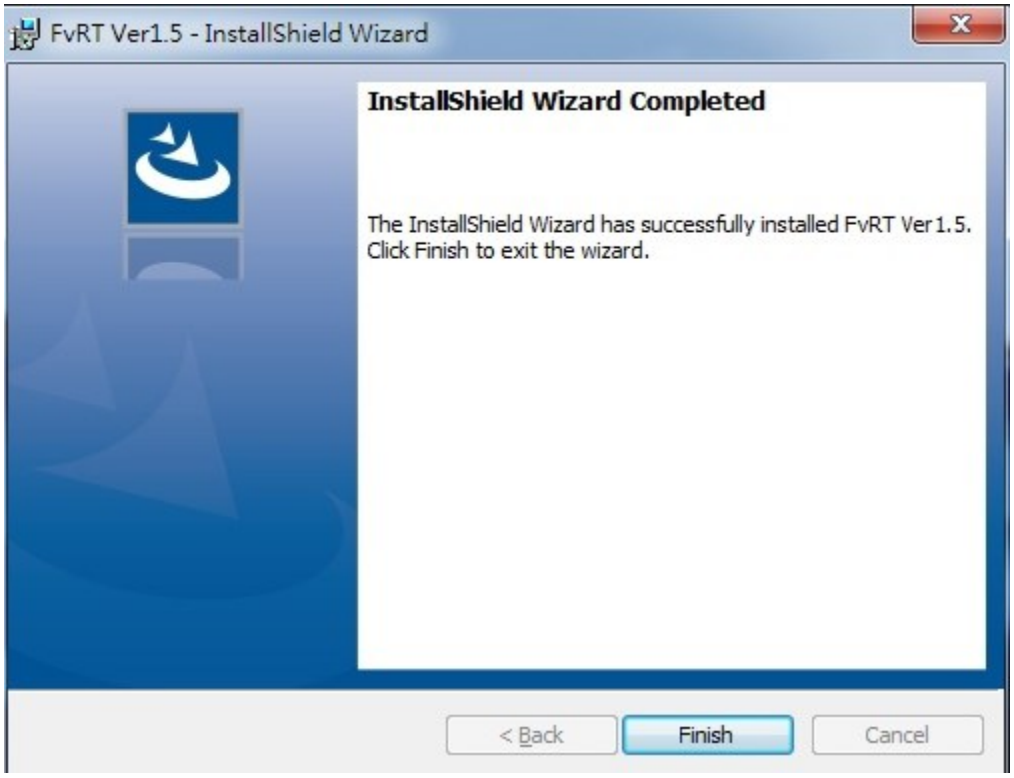



Figure 6 Installation Complete

# 1. Hardware Description and Product Specifications and Types

This section describes the product specifications and types of FATEK FvRT and the hardware description of the FvRT product IGU-FvRT (USB Dongle).

## 1.1 Product Specifications and Types

FvRT product categories are as follows, divided into 8 levels to support the use of external number of registers and support the number of links.
The product name is as follows: IGU-FvRT-0075-L002-B, where 0075 indicates that the number of external registers is supported, the upper limit is 75; L002 indicates the number of support links, and the upper limit is 2 links.

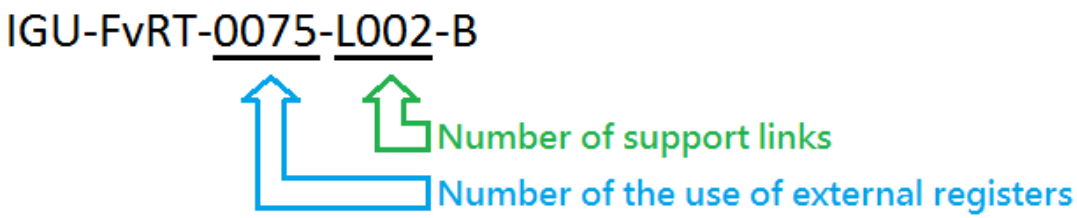



Figure 7 Product Naming

Table 1 FvRT Product Category

| Product Category | Used External Registers Quantity (I/O Tags) | Support Links |
|---|---|---|
| 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 |

## 1.2 Hardware Description

This section describes IGU-FvRT (USB Dongle) hardware part, mainly including the appearance and specifications dexcription, and so on.

### 1.2.1 Appearance

The figure below shows the appearance of IGU-FvRT (USB Dongle), IGU-FvRT (USB Dongle) insert into the computer or industrial computer USB port, the power light will keep blue, when the data start to access, the status light flashes blue.

Front view


Figure 8 The appearance of IGU-FvRT (USB Dongle)

### 1.2.2 Specifications

The following table shows the hardware specifications for IGU-FvRT (USB Dongle).

Table 2 hardware specifications of IGU-FvRT (USB Dongle)

| Item | Specifications |
|---|---|
| **Transfer Interface** | USB 2.0 |
| **Status Light** | Power light: the blue LED will be bright after plugging in the host<br>Status light: This blue LED flashes when the action starts |
| **Supply Power and Current Consumption** | 5V, 40mA, 0.2W |
| **Operating Temperature** | 0 ~ 60 ℃ |

| | |
|---|---|
| **Storage Temperature** | -20 ~ 70 ℃ |
| **Dimensions** | 55(length)x17(width)x8(height) mm |
| **Weight** | 9g |
| **Certification** | CE |

# 2. FvRT Software Interface Description

After the software installation is complete, you can find the FvRT implementation icon on the program set (Fatek / HMI) or on the desktop ( ), click on the FvRT will start the screen.

## 2.1 FvRT Precautions before use

Please note the following before starting FvRT:

1. FvRT can only excute the projrct that FvDesigner compiled complete.
2. Before the FvRT execute the project, IGU-FvRT (USB Dongle) of the appropriate level must be inserted into the USB port of the executive computer or industrial computer. If the IGU-FvRT (USB Dongle) is not inserted into the USB port of the executive computer or industrial computer, it will appear the following figure to remind the user that FvRT cannot connect to IGU-FvRT (USB Dongle)


Figure 9 Error message for IGU-FvRT (USB Dongle) was not detected

3. To provide users with more convenient use and test FvRT, the system provides 30 minutes of buffer time, after the FvRT reminds the user that they cannot connect to the IGU-FvRT (USB Dongle) message, the following figure will appear, informing the user that if the IGU-FvRT (USB Dongle) of the appropriate level cannot be detected for more than 30 minutes, FvRT will be automatically be closed, please insert the appropriate level of IGU-FvRT (USB Dongle) into the USB port of the computer or industrial computer.

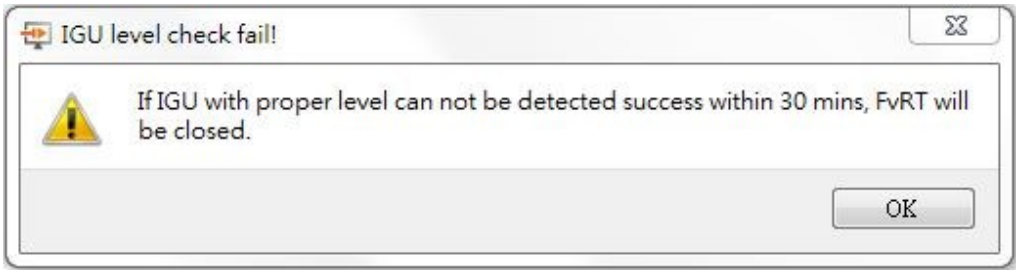



Figure 10 If IGU with proper level can not be detected success 30 minutes checking message

4. If an IGU-FvRT (USB Dongle) of a proper level is not detected within 30 minutes, the following figure will appear, and then FvRT will automatically be closed.

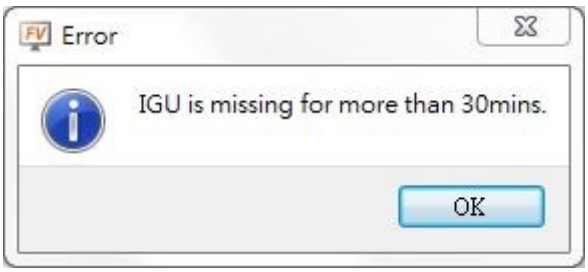



Figure 11 IGU still can not detected over 30 minutes

5. If it is already running, remove IGU-FvRT (USB Dongle), the system will automatically detect, and appear the following figure, if in 30 minutes still undetectable, FvRT will automatically be closed.

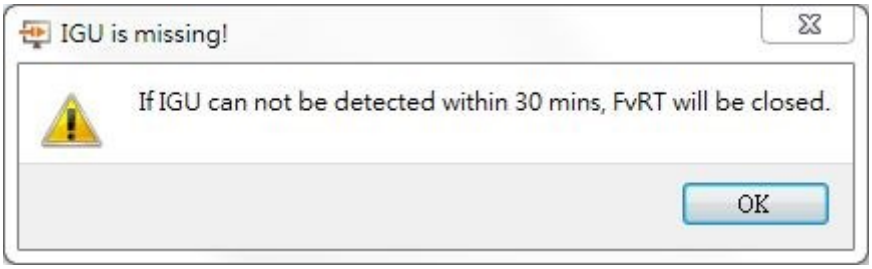



Figure 12 IGU is missing

6. IGU-FvRT (USB Dongle) no need to install USB driver, when IGU-FvRT (USB Dongle) insert into computer or industrial computer USB port, USB driver will automatic installation, and as a disk, figure as shown below.


Figure 13 USB driver automatic installation

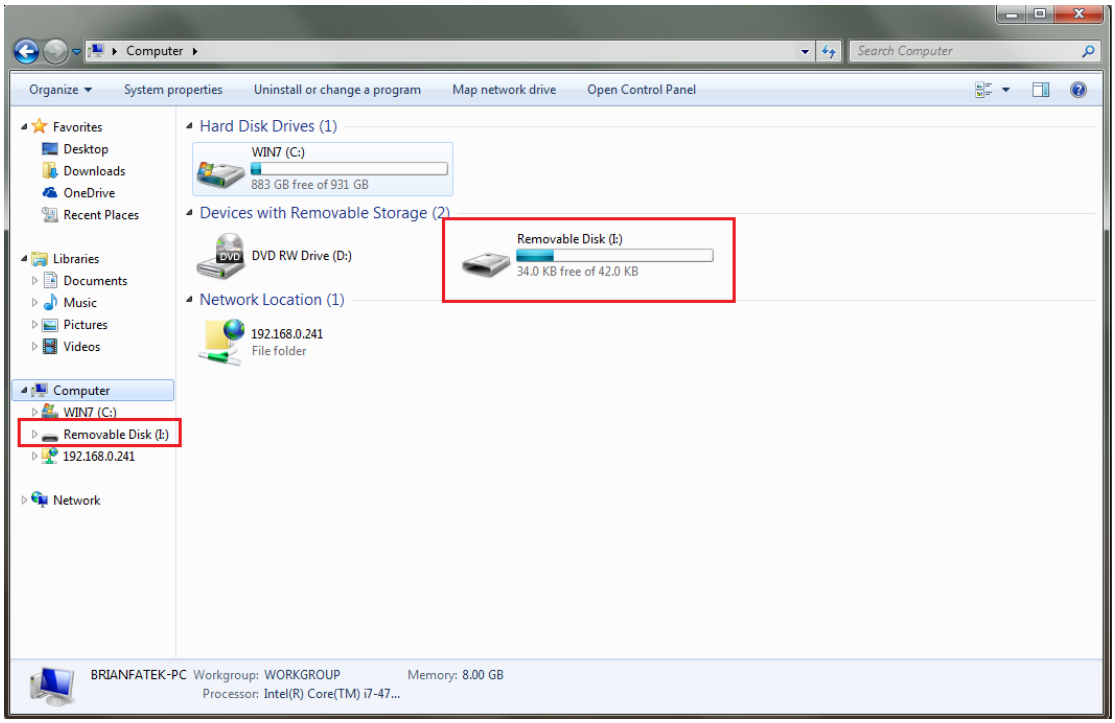



Figure 14 IGU-FvRT (USB Dongle) as a disk

## 2.2 FvRT Startup Screen Description

This section explains the settings of the FvRT startup screen.

FvRT will record the settings that were previously executed, contains settings for storage location and port, for user easy to use,until opening another project, the old record will be cleared, change to record the setting information of the new project, if the project has been modified and compiled by FvDesigner, need to reopen the project.

## 2.2.1 FvRT Startup screen【General】Paging

FvRT startup screen【General】paging, figure as shown below, the setting attributes are described in the following table.

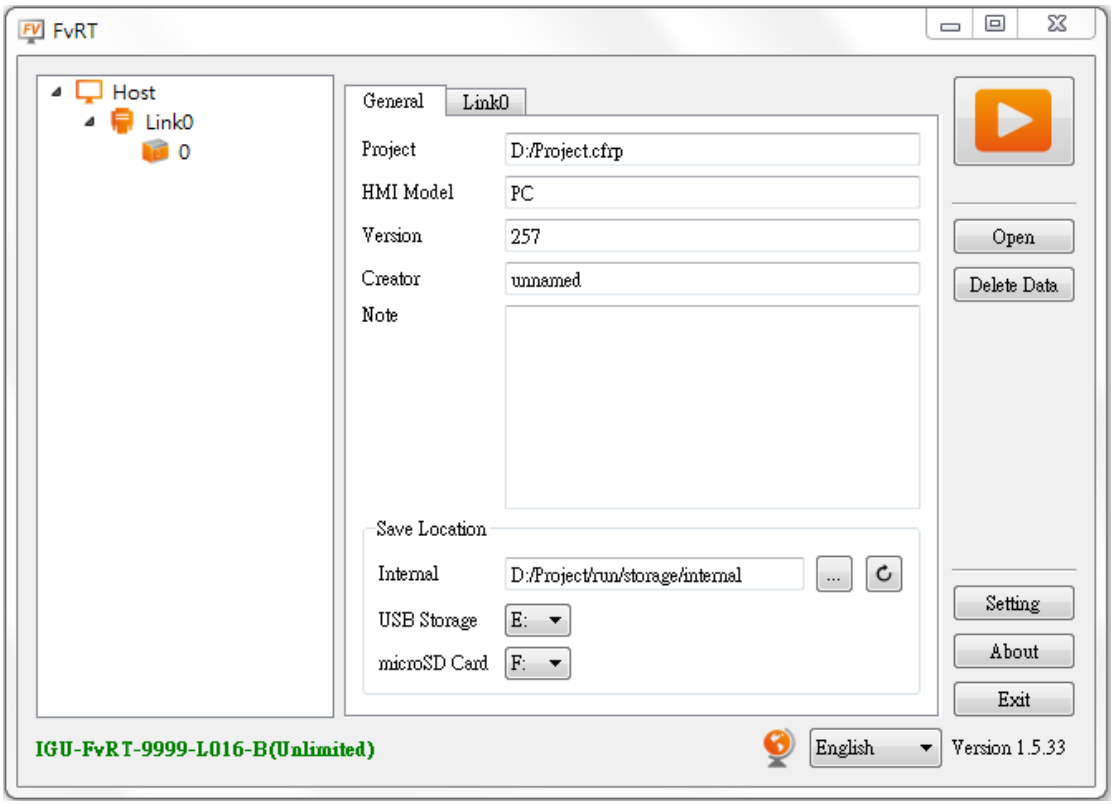
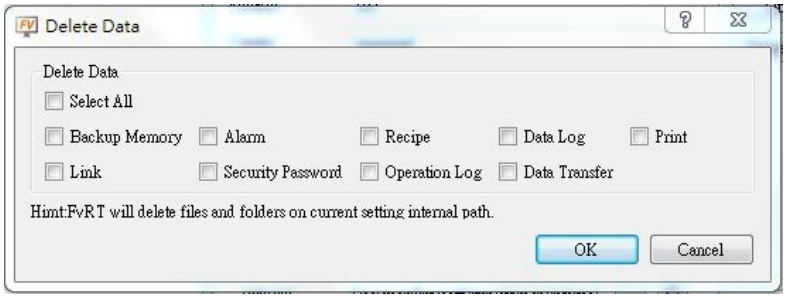



Figure 15 FvRT Startup screen【General】paging

Table 3 FvRT Item and Setting of Startup screen【General】paging

| Item | Description |
|---|---|
| 【Host】 | Will display the linked device. |
| 【General】 | 【Project】<br>Currently open the path to the project storage.<br><br>【HMI Model】<br>Open the model that project used. |

| | |
|---|---|
| | 【Version】<br>Open the project using which version of the FvDesigner program.<br><br>【Creator】<br>Creator of opening project.<br><br>【Note】<br>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.<br>【Internal】<br>If in project setting let the file export to【Internal】, then the file will store to this specify location.<br>If this field is empty, the system will store to the default path.<br>If use the default storage location, the system will create a project with the same name as the project name under the same path.<br>For example:<br>The project store in: C:\Files\Project11.fpj<br>The system defaults to the【Internal】storage location:<br>C:\Files\Project11\run\storage\ internal<br><br>【USB Storage】<br>If in project setting let the file export to【USB Storage】, then the file will store to this specify location. |

| | |
|---|---|
| | 【microSD Card】<br><br>If in project setting let the file export to【microSD Card】,<br><br>then the file will store to this specify location. |
| **IGU-FvRT-xxxx-Lxxx-B** | Indicates the level of IGU-FvRT (USB Dongle) currently detected.<br>The parentheses indicate whether the current IGU-FvRT is activated and differentiated by color. Red means not activated and green means activated. |
|  | 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.<br>  |
| **【Setting】** | Set up FvRT to operate the system and display behavior.<br>For details, refer to **chapter 2.2.3-FvRT Startup screen 【Setting】Property** |
| **【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. |

## 2.2.2 FvRT Startup screen【Link】Paging

FvRT startup screen【Link】paging, figure as shown below, each of the description are as follows.

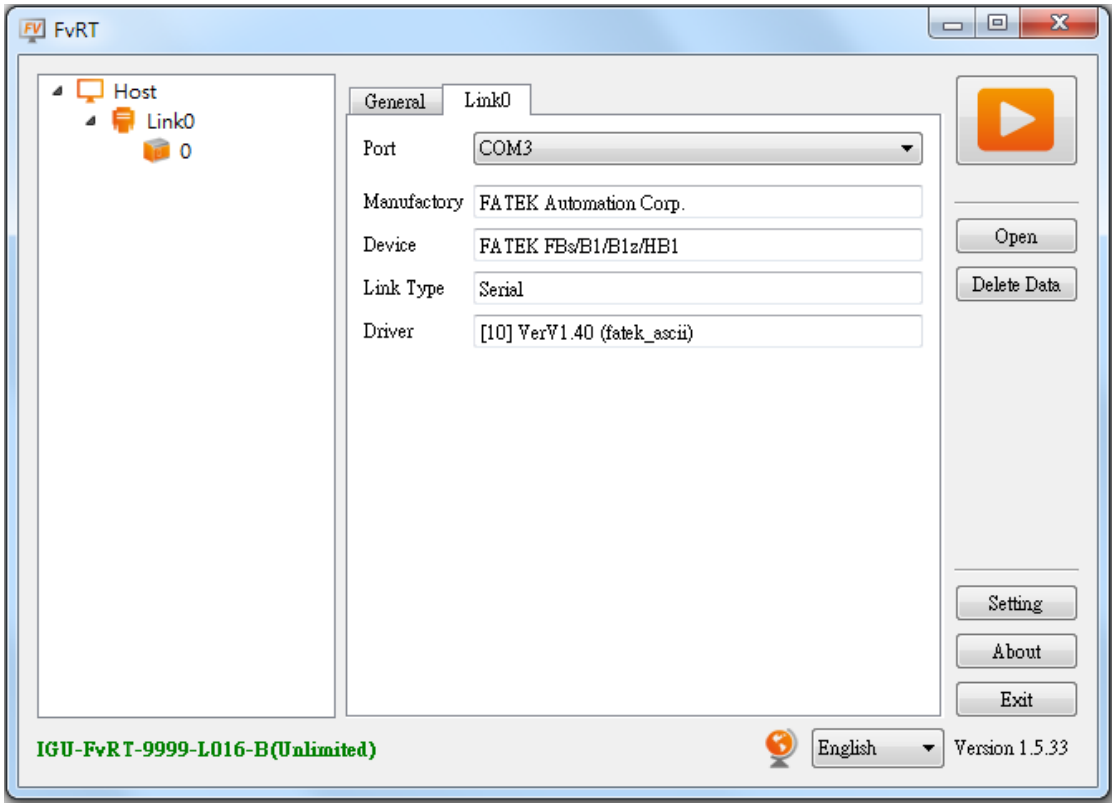



Figure 16 FvRT Startup screen【Link】Paging

Table 4 FvRT Item Startup screen【Link】Paging

| 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. |

### 2.2.3 FvRT Startup screen【Setting】Property

FvRT startup screen【Serring】, figure as shown below, each of the description are as follows.

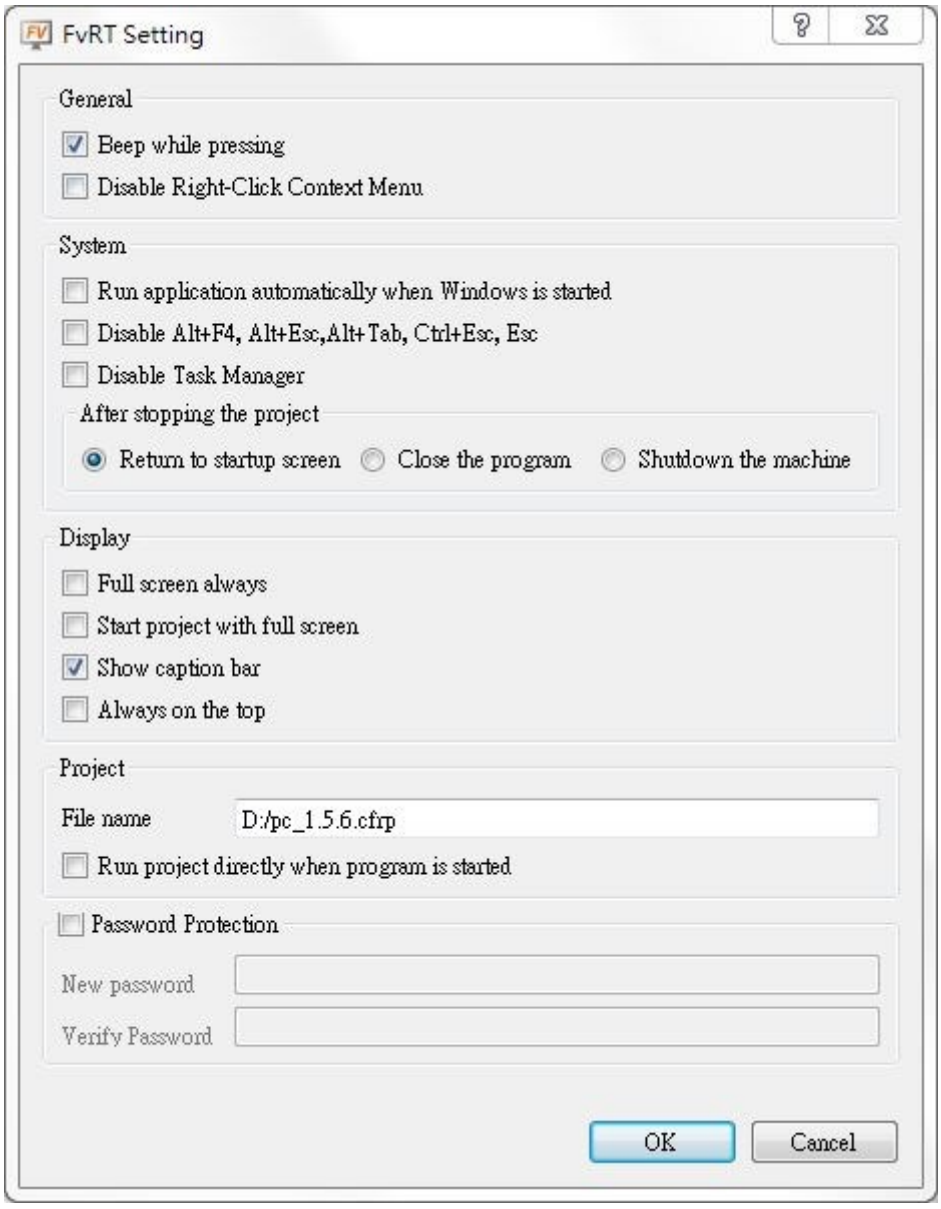



Figure 17 FvRT startup screen【Setting】dialog

Table 5　FvRT startup screen【Setting】item and description

| Item | Description |
| --- | --- |
| **【General】** | 【Beep while pressing】<br>Presses the object on the screen during the FvRT runtime, the computer or industrial computer will beeps.<br><br>【Disable Right-Click Context Menu】<br>Press the right mouse button while FvRT is running, no quick menu will appear. |
| **【System】** | 【Run application automatically when Windows is started】<br>Check this option, will automatically excute FvRT when the computer or industrial computer is open.<br><br>【Disable Alt+F4, Alt+Esc, Alt+Tab, Ctrl+Esc, Esc】<br>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.<br><br>【Disable Task Manager】<br>Check this option, when the computer or industrial computer is excuting FvRT, task manager will be banned.<br><br>【After stopping the project】<br>【Return to startup screen】<br>After project is stopped, FvRT will return to startup screen. |

| | |
|---|---|
| | 【Close the program】<br>After the project is stopped, FvRT is closed at the same time.<br><br>【Shutdown the machine】<br>After the project is stopped, the computer or industrial computer will also shut down |
| **【Display】** | 【Full Screen Always】<br>Check this option to show the entire screen.<br><br>【Start project with full screen】<br>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.<br><br>【Show caption bar】<br>Check this option,if the project is not displayed on a full screen, the caption bar will be displayed.<br><br>【Always on the top】<br>Check this option, the project is displayed in front of other Windows software |
| **【Project】** | 【File name】<br>Display the current project path and project name, this can not be modified.<br><br>【Run project directly when program is started】 |

| | |
|---|---|
| | Check this option, when FvRT is executed, the project will be started directly. |
| 【Password Protection】 | 【Password Protection】<br><br>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 :<br><br>- Change the setting of FvRT.<br><br>- Stop project.<br><br>- Close project and FvRT software program.<br><br>  <br><br><br>【New Password】<br><br>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.<br><br>【Verify Password】<br><br>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.<br><br>【Verify Password】and【New Password】need to be |

| | |
|---|---|
| | tha same to normal use【Password Protection】<br>function. |

## 2.3 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.

### 2.3.1 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 18 FvRT window with a caption bar at run time

Table 6 Item and description of the caption bar during FvRT run time

| 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 and will appear red, as shown below.


Figure 19 The title bar prompt that IGU-FvRT messages that are proper for the level cannot be detected

### 2.3.2 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 20 Quick menu during FvRT run time

Table 7 Item and description of quick menu during FvRT run time

| 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. |

# 3. Usage Step Instructions

This section will describes the usage step instructions of FvRT, will use FvDesigner to design a project to how to perform FvRT on a computer or industrial computer and run a project, and will description by example.
As for the FvDesigner detailed use or function, please refer FvDesigner manual.

The project requirements for this example are as follows :

- The project will use FvRT on a computer.
- The computer screen resolution is 1024x768.
- The project will use the computer Com3 and FATEK PLC FBs Port0 connection, baud rate and format are 9600, 7, Even,1, station no. is 1.
- The project has the alarm function as follows:
    - When R10 is bigger than 80, display “Motor temperature is too high” alarm message.
    - When R11 is bigger than 60, display “Cylinder pressure is too high’’ alarm message.
- The project has 2 screens.
    - Screen 1 is startup screen, with backgroung image, image(FATEK Logo) object, date/time display(display the current date and time), text object, change screen object, etc.
    - Screen 2 is monitor and setting screen, with 2 bit switch objects, 2 numeric input/display objects, 2 meter objects, 1 alarm display object, change screen object, text object, background image.


Figure 21 example screen 1

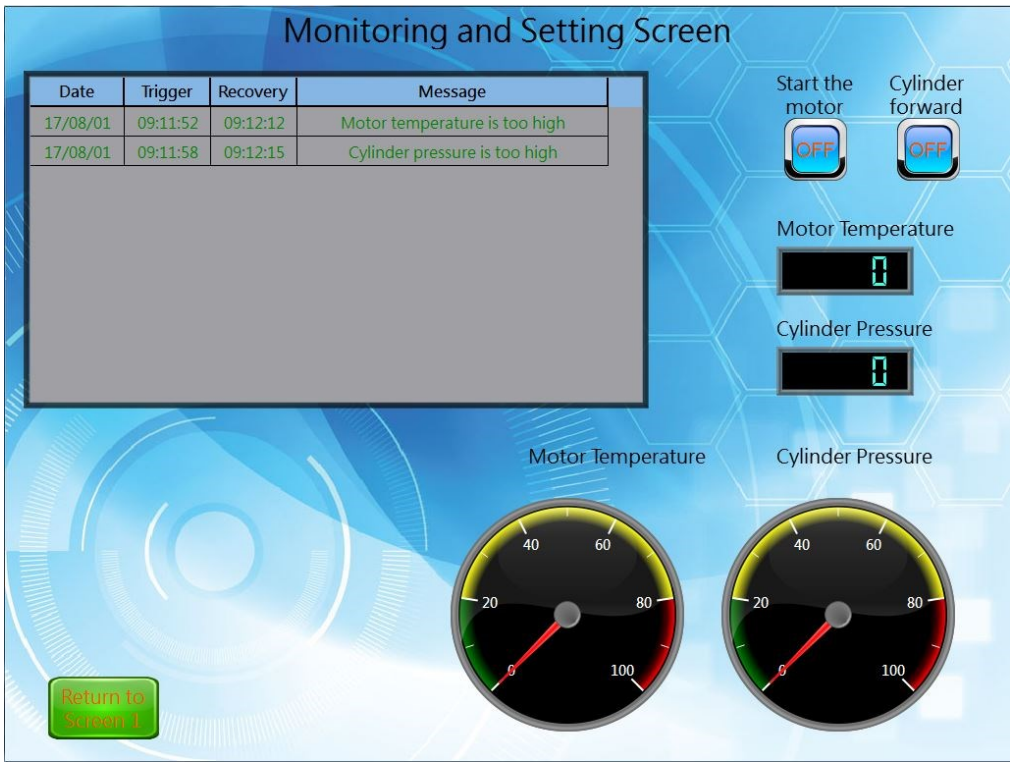



Figure 22 example screen 2

# 3.1 Use FvDesigner to plan a project

First excute FvDesigner software, and follow the steps below to build the project. FvDesigner detailed use or function, please refer to FvDesigner manual.

Step 1: excute FvDesigner software, add a new project, model choose as PC, the screen resolution is 1024x768, figure as shown below.


Figure 23 Select PC and choose the resolution

Step 2: click【next】, then click【Add】to add a new controller, interface type select direct link(serial), product series select FATEK FBs/B1/B1z/HB1, baud rate and format set 9600, 7, Even, 1, and station number set as 1, figure as shown below.

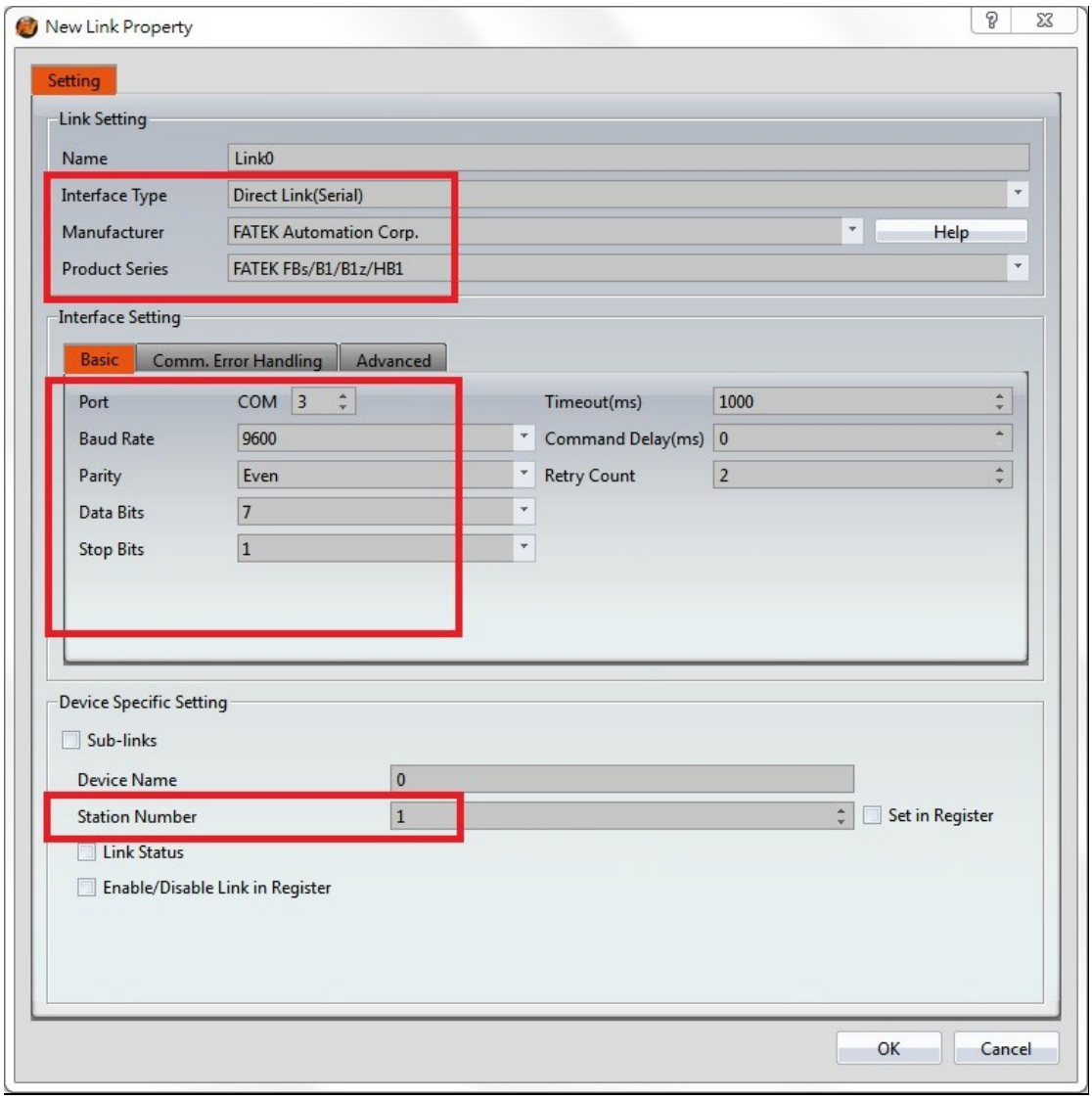



Figure 24 Select the controller and set the communication format

Step 3: click【next】, select the storage path and file name, figure as shown below.


Figure 25 Select the storage path and file name

Step 4: press【Finish】, will appear screen planning window, click left side【Project Explorer】→【Functions】→【Alarm】, figure as shown below.

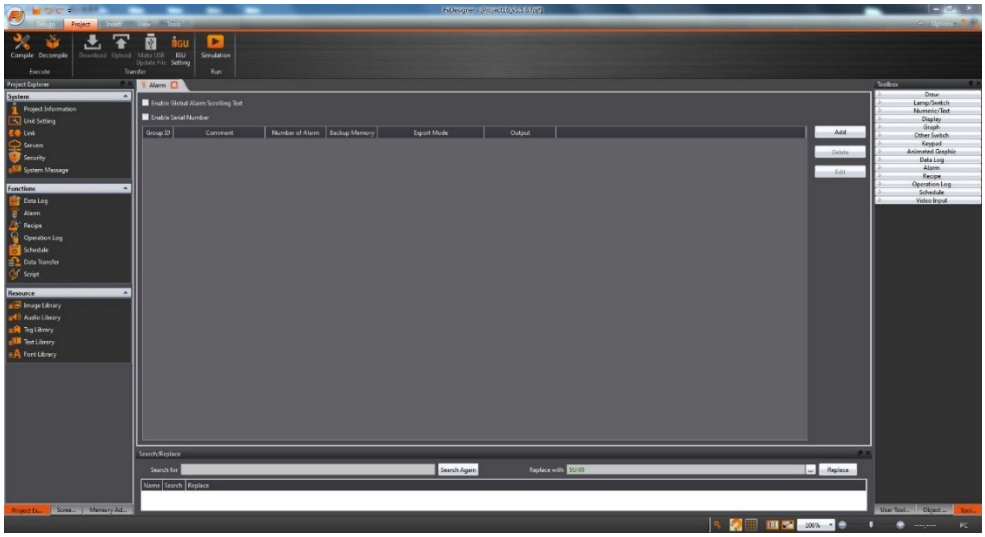


Figure 26 open the alarm setting window

Step 5: click【Add】to add a new alarm group 1, will appear alarm planning window, set【Polling Frequency】as 1 sec, set【Records】as 300, check【Backup Memory】, click to add a new alarm, and add when R10 is bigger than 80, show ''Motor temperature is too high'' alarm message, when R11 is bigger than 60, show ''Cylinder pressure is too high'' alarm message, figure as shown below.

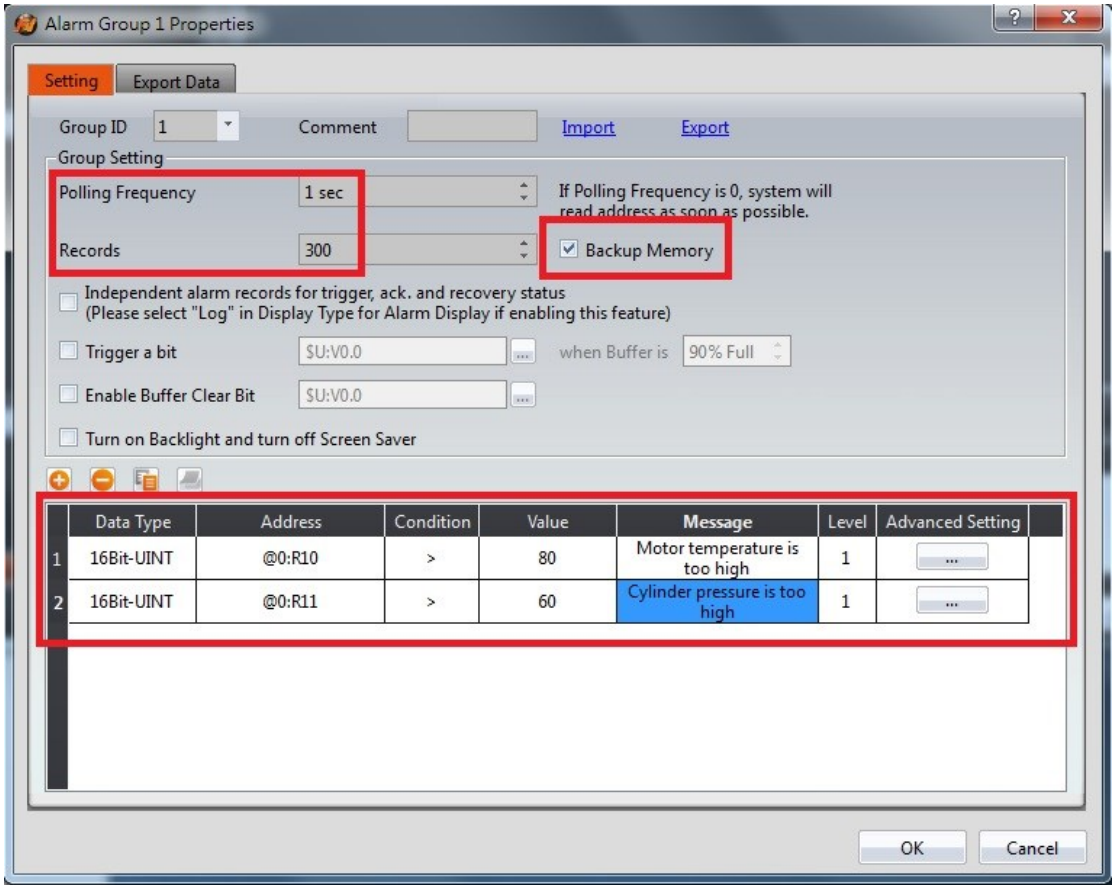



Figure 27 Add new alarm

Step 6: press【OK】, Click the lower left【Screen List】to switch to the screen display, figure as shown below.

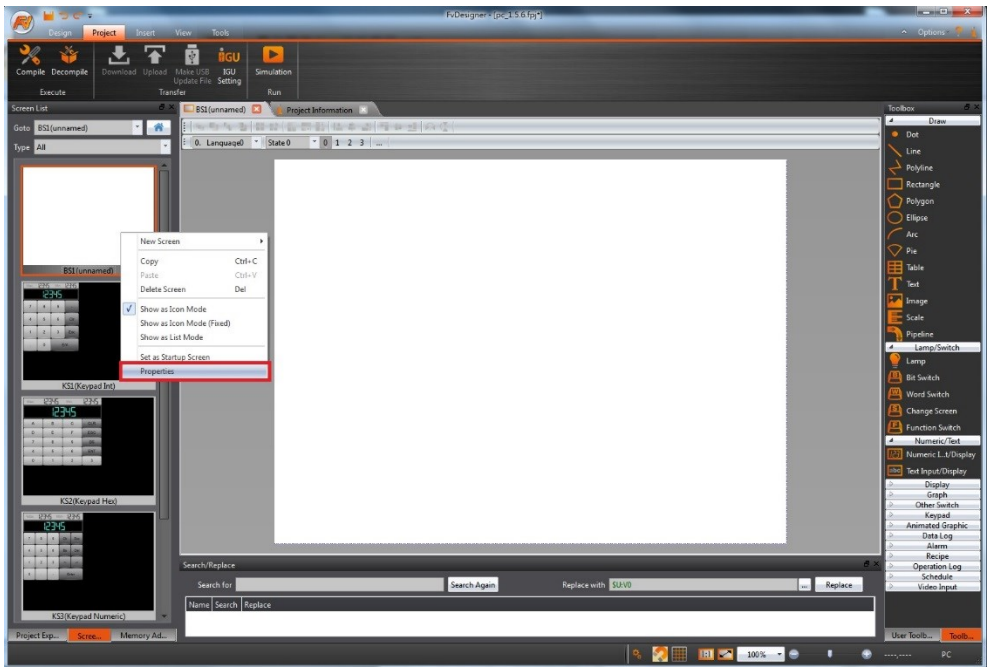


Figure 28 click screen properties

Step 7: Click the【Property】of screen 1, click to select image as the background image of screen 1, figure as below and press【OK】.

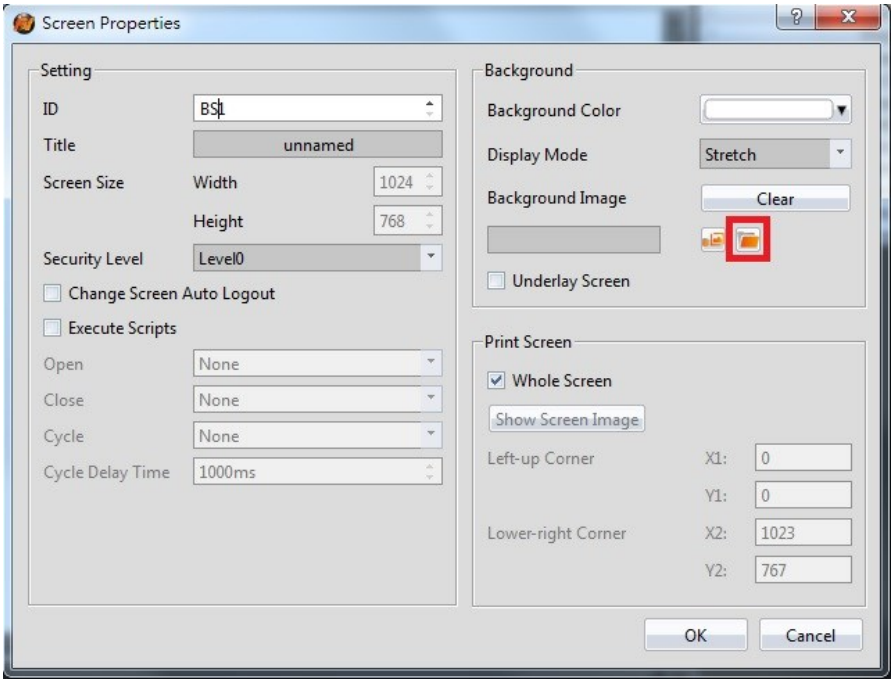



Figure 29 select background image

Step 8: Drag a picture object in the toolbox to screen 1, click  to select image and move to the top left of screen 1, figure as below, and press【OK】

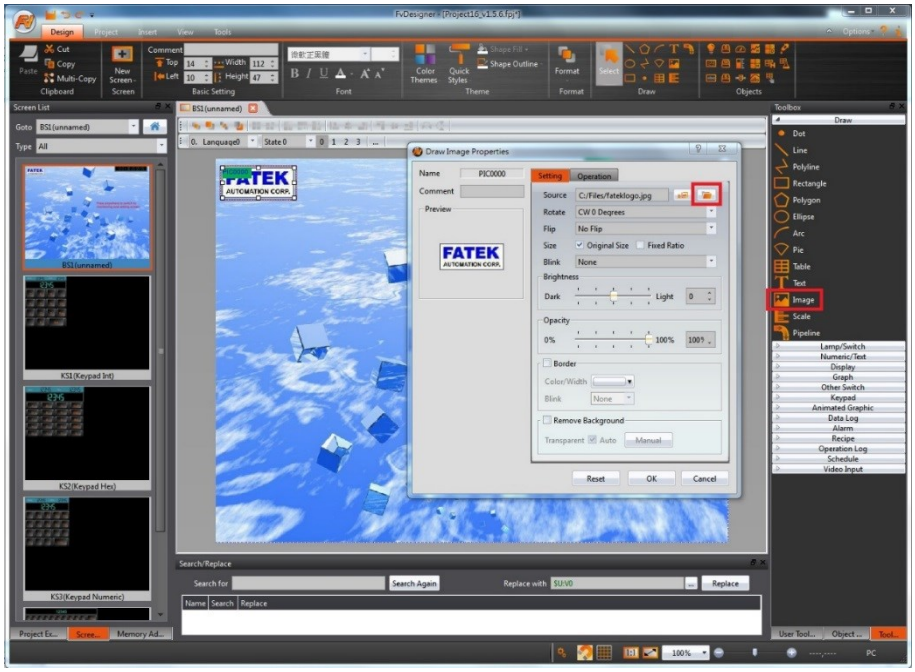


Figure 30 Add image object

Step 9: Drag a date/time display object in the toolbox to screen 1 and move to the top right of screen 1, figure as below, and press【OK】.

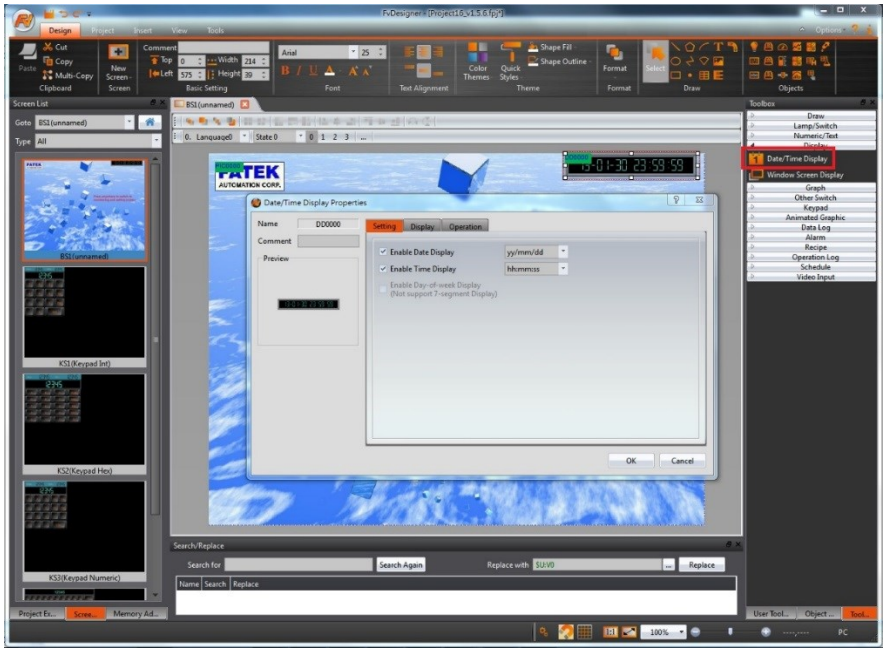


Figure 31 Add date/time display object

Step 10: Drag a text object in the toolbox to screen 1, and fill in the content field "Please press any screen, switch to monitoring and setting screen", figure as below, and press【OK】.

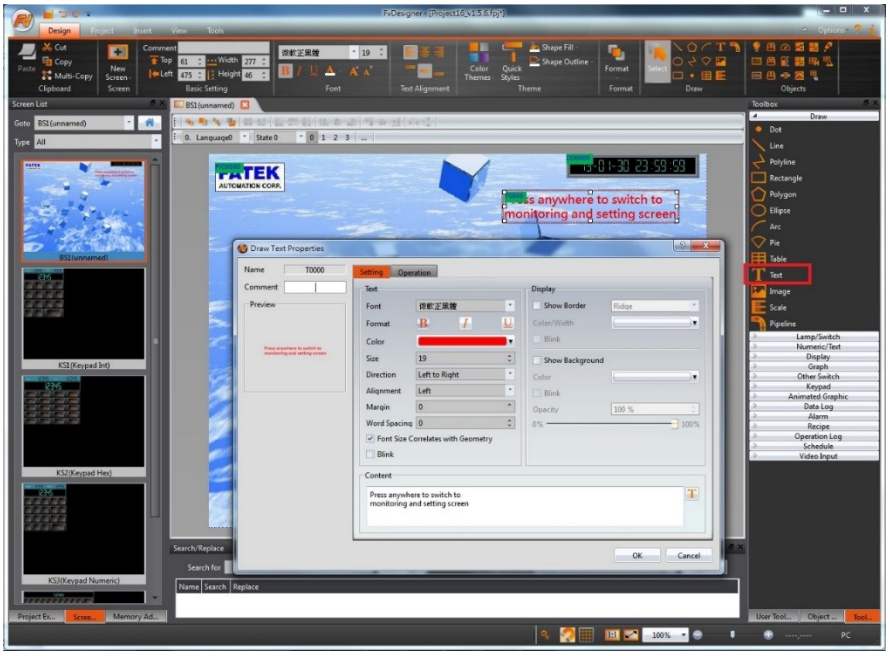



Figure 32 Text object

Step 11: Add【Basic Screen】screen 2, switch to screen 1.

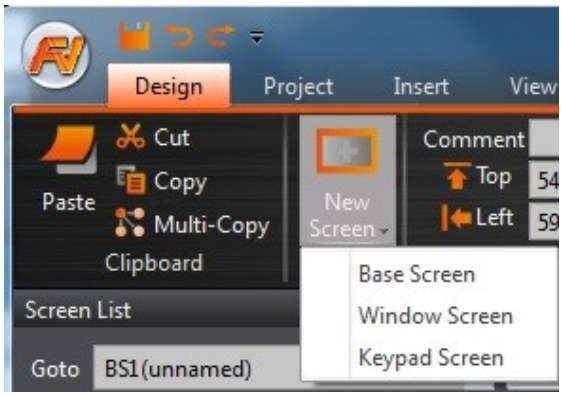



Figure 33 Add basic screen

Step 12: Drag a change screen object in the toolbox to screen 1,【Type】choose as 【Change Screen】,【Screen】choose 2, figure as below, switch to【Display】paging, cancle【Background】display, and press【OK】, then adjust the size and location of the change screen object.

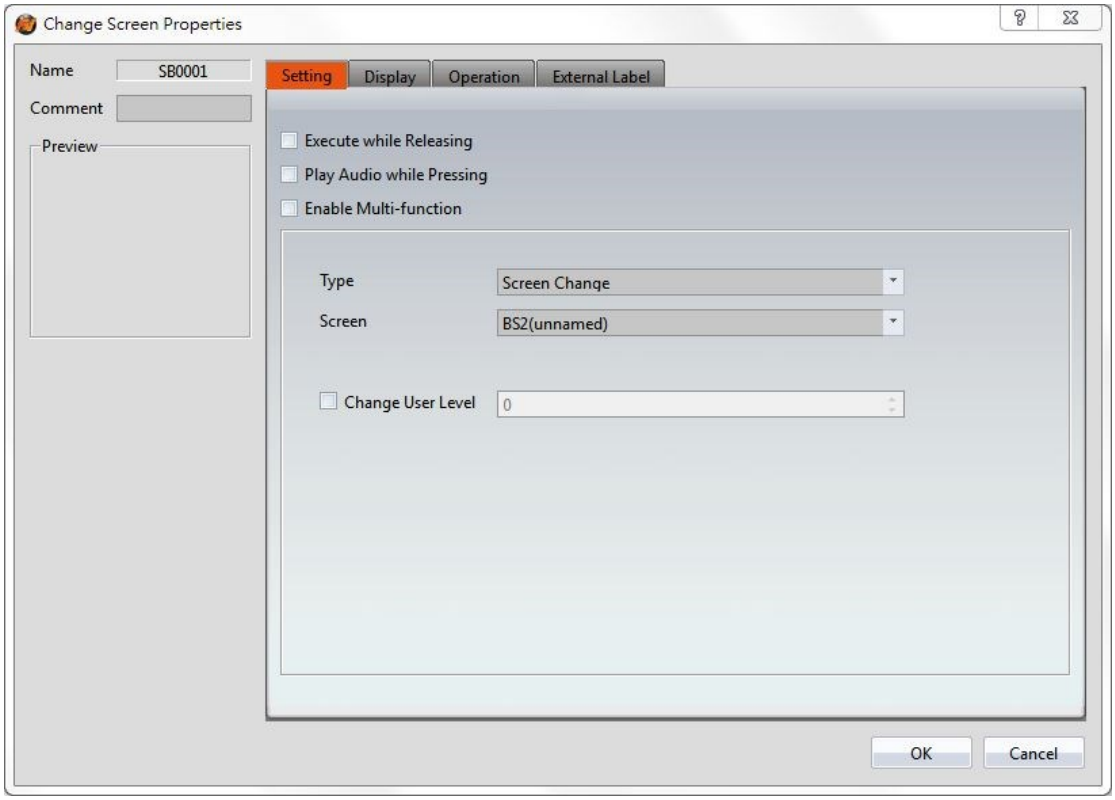



Figure 34 Add change screen object

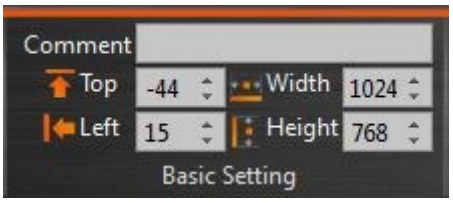



Figure 35 Adjust the size and location of the change screen object

Step 13: switch to screen 2, drag 3 text objects in the toolbox to screen 2, fill in the contents of each field, "monitoring and setting screen", "motor start" and "cylinder forward", drag 2 bit switch objects in the toolbox to screen 2, one of the switch 【Write Address】and【Monitor Address】set to PLC Y0, another one【Write Address】and【Monitor Address】set to PLC Y1, action set【Bit Invert】, and select the appropriate image, figure as shown below.

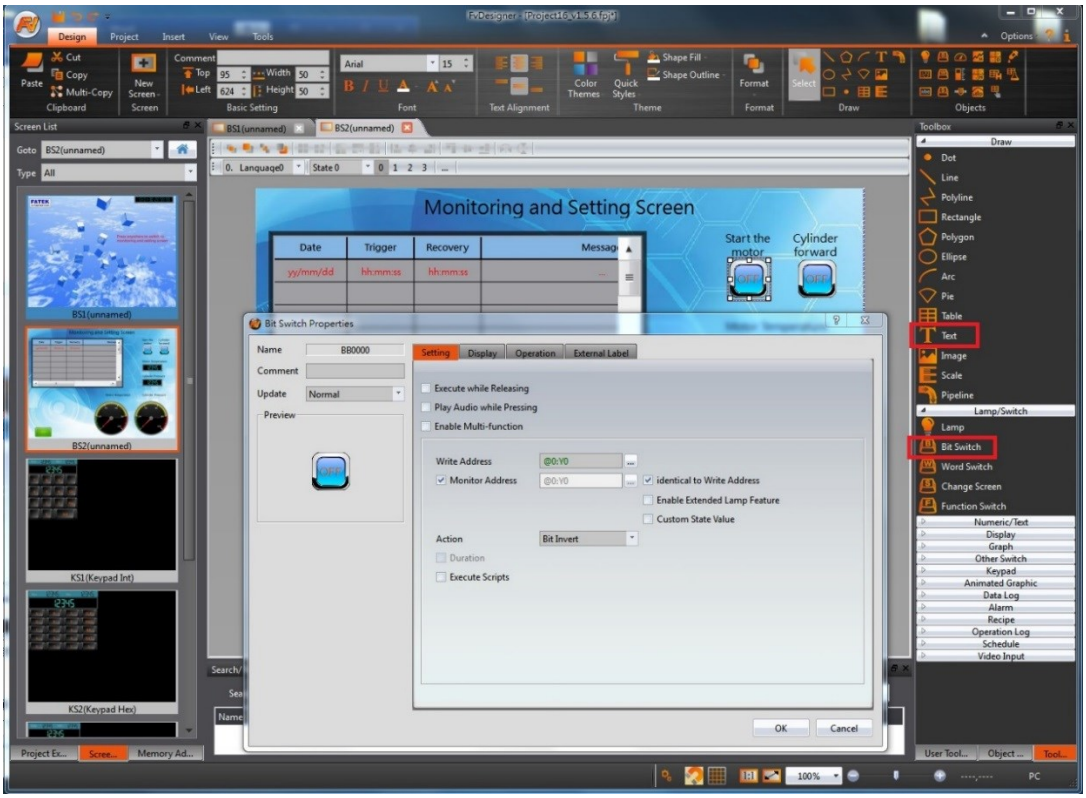



Figure 36 Add text and bit switch objects

Step 14: drag 1 alarm display object in the toolbox to screen 2, set【Alarm Group】as the first group, and select the appropriate column width, figure as shown below.

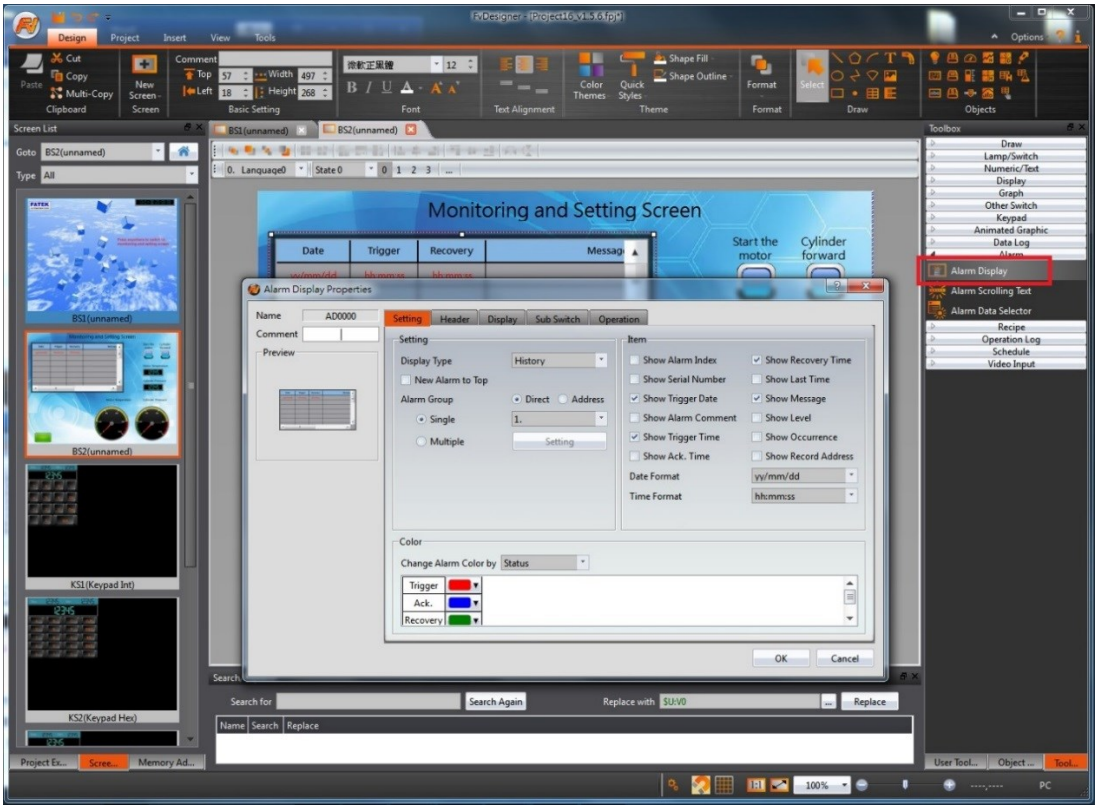



Figure 37 Add alarm display object

Step 15: drag 2 text objects in the toolbox to screen 2, fill in the contents of the field, "motor temperature" and "cylinder pressure" and so on, drag 2 numeric/input display objects in the toolbox to screen 2, one of the object【Monitor Address】set to PLC R10, another one【Monitor Address】set to PLC R10, figure as shown below.


Figure 38 Add text and numeric/input display objects

Step 16: drag 2 text objects in the toolbox to screen 2, fill in the contents of the field, "motor temperature" and "cylinder pressure" and so on, drag 2 meter objects in the toolbox to screen 2, one of the object【Address】set to PLC R10, another one 【Address】set to PLC R10, figure as shown below.


Figure 39 Add text and meter objects

Step 17: drag 1 change screen object in the toolbox to screen 2, screen set as screen 1, and add a background image, figure as shown below.

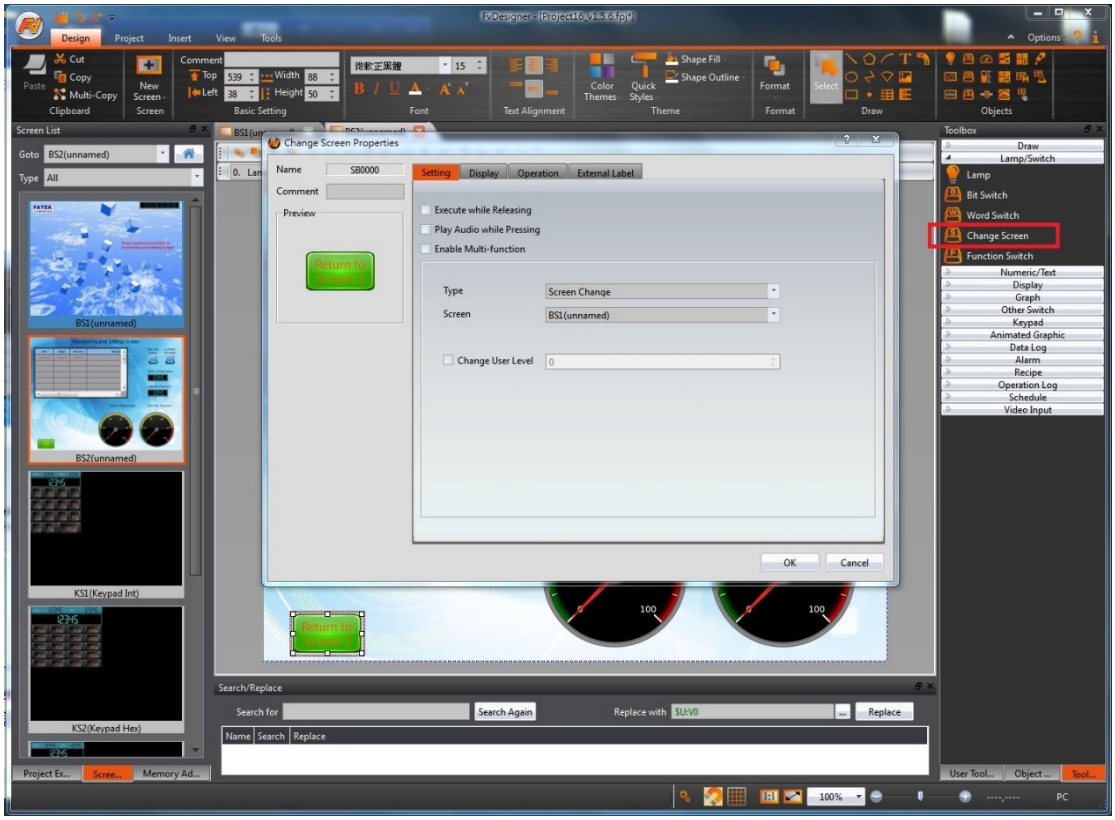



Figure 40 Add change screen object

Step 18: After the project is finished editing, please save the file and press the 【Compile】button, a success message appear when compiled success.

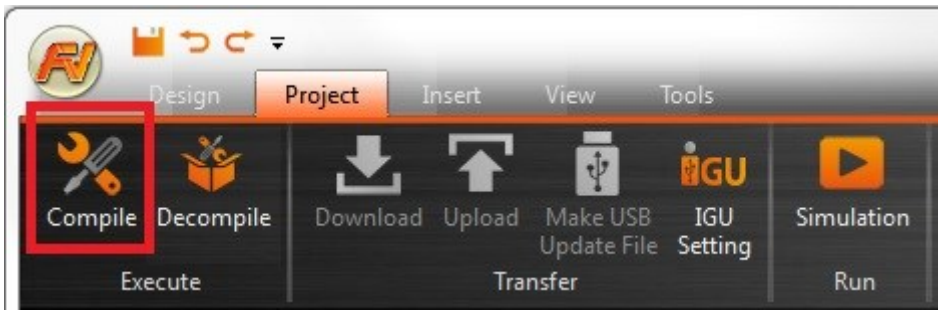



Figure 41 Press compile option

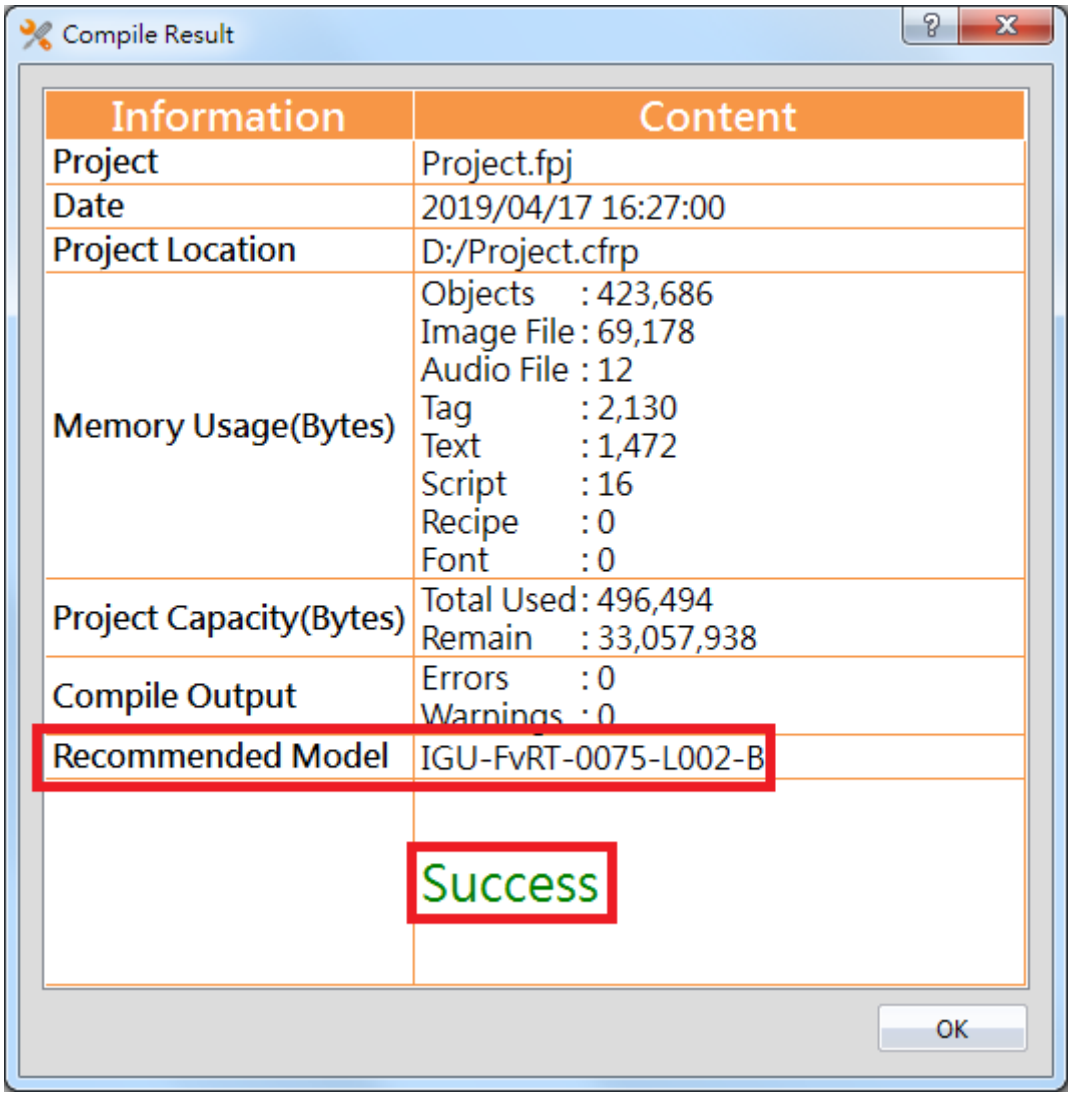



Figure 42 Compile Complete

## 3.2 Use FvRT to Run

After the project is finished editing, insert the IGU-FvRT (USB Dongle) into the computer, then follow the steps below to execute the project on your computer. FvDesigner detailed use or function, please refer to FvDesigner manual.

Step 1: Insert IGU-FvRT (USB Dongle) into the execution computer, and link the serial port of the computer and FATEK PLC FBs Port0.

Step 2: Execute FvRT software, choose the language for the interface, press 【Open】in startup screen, choose a project that has just been compiled, and set the internal storage path or use the default path, figure shonw as below.

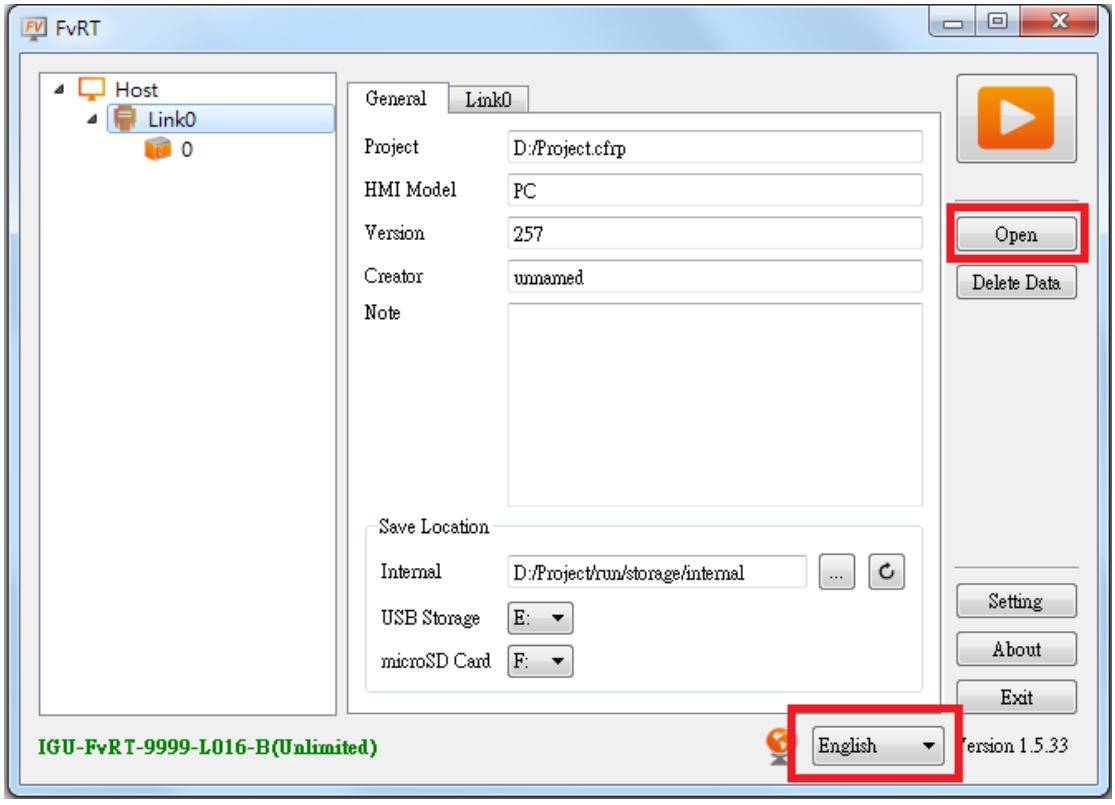



Figure 43 Open

**Note: when the project has been modified, after the completion of the compiler need to re-open the project**

Step 2: switch to【Link】pagong, confirm the correctness of the port, figure as shown below.

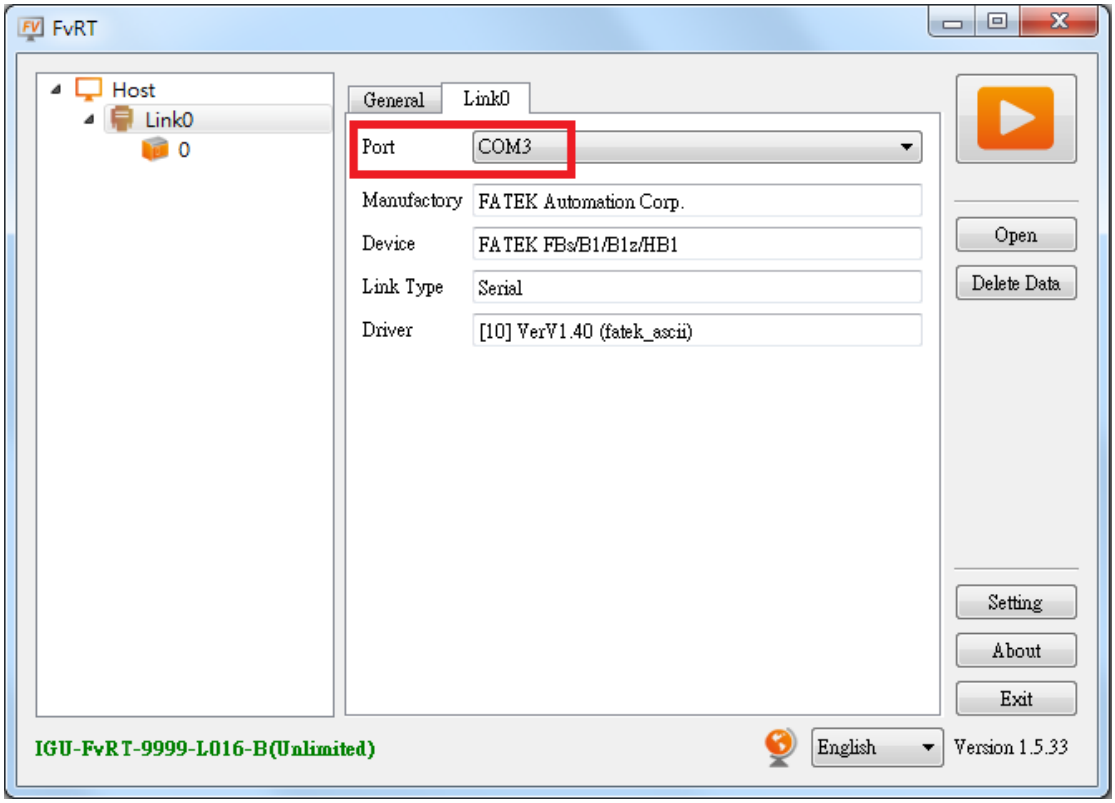



Figure 44【Link】paging

Step 3: press , will enter screen 1 of the design project , as shown below


Figure 45 Screen 1 of the project

Step 4: Point anywhere on the screen, will enter screen 2 to the project that just designed, as shown below, can verify when press ‘’Motor start’’ button, will Y0 of PLC be ON or not, and when R10 is bigger than 80, display ‘’Motor temperature is too high’’ alarm message, and other actions.

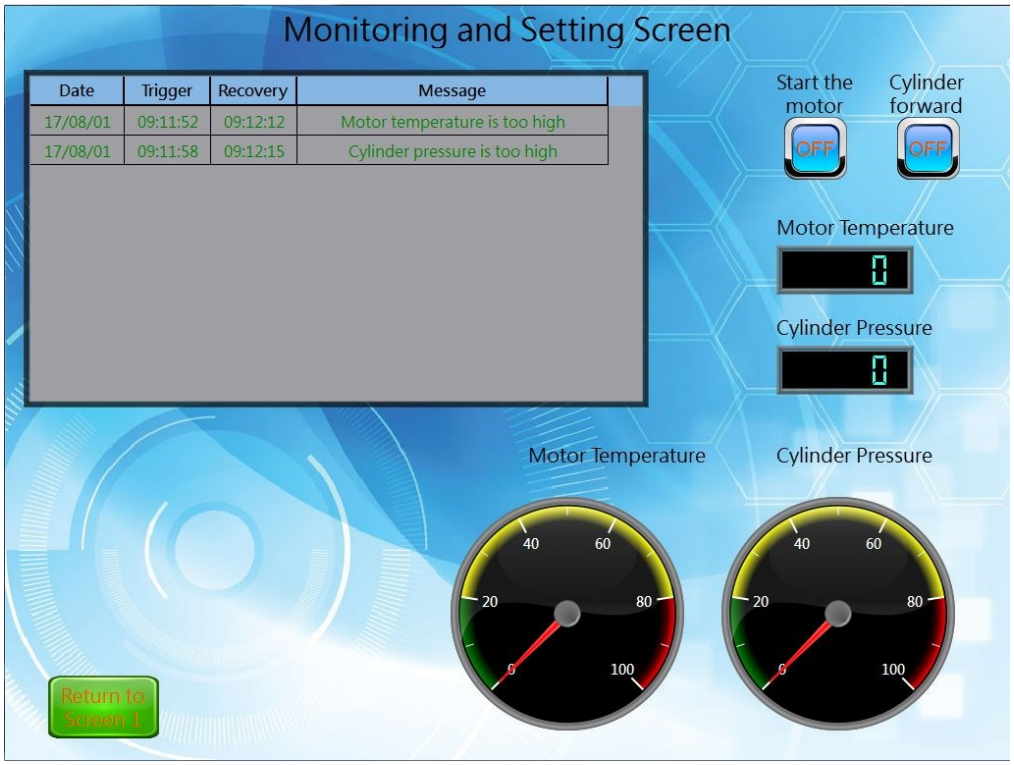



Figure 46 Screen 2 of the project

Step 5: If want to leave the project or FvRT, press the right mouse button, then click 【Stop】or【Close】.

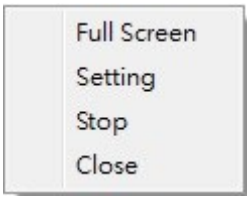



Figure 47 FvRT leaves the project

# 4. FvRT and HMI Function Differences

This section explains the functional differences between FvRT (FvDesigner model selection PC) and HMI (FvDesigner model selection HMI), such as FTP and installment functions are supported on HMI, but these two features are not supported in FvRT, So when using FvRT (FvDesigner model to select PC) some features are not available, or options are not displayed, etc. As shown below, refer to the following table for details on the difference between the two functions, in this form, the HMI uses the P5070N as an example. For other models, please refer to the model function table.

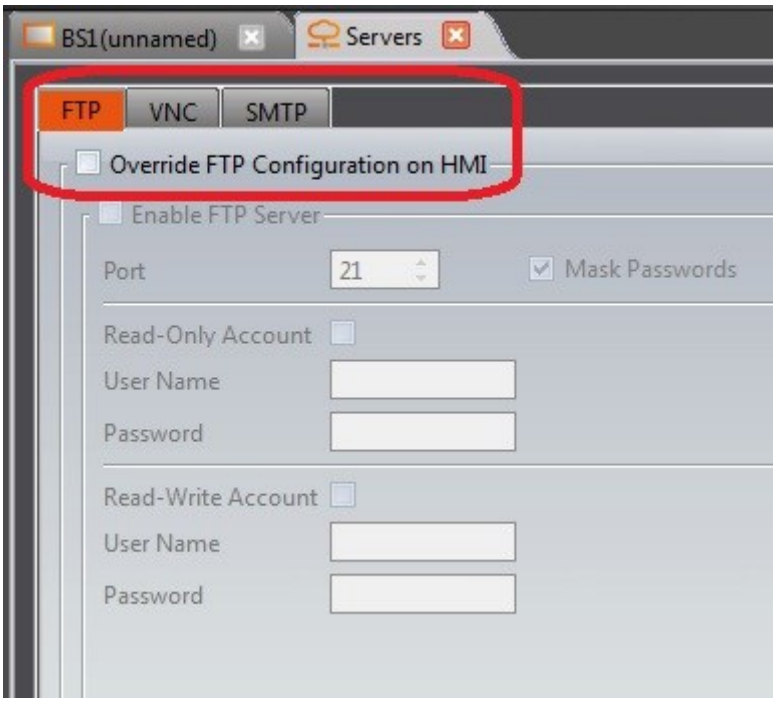



Figure 48 Model selection HMI can select FTP function

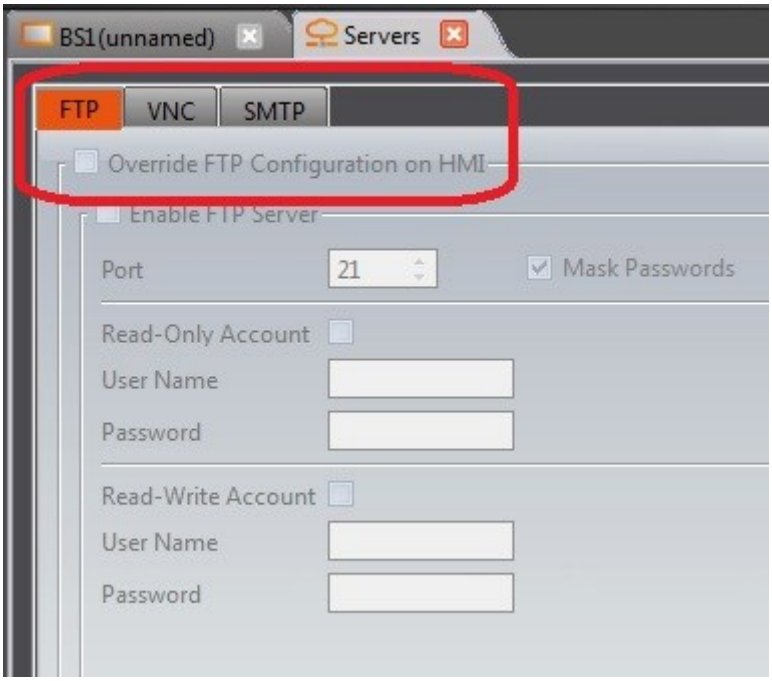



Figure 49 Model selection PC can not choose FTP function

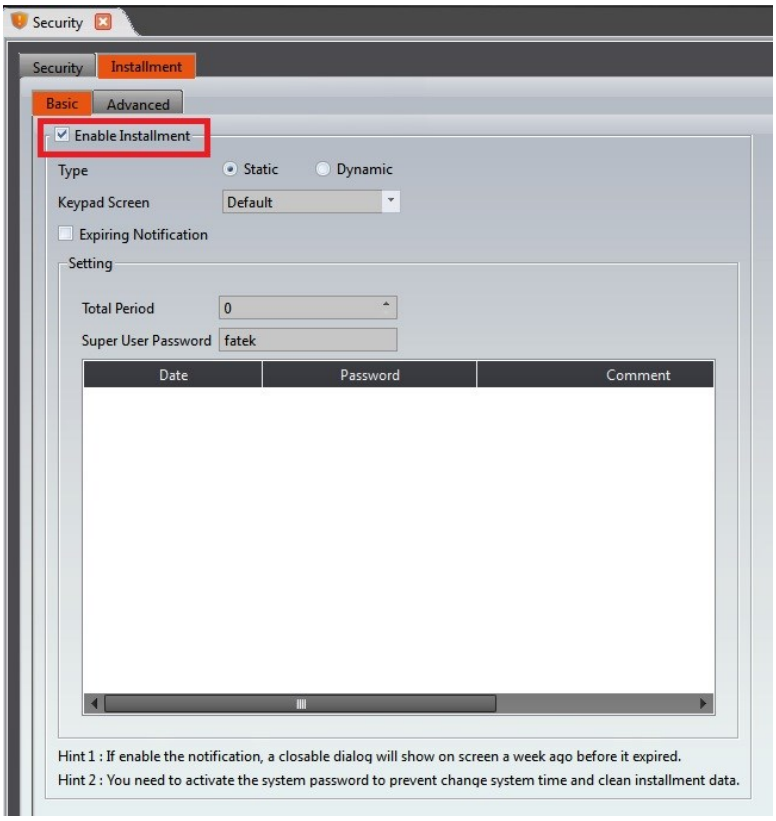



Figure 50 Model selection HMI can select installment function

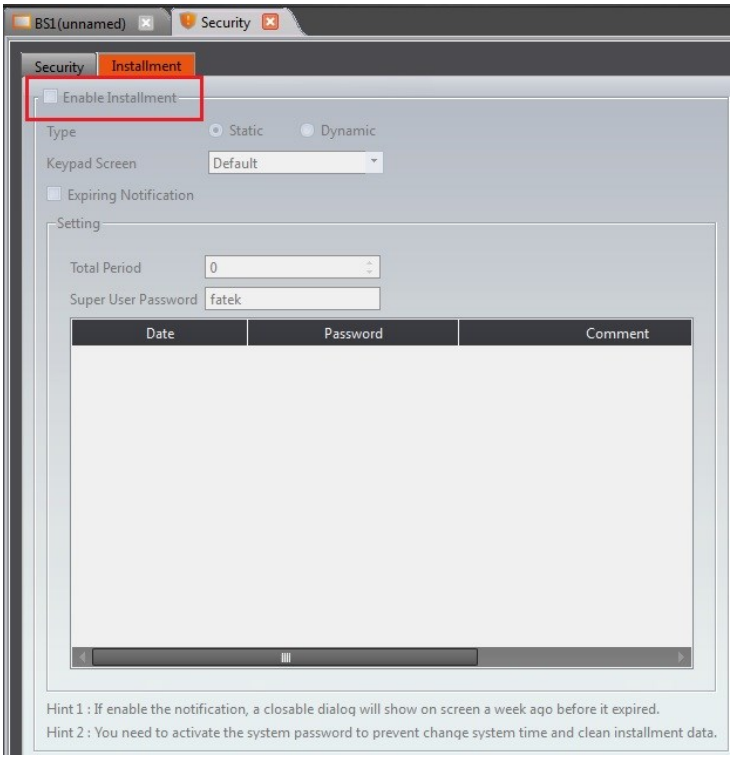



Figure 51 Model selection PC can not choose installment function

Table 8 FvRT and HMI function differences

| Functions | FvRT | HMI(P5070N) | Addition Remarks |
|---|---|---|---|
| NV Register | 0 KB | 120 KB | |
| XNV Register | 12 MB | 12 MB | |
| Project Size Limit | 32 MB | 32 MB | |
| Screen Resolution Adjustment | support | Does not support | FvDesigner model after selecting PC, you can adjust the screen resolution for PC |
| Backlight setting function | Does not support | support | |
| Multi-Link(Serial) | Does not support | support, Up to 8 stops | |
| Multi-Link(Ethernet) | support, Up to 32 stops | support, Up to 32 stops | |
| PLC Port | Does not support | support | |

| | | | | |
|---|---|---|---|---|
| **FTP Function** | | Does not support | support | |
| **VNC Function** | | Does not support | support,<br>Up to 2 stops | |
| **Installment Function** | | Does not support | support | |
| **Font Library** | | Does not support | support | |
| **Function Switch** | **System: Increase Brightness** | Does not support | support | |
| | **System: Decrease Brightness** | Does not support | support | |
| | **System: Turn Backlight OFF** | Does not support | support | |
| | **Safe Removal: Remove USB Storage** | Does not support | support | |
| | **Safe Removal: Remove microSD Card** | Does not support | support | |
| | **Installment: Enter Installment Password** | Does not support | support | |
| | **Installment: Modify Static Installment** | Does not support | support | |
| | **Update: Project Update** | Does not support | support | |
| **System tag** | **OP_VGA** | Does not support | support | |
| | **OP_ BACKLIGHT_EN** | Does not support | support | |
| | **OP_BATTERY _LEVEL** | Does not support | support | |
| | **OP_BACKLIGHT _LEVEL** | Does not support | support | |
| | **OP_BACKLIGHT** | Does not | support | |

| | | | | |
|---|---|---|---|---|
| | _TIME | support | | |
| | SS_HMI_ WARNING | Does not support | support | |
| | SS_SD_STATUS | Does not support | support | |
| | SS_USB_ STATUS | Does not support | support | |
| | SS_HMI_ FREE_SPACE | Does not support | support | |
| | SS_SD_ FREE_SPACE | Does not support | support | |
| | SS_USB_ FREE_SPACE | Does not support | support | |
| | NET_IP | Does not support | support | |
| | NET_GATEWAY | Does not support | support | |
| | NET_MASK | Does not support | support | |
| | NET_MAC | Does not support | support | |
| | LINK_PLC_ PORT | Does not support | support | |
| Upload | | Does not support | support | |
| Download | | Does not support | support | |
| Make USB Update File | | Does not support | support | |
| USB Dongle Setting | | support | Does not support | |
| File Transfer | | Does not support | support | |
| Pass Through | | Does not support | support | |
| Remote System Setting | | Does not support | support | |

| | | | |
|---|---|---|---|
| **Data Log_Group** | Up to 64 groups | Up to 64 groups | |
| **Data Log_Number of Addresses** | Up to 512 | Up to 512 | |
| **Data Log_Occurrences** | Up to 65535 | Up to 65535 | |
| **Alarm_Group** | Up to 64 groups | Up to 64 groups | |
| **Alarm_Records** | Up to 10000 | Up to 10000 | |
| **Alarm_Number of Alarm** | Up to 2000 | Up to 2000 | |
| **Recipe_Group** | Up to 6 groups | Up to 6 groups | |
| **Recipe_No. of Recipe Parameters** | Up to 3000 | Up to 3000 | |
| **Recipe_No. of Recipe** | Up to 2000 | Up to 2000 | |
| **Operation Log_ Number of Records** | Up to 1000 | Up to 1000 | |
| **Schedule_Group** | Up to 64 groups | Up to 64 groups | |
| **Data Transfer_Group** | Up to 64 groups | Up to 64 groups | |
| **Data Transfer_No. of Words** | Up to 65535 | Up to 65535 | The number of words in each group |
| **Data Transfer_No. of Bits** | Up to 65535 | Up to 65535 | The number of bits in each group |
| **Script_Quantity** | Up to 256 | Up to 256 | Use the number of scripts |
| **Script_Number of Columns** | Up to 1024 | Up to 1024 | Number of columns in each script |

# 5. Use of FvRT Customer ID

To protect the designer's intellectual property, FATEK offers this feature specifically for FvRT products, this section explains how to use FvRT's customer ID function, including settings on the project and IGU-FvRT (USB Dongle) settings, both must have the same password to run, that is, FvRT opens the project that has customer ID, IGU-FvRT (USB Dongle) also need to have the same ID in order to run the project

## 5.1 Settings on the project

Set the customer ID on the project, please follow the following steps.

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

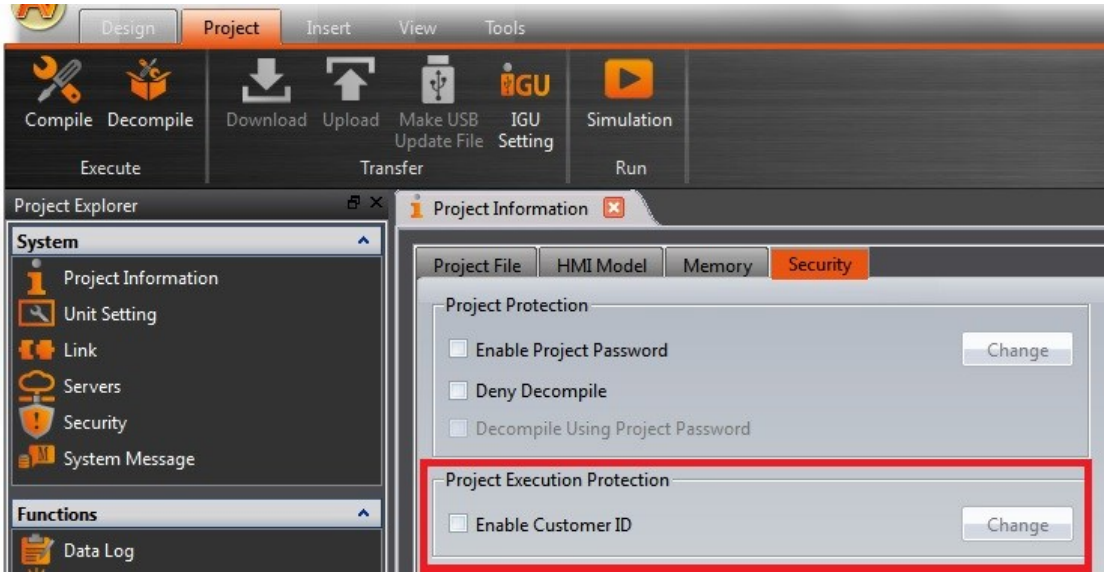



Figure 52 Enable the project's customer ID function.

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】.

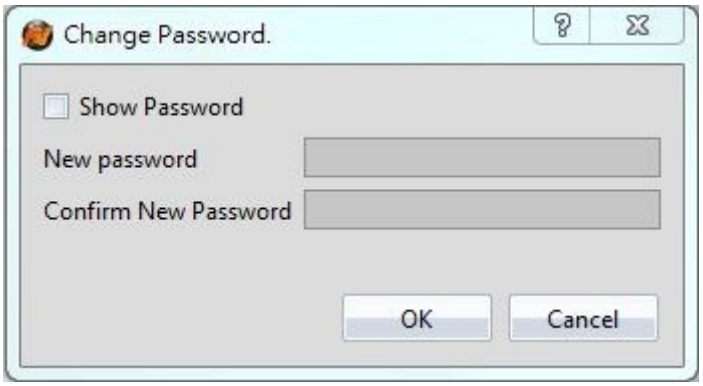



Figure 53【Change Password】dialog of project

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.

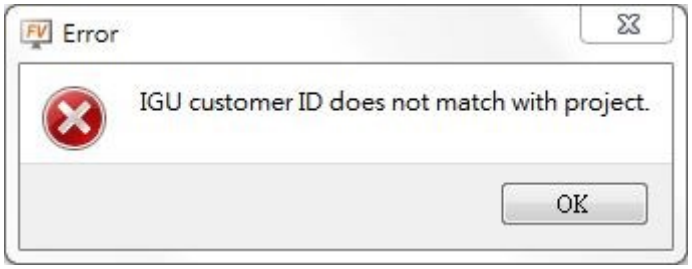



Figure 54 IGU-FvRT (USB Dongle) Customer ID and project different message

## 5.2 Setting on IGU-FvRT (USB Dongle)

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 55 Switch to【Project】paging

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.

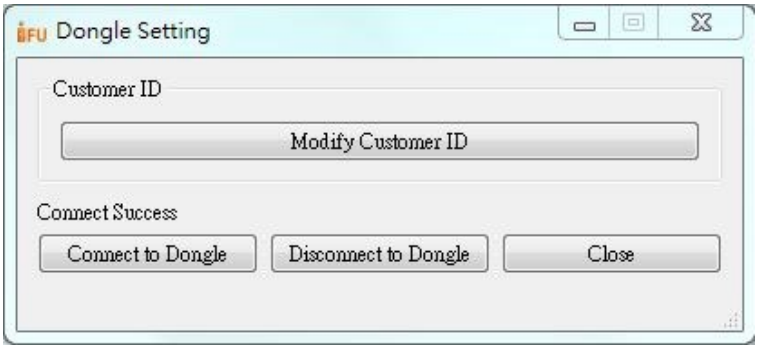



Figure 56【Dongle Setting】dialog

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 57 IGU-FvRT (USB Dongle) -【Change the Password】dialog

The customer ID of the project and the customer ID of the IGU-FvRT (USB Dongle) need to be the samea so the FvRT can be executed properly.

If the IDU-FvRT (USB Dongle) has a customer ID, but the project does not set a customer ID, this means the project does not use the customer ID, the FvRT can also be normal implementation.