Item number	**FvRT Manual**	**Date**	4/26/2024	**Version**	1.5
				Total number of pages	61

FvRT Manual

MERITEK

The manual's contents will change when the software updates. To find the newest version of the manual, go t http://www.meritek.com/tw/ The download is located under the support section.

MERITEK 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 2. Unable to detect an appropriate level of IGU-FvRT, providing 30 minutes of buffer time 3. FvRT level changed from 9 levels to 7 levels of For 1 PC Only and For Multiple PCs.

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FvRT Manual

FvRT Introduction

Preface

MERITEK 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 beautiful objects, powerful communication capabilities, multiple data monitoring, and with the MBs 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.

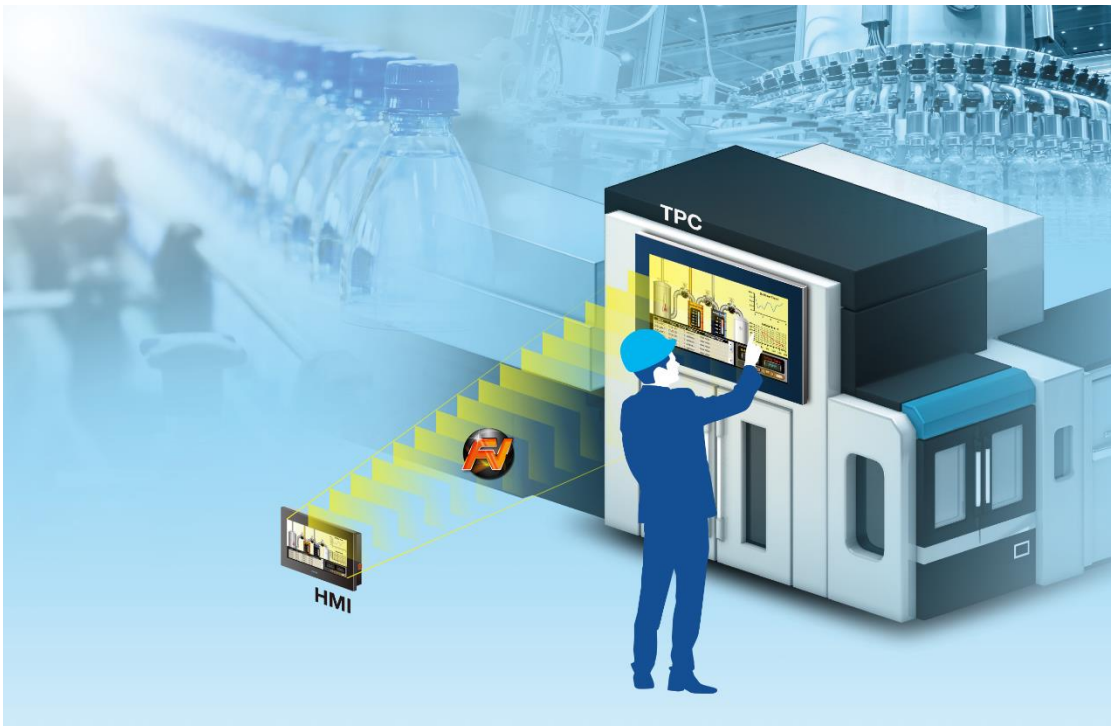


Figure 1 FvRT illustration

FvRT Features

- Easy to design screen, and provides variety of beautiful objects, image library and customized keypad function.
- No need to install WinProLadder, can show MBs 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's PLC, multi-link, user-defined protocol and Modbus Gateway, etc.
- Provide multi-language and customize 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: WindowsXP
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

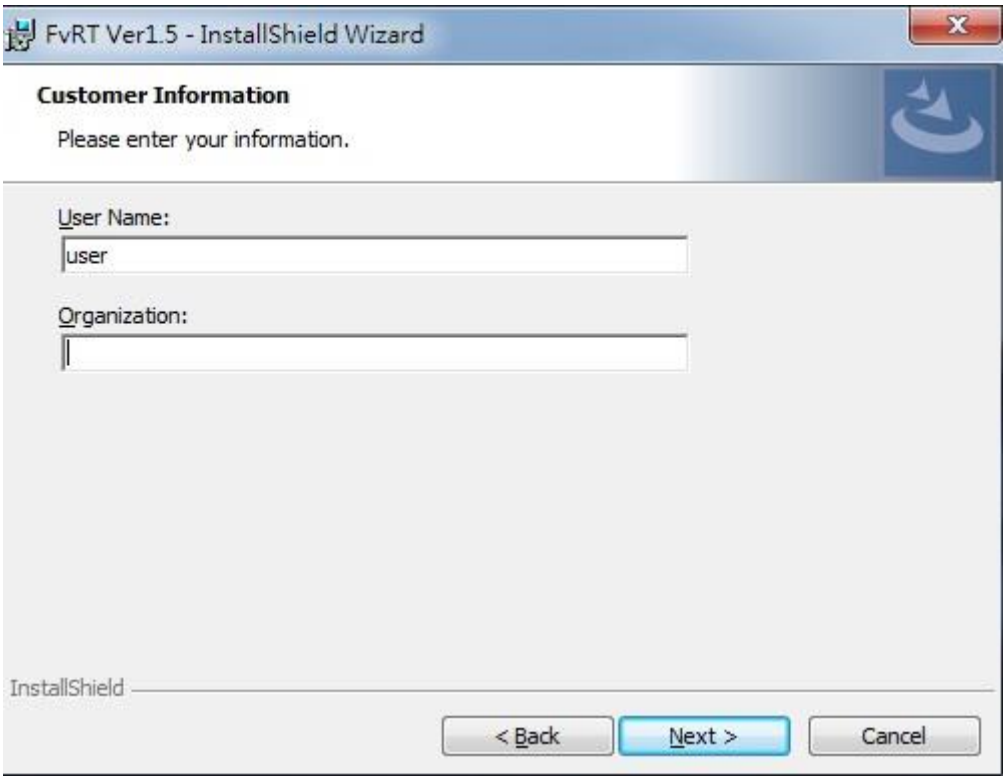


Figure 3 Customer Information

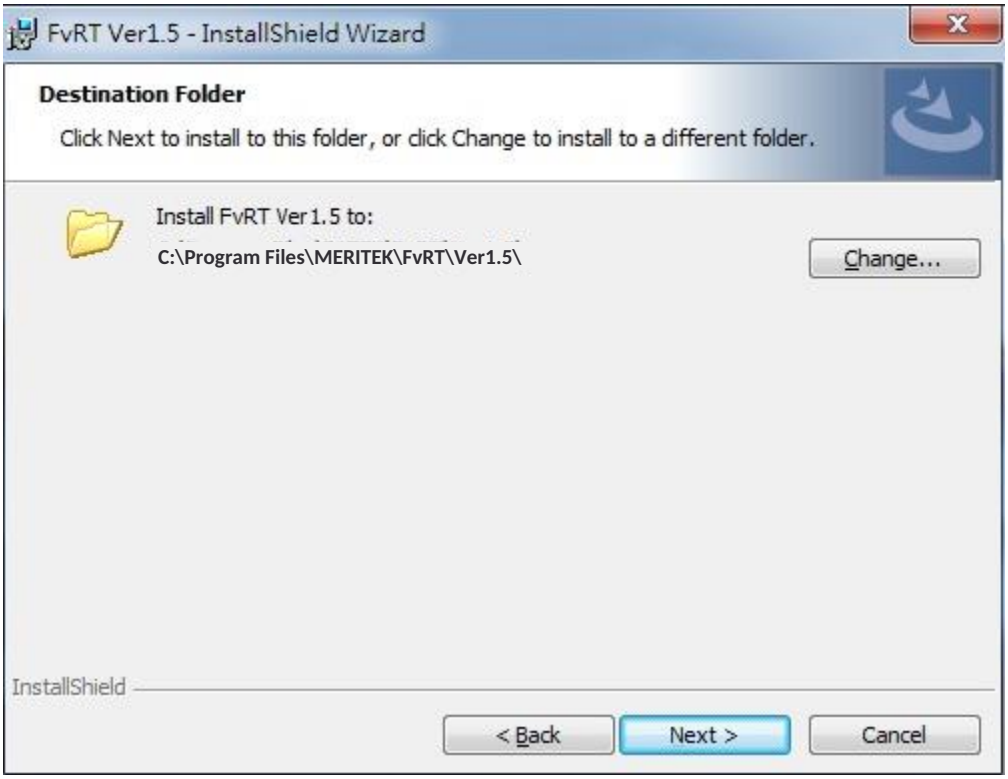


Figure 4 Choose Destination Folder

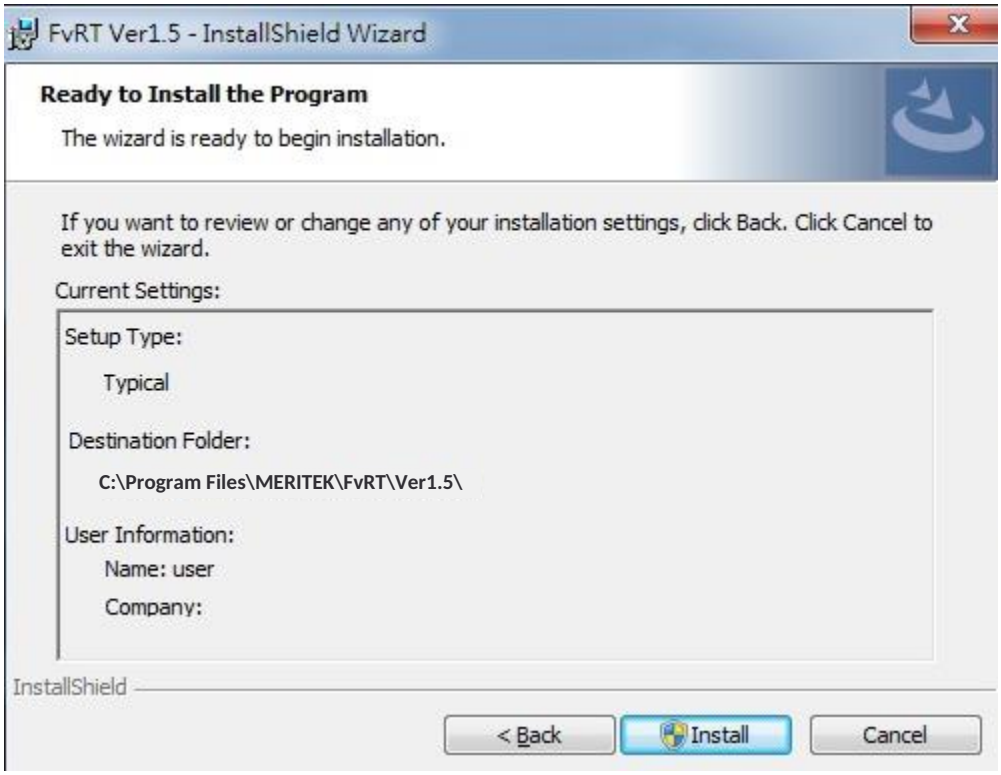


Figure 5 Confirm before install

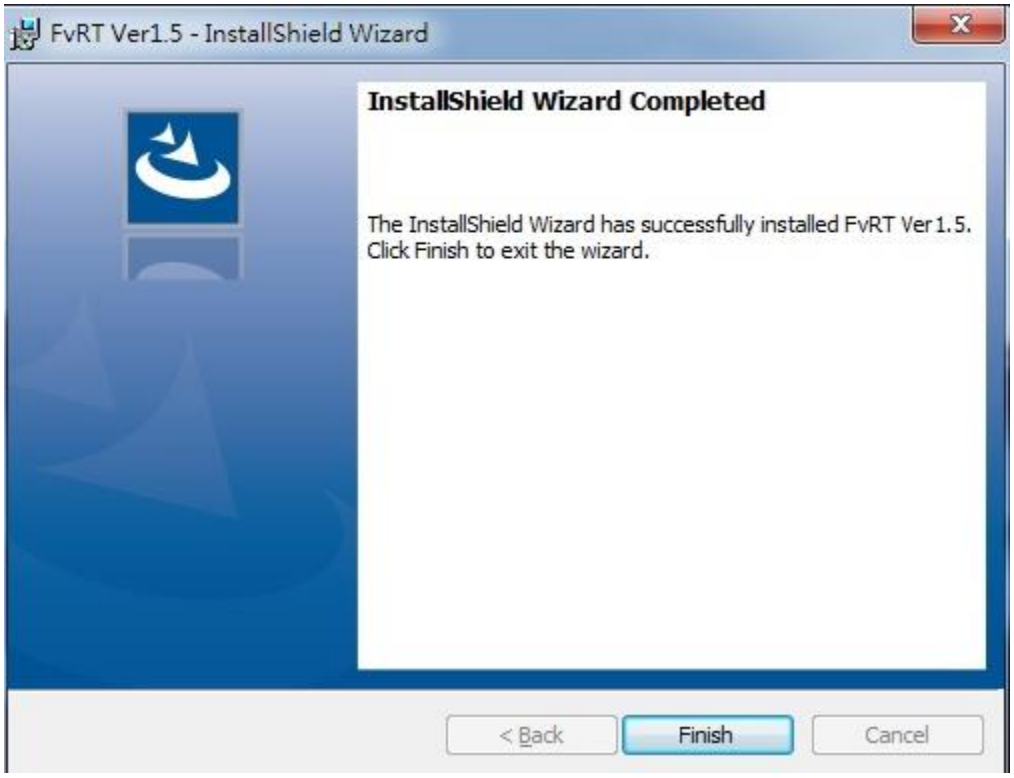


Figure 6 Installation Complete

1. Hardware Description and Product Specifications and Types

This section describes the product specifications and types of MERITEK 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 7 levels of For 1 PC only and 9 levels of For multiple PCs to support the use of external number of registers and support the number of links.
The product name is as follows: IGU-FvRT-0150-L002, where 0150 indicates that the number of external registers is supported, the upper limit is 150; L002 indicates the number of support links, and the upper limit is 2 links.

For 1 PC : Can only be used on one computer or industrial computer. Once registered, it cannot be used on other computer or industrial computer.

For multiple PCs : Can be used on multiple computers or industrial computers.

Figure 7 Product Naming

Table 1 FvRT Product Category

Product Category		Support the used of External Registers Quantity (I/O Tags)	Support links
For 1 PC only	IGU-FvRT-0150-L002	150	2
	IGU-FvRT-0600-L006	600	6
	IGU-FvRT-1200-L006-S	1200	6
	IGU-FvRT-1500-L008-S	1500	8
	IGU-FvRT-3000-L010-S	3000	10
	IGU-FvRT-5000-L012-S	5000	12
	IGU-FvRT-9999-L014-S	9999	14
For multiple PCs	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

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

Back 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 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 (Meritek / 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.

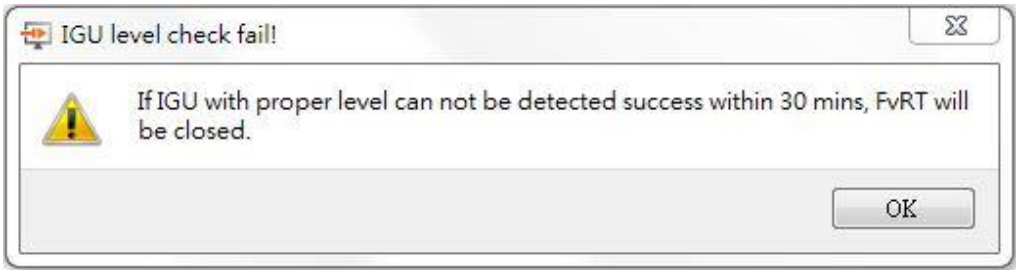


Figure 10 If IGU with proper level can not be detected success 30 minutes checking message

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.

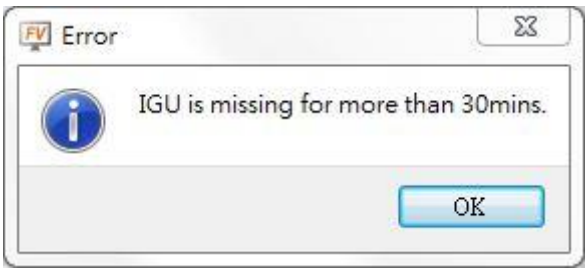


Figure 11 IGU still can not detected over 30 minutes

5. If you use the For 1 PC Only IGU-FvRT (USB Dongle), although it's insert into the USB port of the executive computer or industrial computer, if you do not activate the USB Dongle, the following figure will appear, reminding the user to activate. Refer to 2.2-IGU-FvRT(USB Dongle) Activate Method.

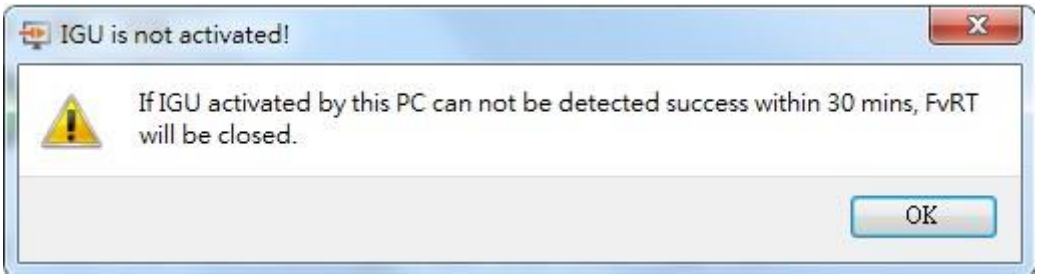


Figure 12 IGU is not activated message

6. 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.

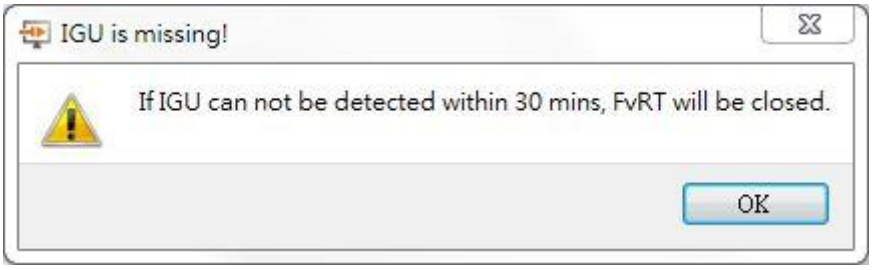


Figure 13 IGU is missing

7. 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.

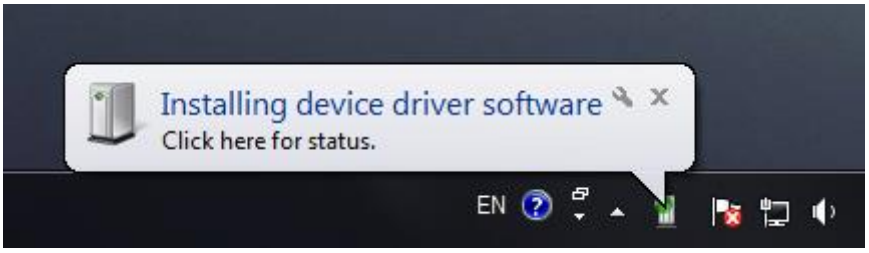


Figure 14 USB driver automatic installation

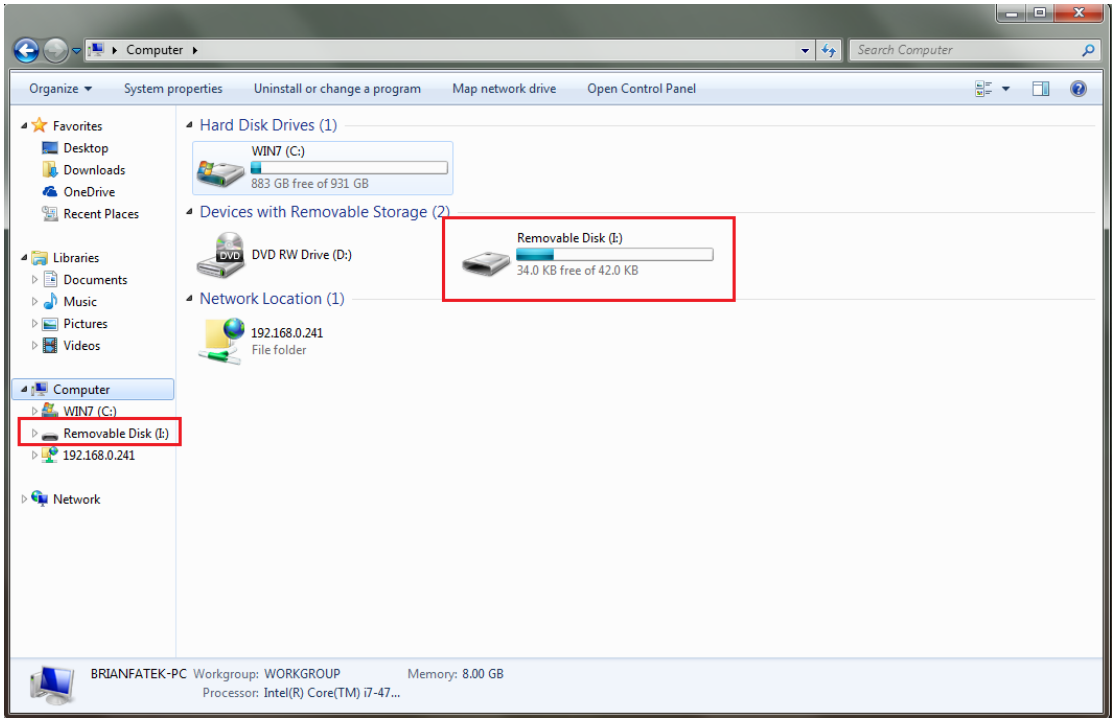


Figure 15 IGU-FvRT (USB Dongle) as a disk

2.2 IGU-FvRT(USB Dongle) Activate Method

If you are using For 1 PC Only version, you can only use it on a computer or industrial computer. The IGU-FvRT (USB Dongle) needs to be activated before it can be used normally. Once registered, it cannot be used on other computers or industrial computers.

2.2.1 IGU Activate Method

This section explains how to activate the IGU-FvRT (USB Dongle) method.
Step 1: Insert the IGU-FvRT (USB Dongle) into the USB port of a computer or industrial computer.

Step 2: Execute the FvRT software. In the FvRT startup screen, click【General】, as shown in the figure below, click the【Activate IGU-FvRT】button in the lower left corner. In the lower left corner, the user will be reminded whether the IGU-FvRT (USB Dongle) is activated.

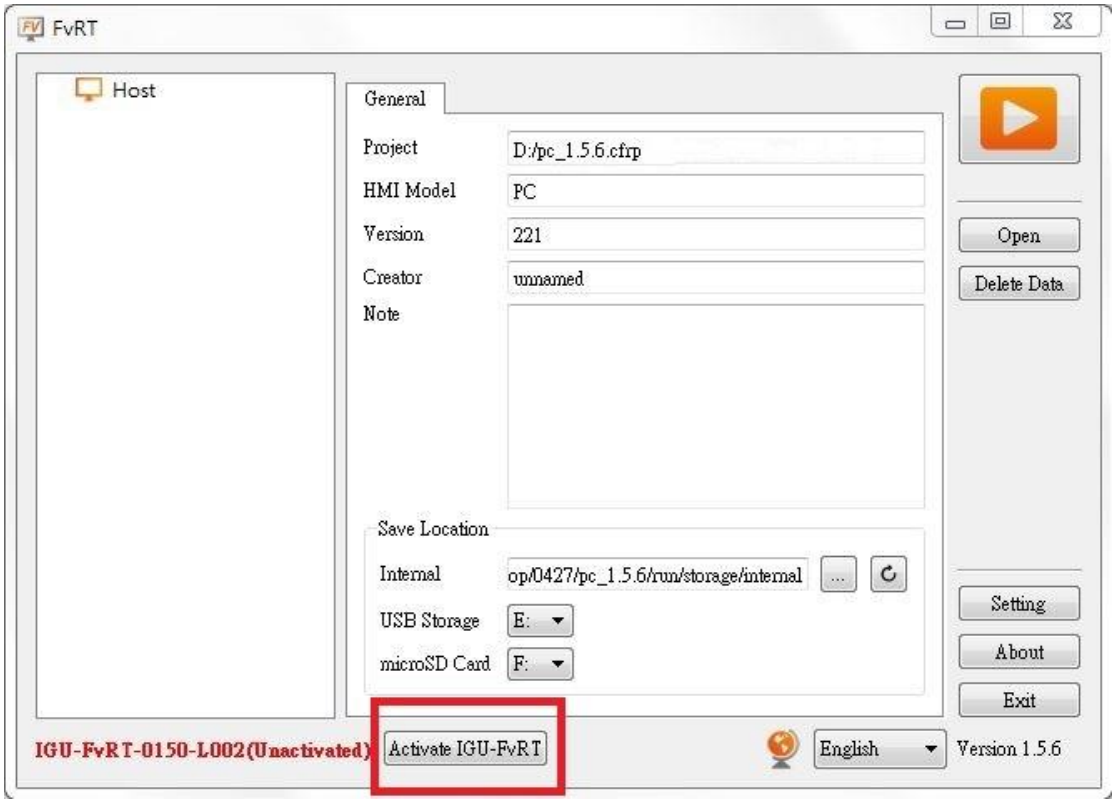


Figure 16 FvRT Startup Screen【General】Paging

Step 3: Click the【Activate IGU-FvRT】button in the lower left corner, the following figure will appear, ask again if you want to bind the IGU-FvRT to this computer, and remind the user that the IGU-FvRT can only be bound by one computer. Set, and can not be transferred, then execute the activate action.

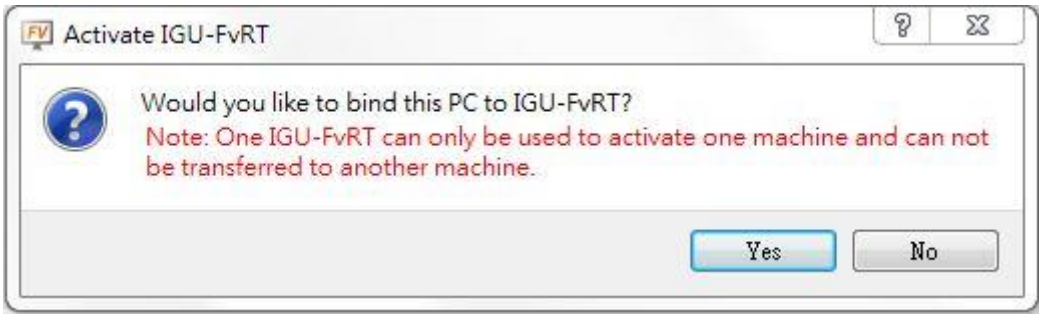


Figure 17 Activate IGU-FvRT asking screen

Step 4: Press the【Yes】button to execute the activate action. The following figure will appear to inform the user that the user activate successfully.

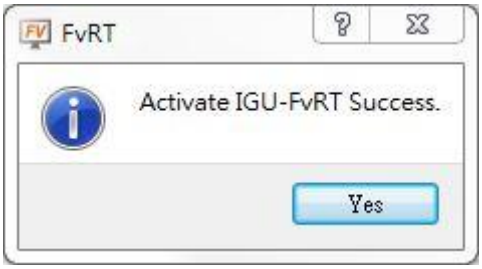


Figure 18 IGU-FvRT activate success window

2.3 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.

2.3.1 FvRT Startup screen【General】Paging

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

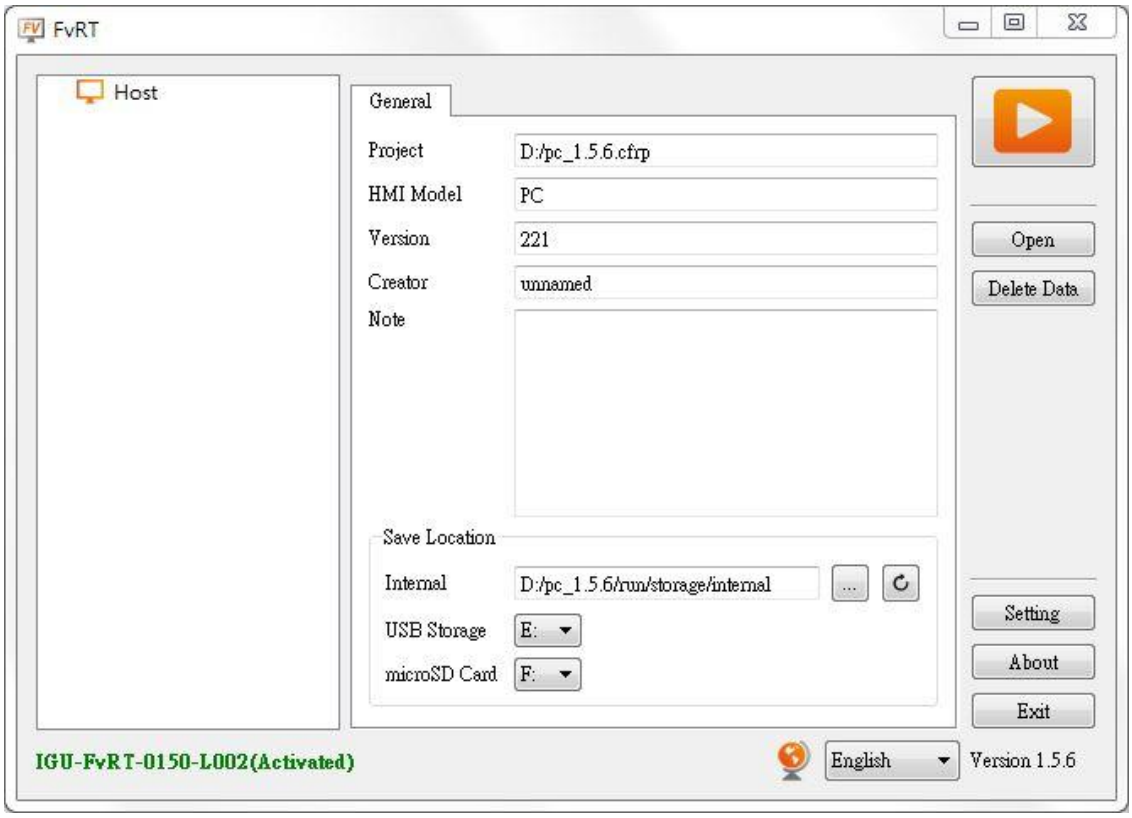
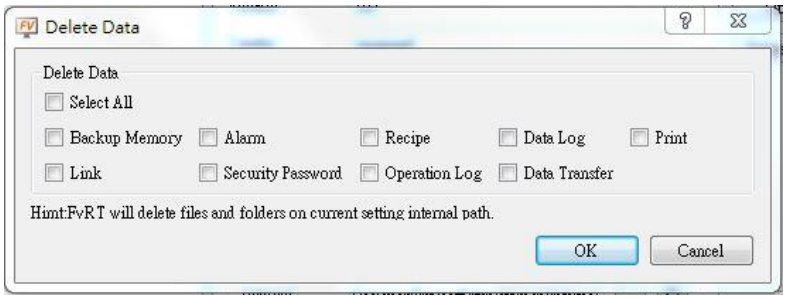


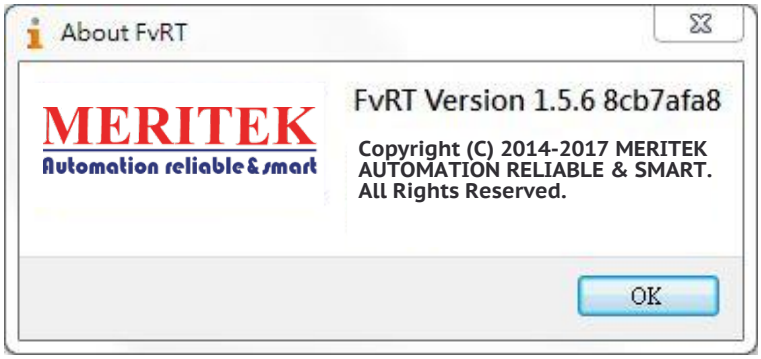
Figure 19 FvRT Startup screen【General】paging

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

Item	Description
【Host】	Will display the linked device.

【General】	【Project】 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.
IGU-FvRT-xxxx-Lxxx	Indicates the level of IGU-FvRT (USB Dongle) currently detected. 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. 
【Setting】	Set up FvRT to operate the system and display behavior. For details, refer to **chapter 2.3.3-FvRT Startup screen 【Setting】Property**

【About】	Display version information, figure as shown below. 
【Exit】	Close MERITEK FvRT software.
	Select the language to switch the FvRT software interface, including English, Traditional Chinese, Simplified Chinese and Türk.

2.3.2 FvRT Startup screen【Link】Paging

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

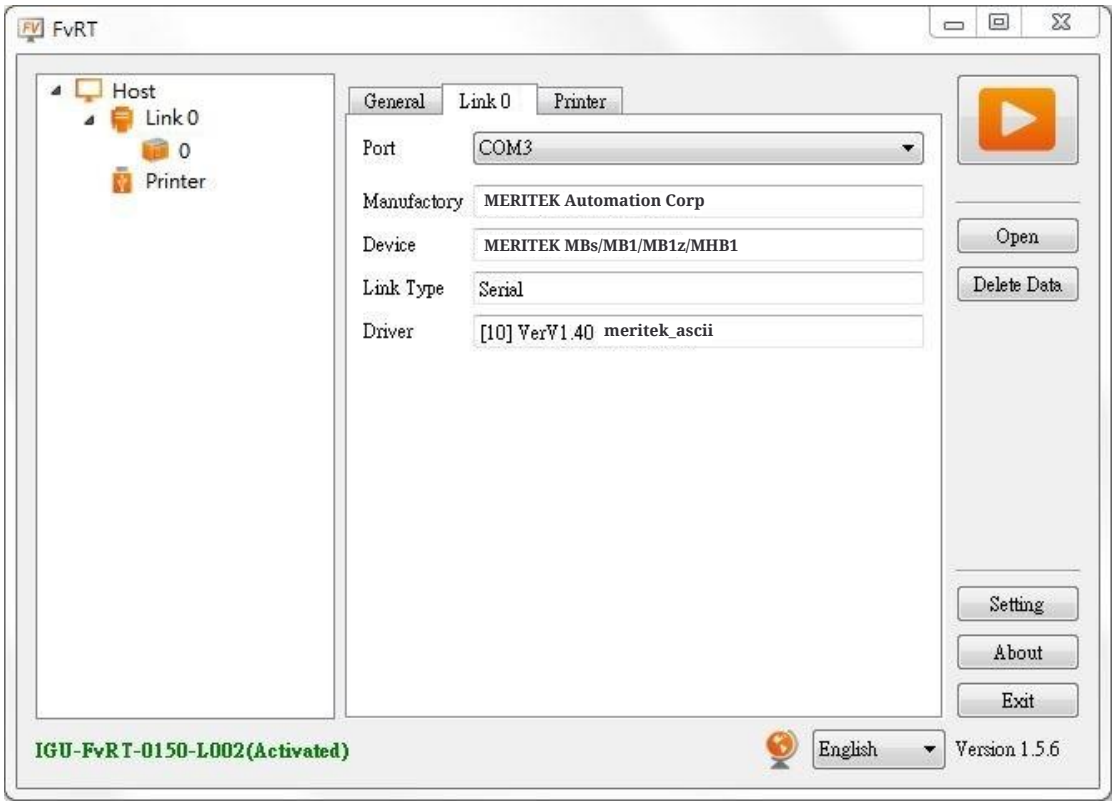


Figure 20 FvRT Startup screen【Link】Paging

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.

2.3.3 FvRT Startup screen【Setting】Property

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

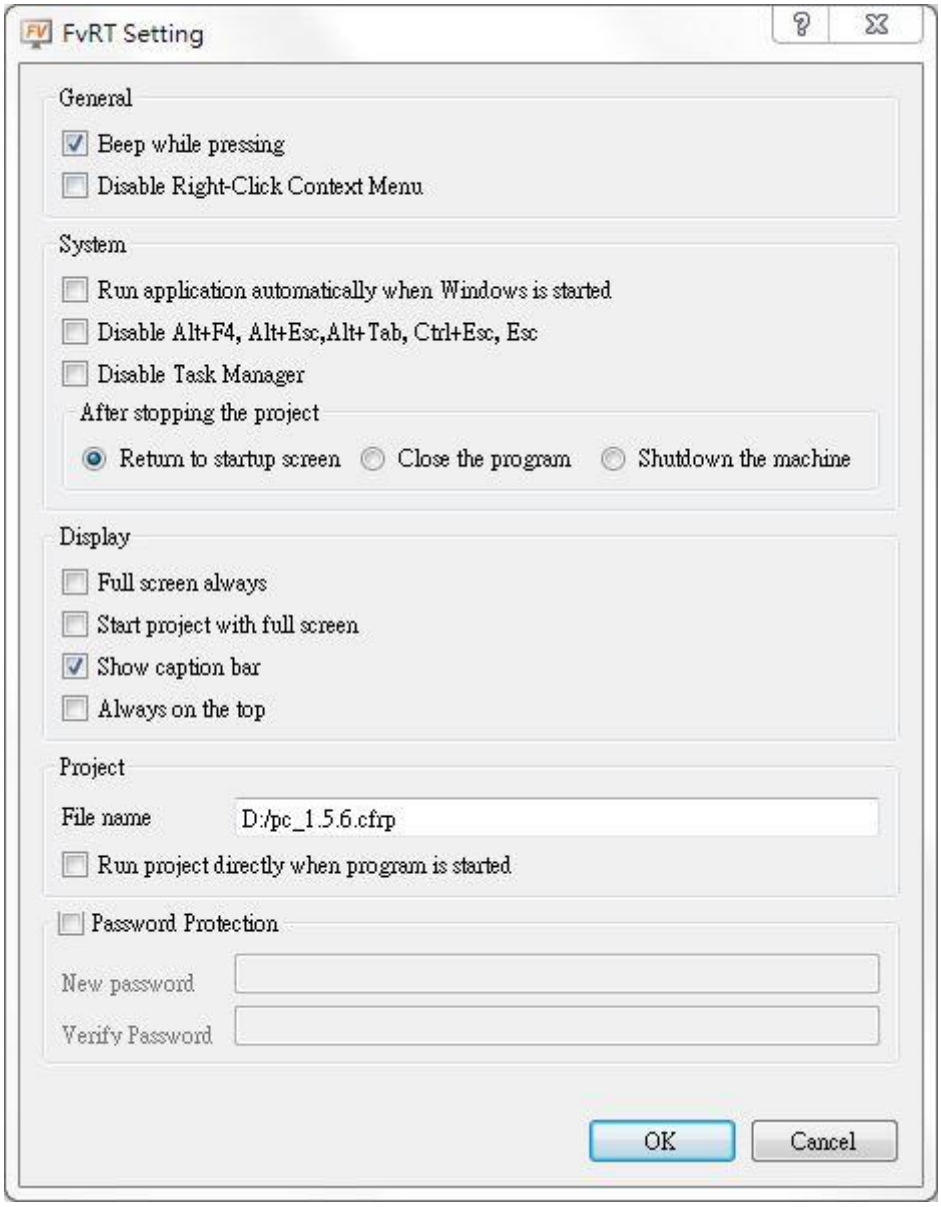


Figure 21 FvRT startup screen【Setting】dialog

Table 5 FvRT startup screen【Setting】item and description

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.

2.4 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.

2.4.1 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.

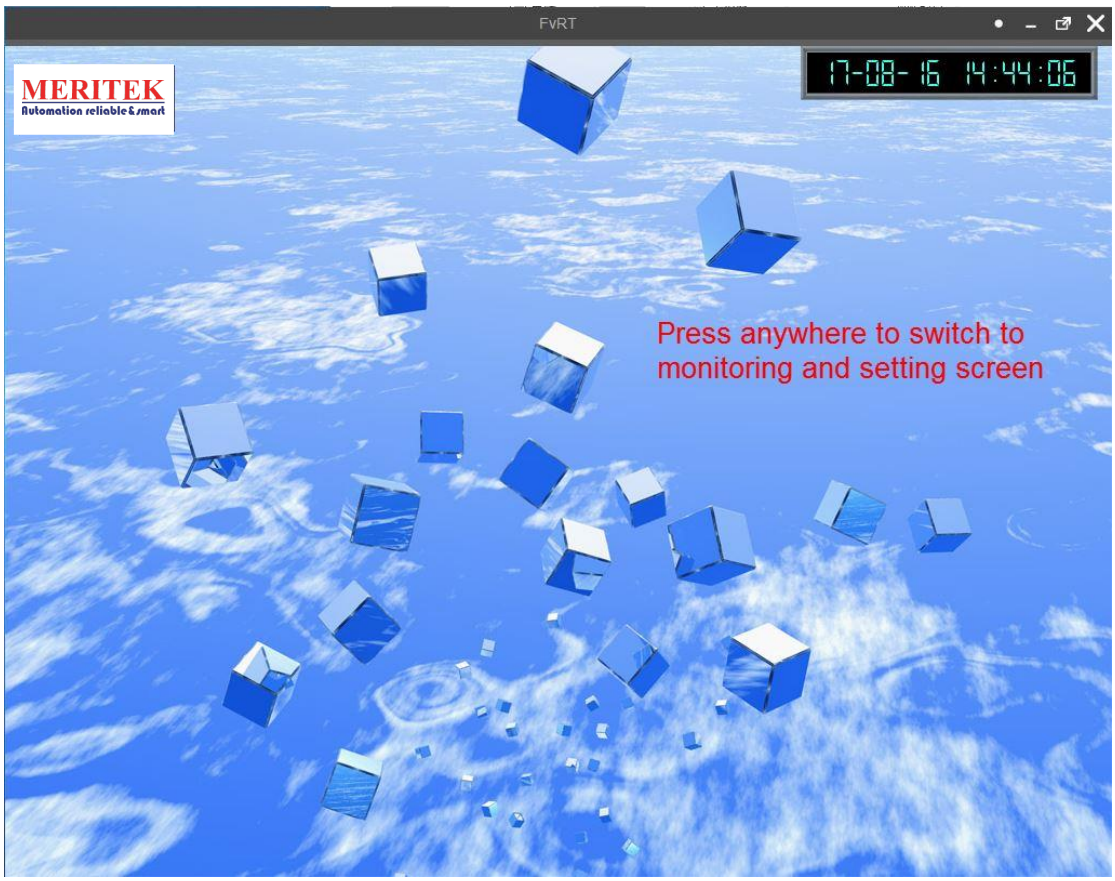


Figure 22 FvRT window with a caption bar at run time

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

2.4.2 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 24 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 MERITEK PLC MBs 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(MERITEK 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 25 example screen 1

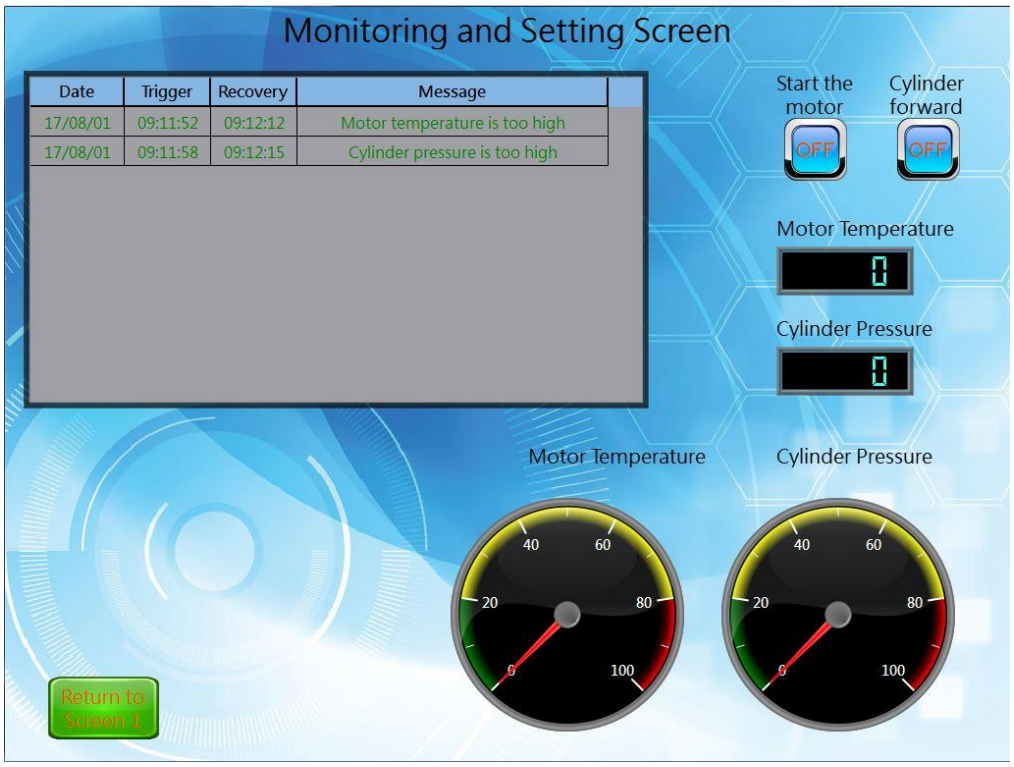


Figure 26 example screen 2

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 27 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 MERITEK MBs/MB1/MB1z/MHB1, baud rate & format set 9600, 7, Even, 1, and station number set as 1, figure as shown below.

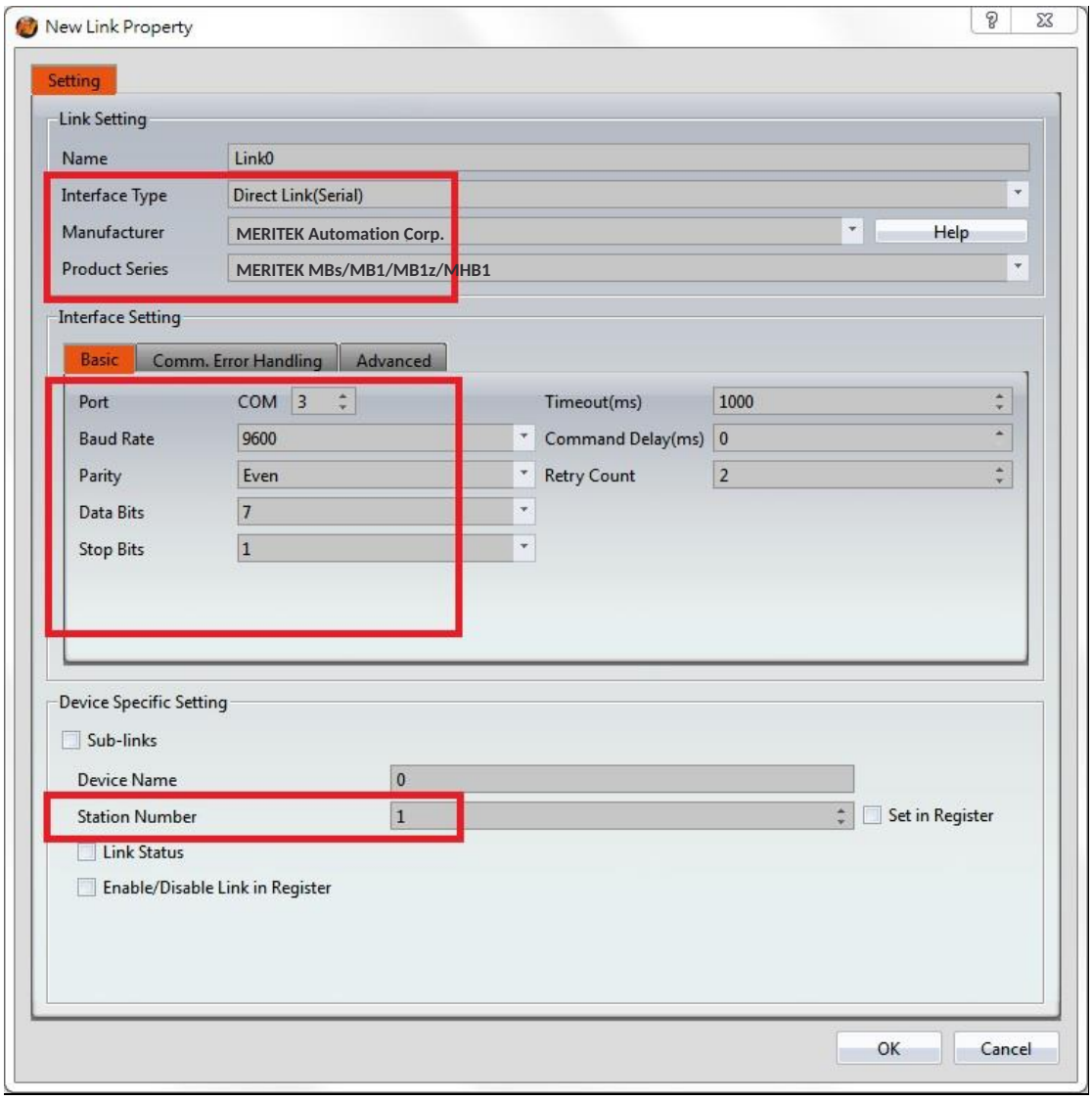


Figure 28 Select the controller and set the communication format

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

Figure 29 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.

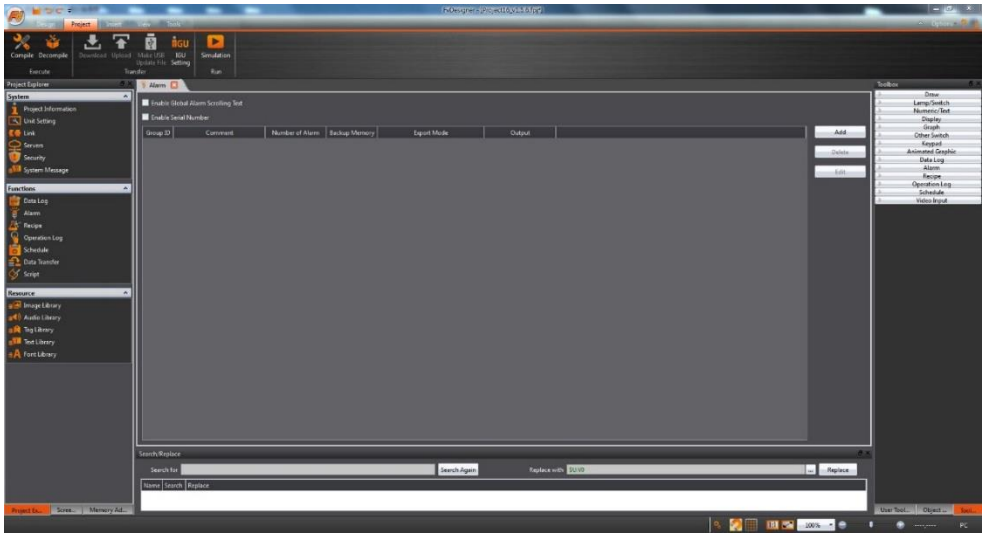


Figure 30 open the alarm setting window

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.

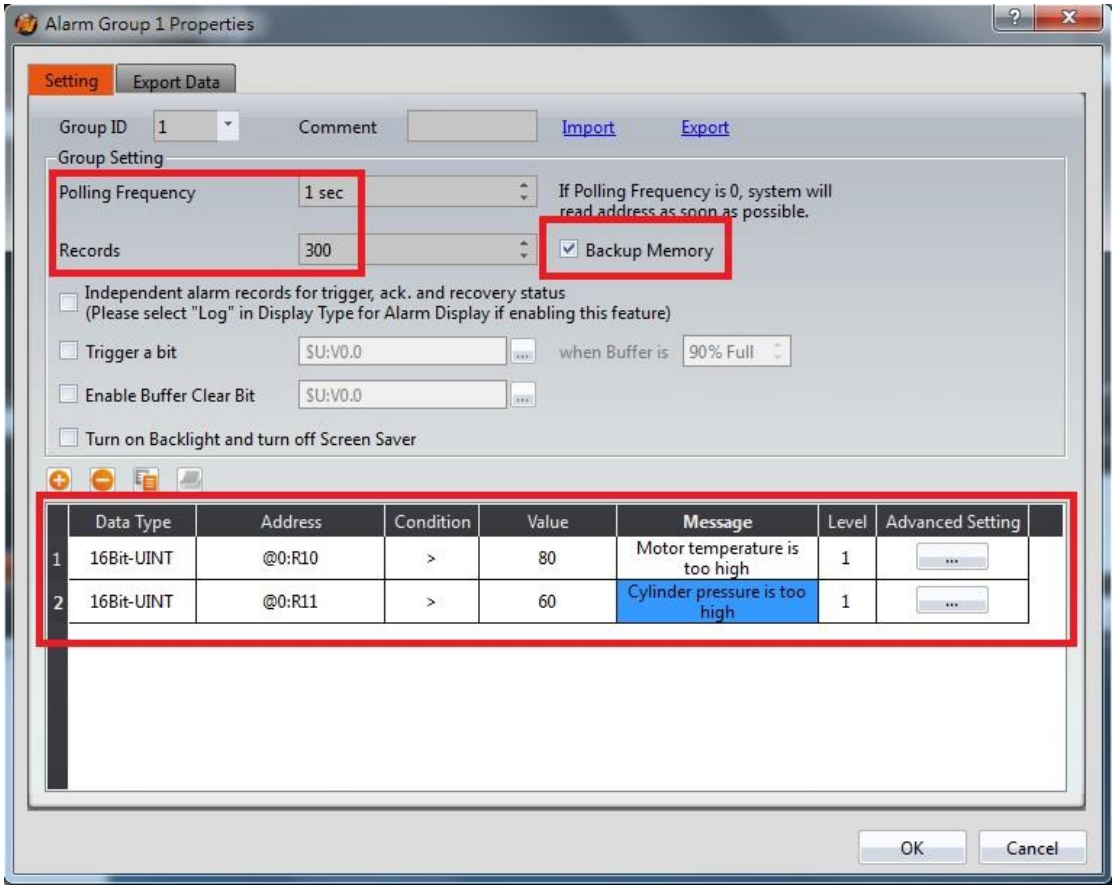


Figure 31 Add new alarm

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

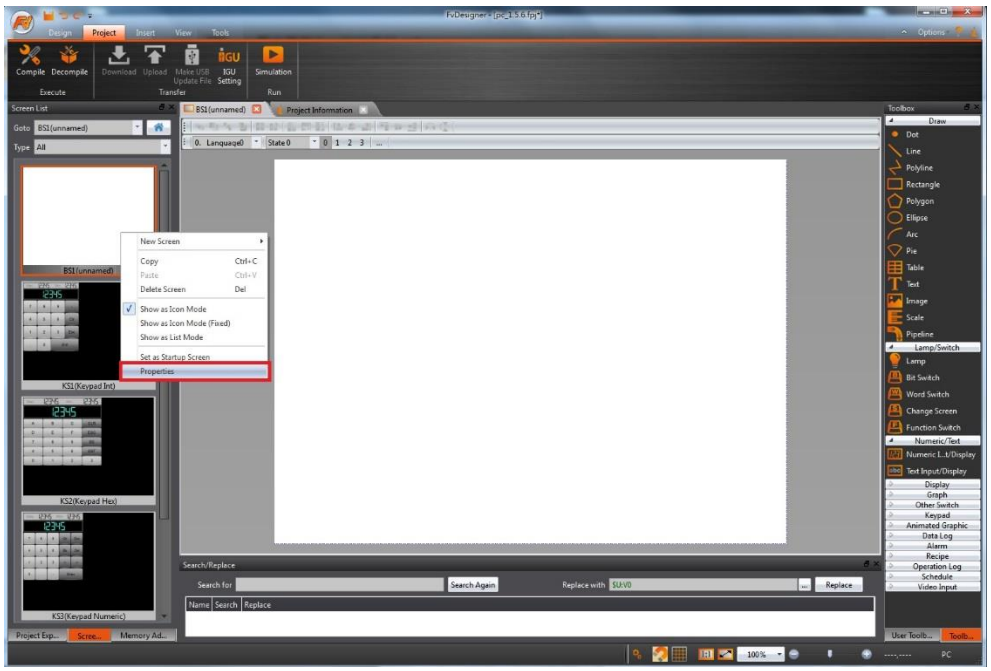


Figure 32 click screen properties

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】.

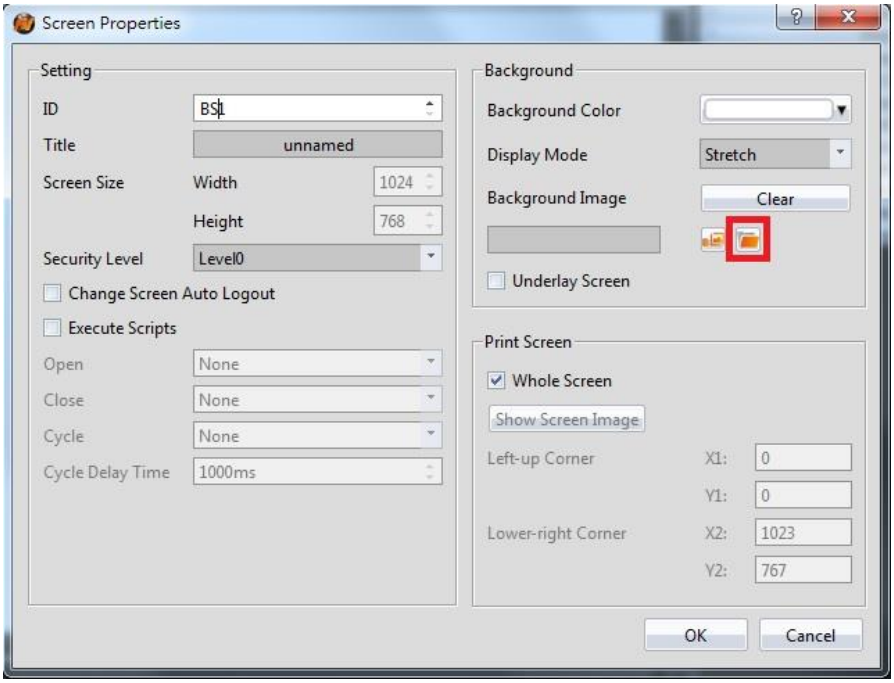


Figure 33 select background image

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】

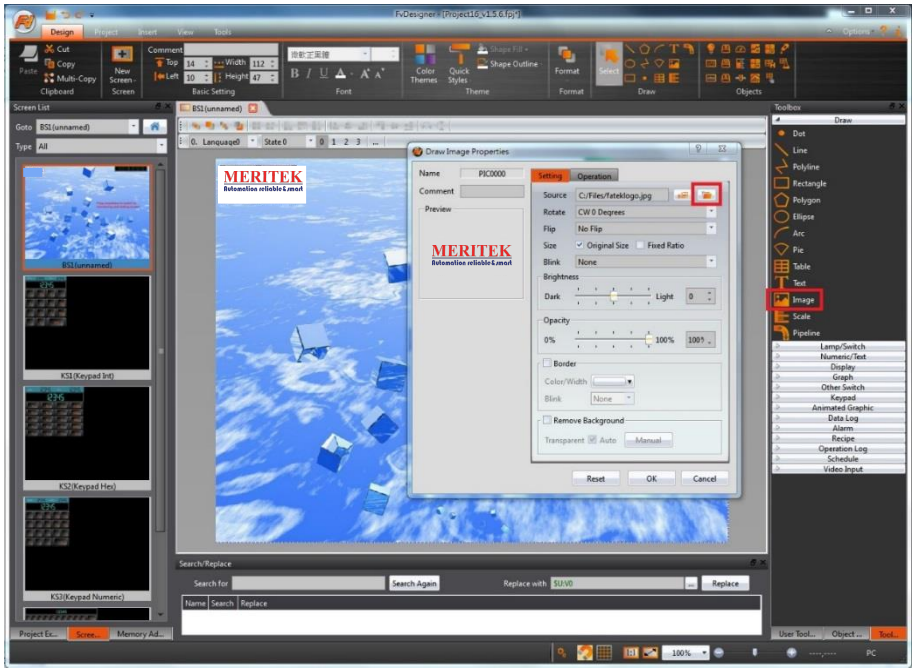


Figure 34 Add image object

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】.

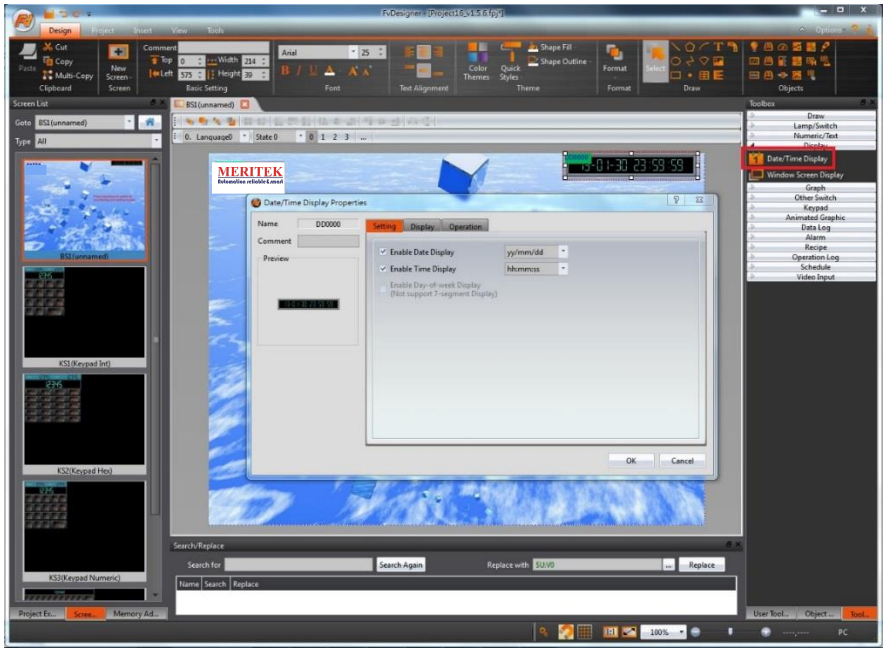


Figure 35 Add date/time display object

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】.

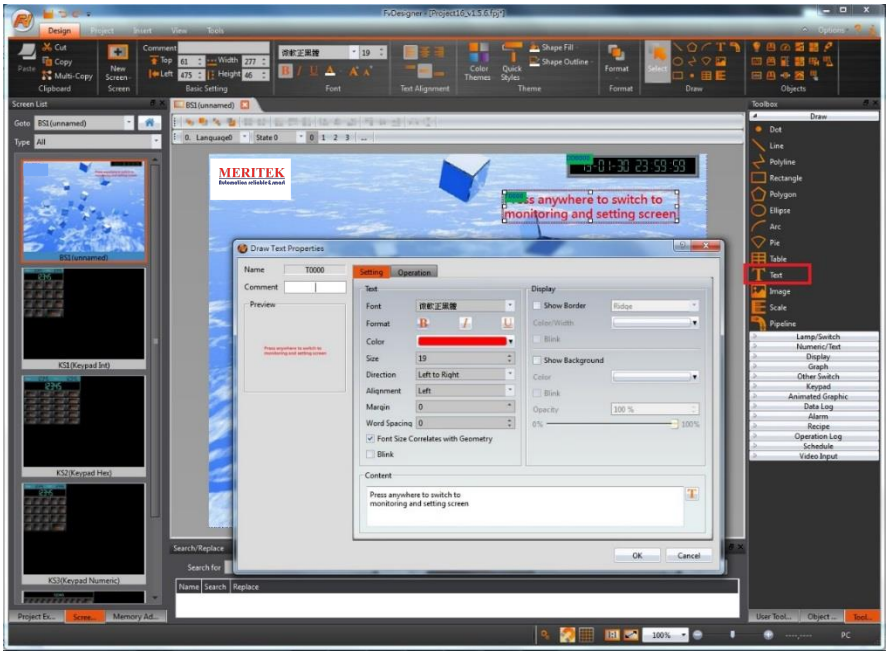


Figure 36 Text object

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

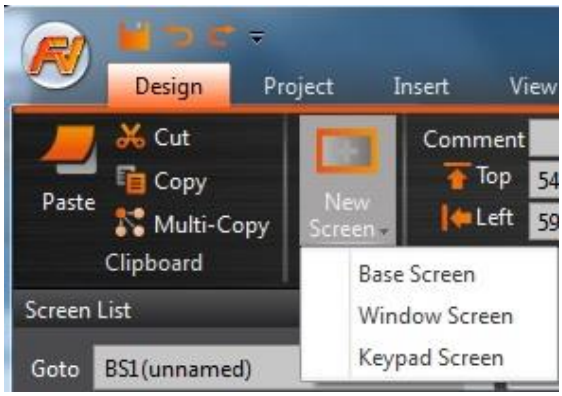


Figure 37 Add basic screen

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.

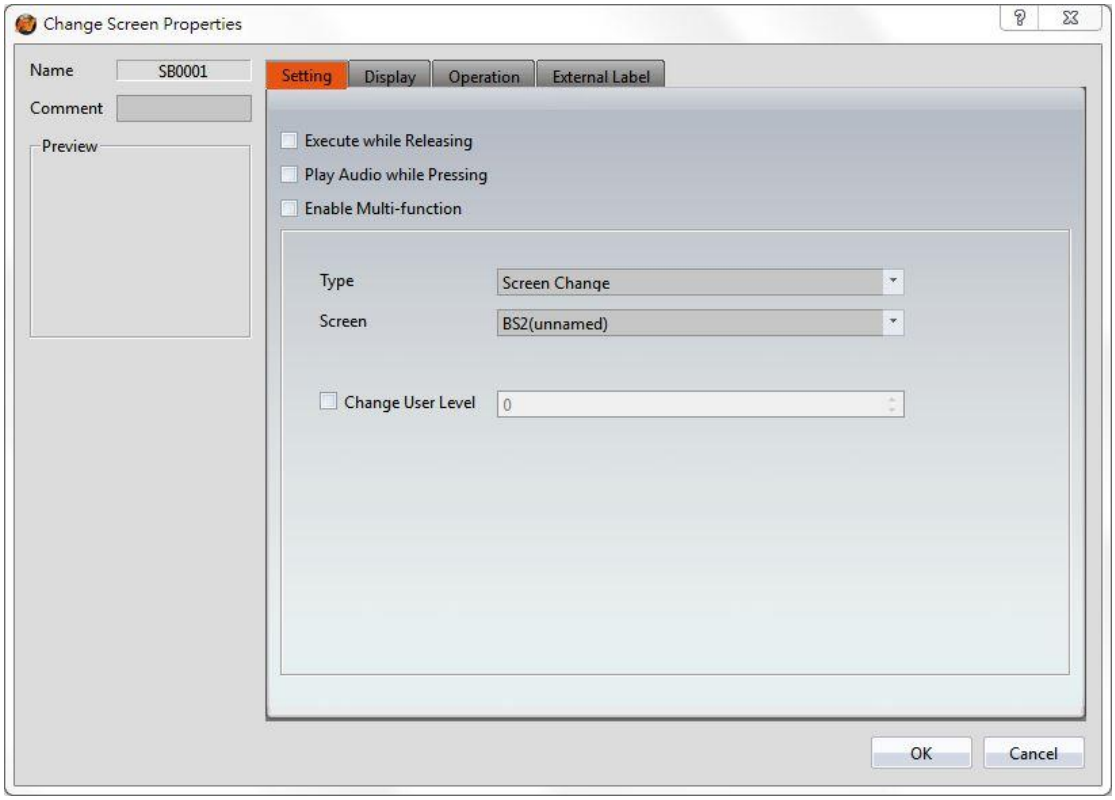


Figure 38 Add change screen object

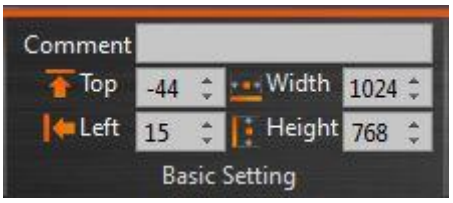


Figure 39 Adjust the size and location of the change screen object

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.

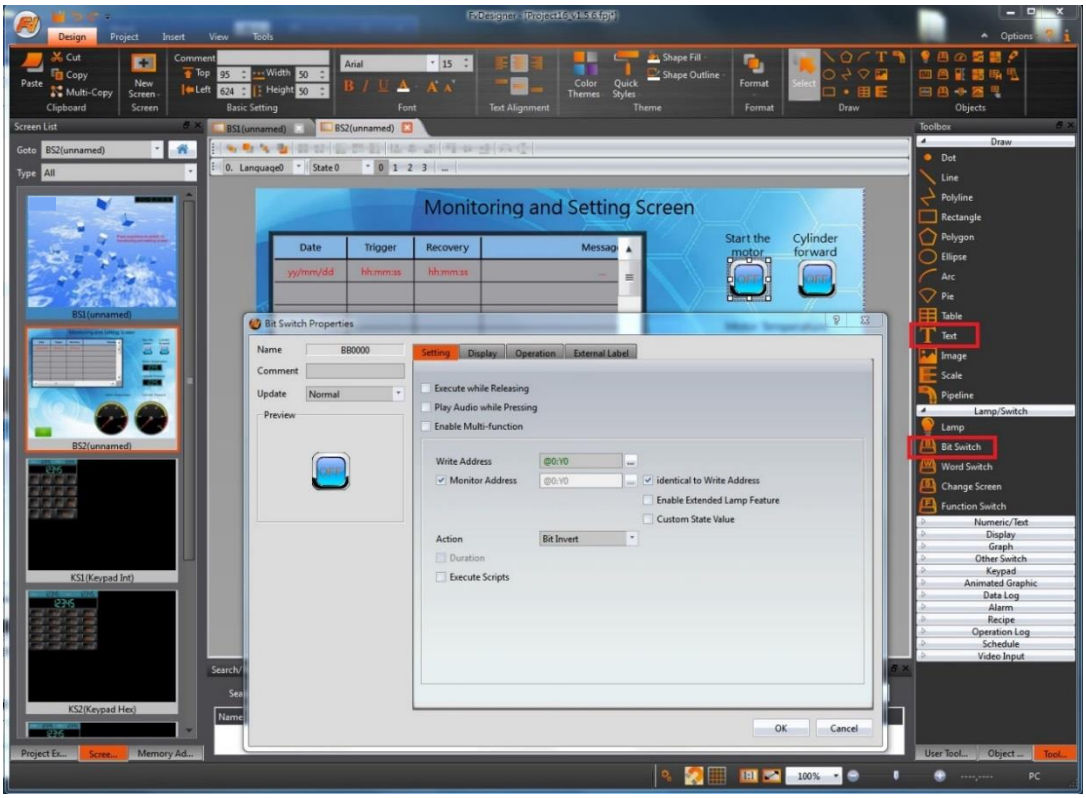


Figure 40 Add text and bit switch objects

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.

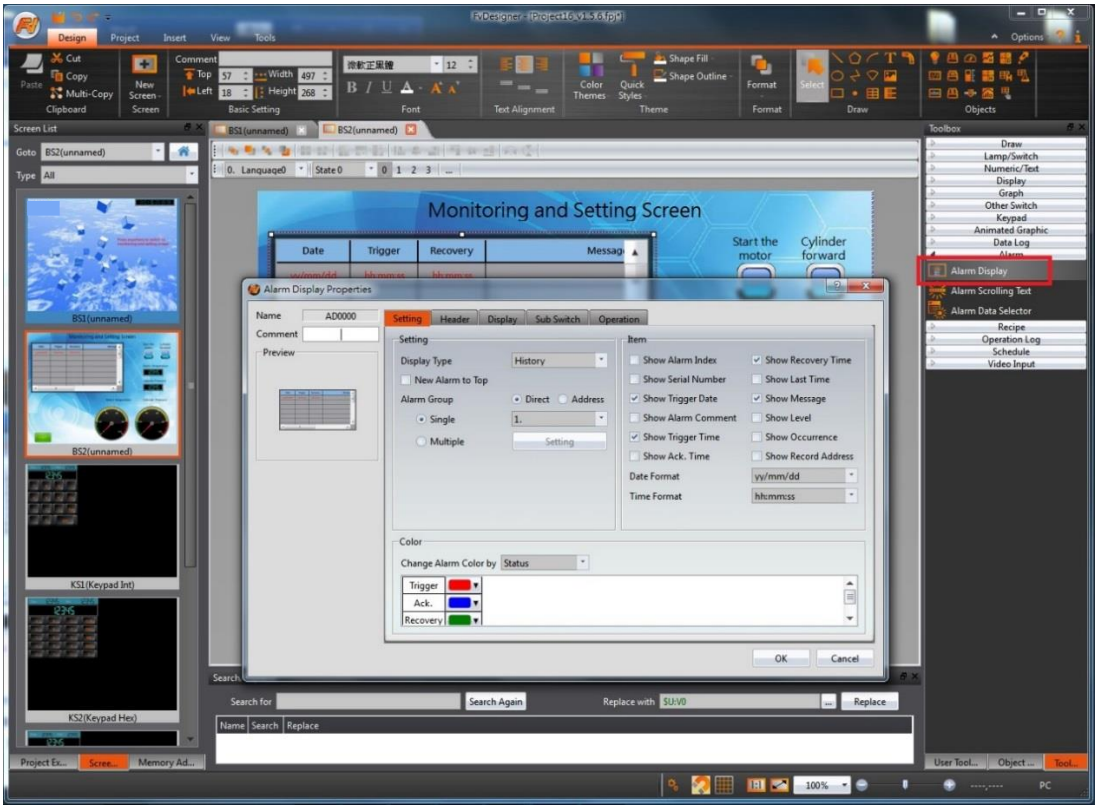


Figure 41 Add alarm display object

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 42 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.

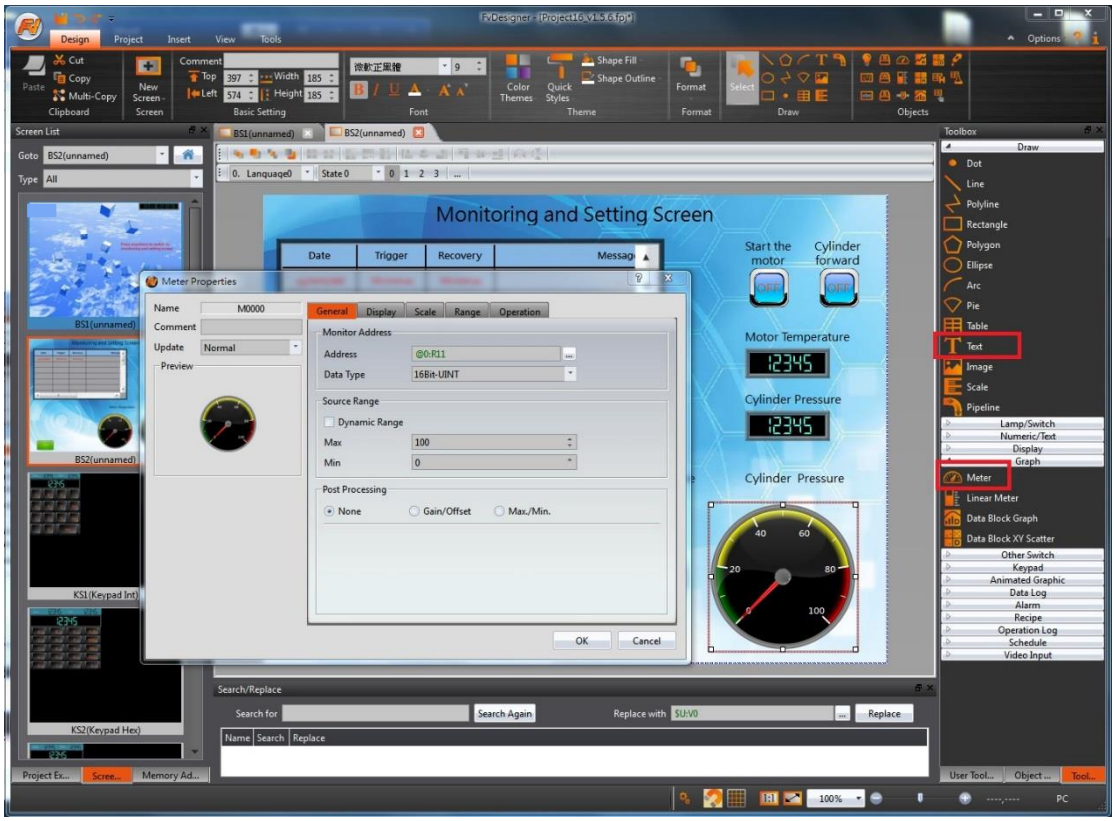


Figure 43 Add text and meter objects

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.

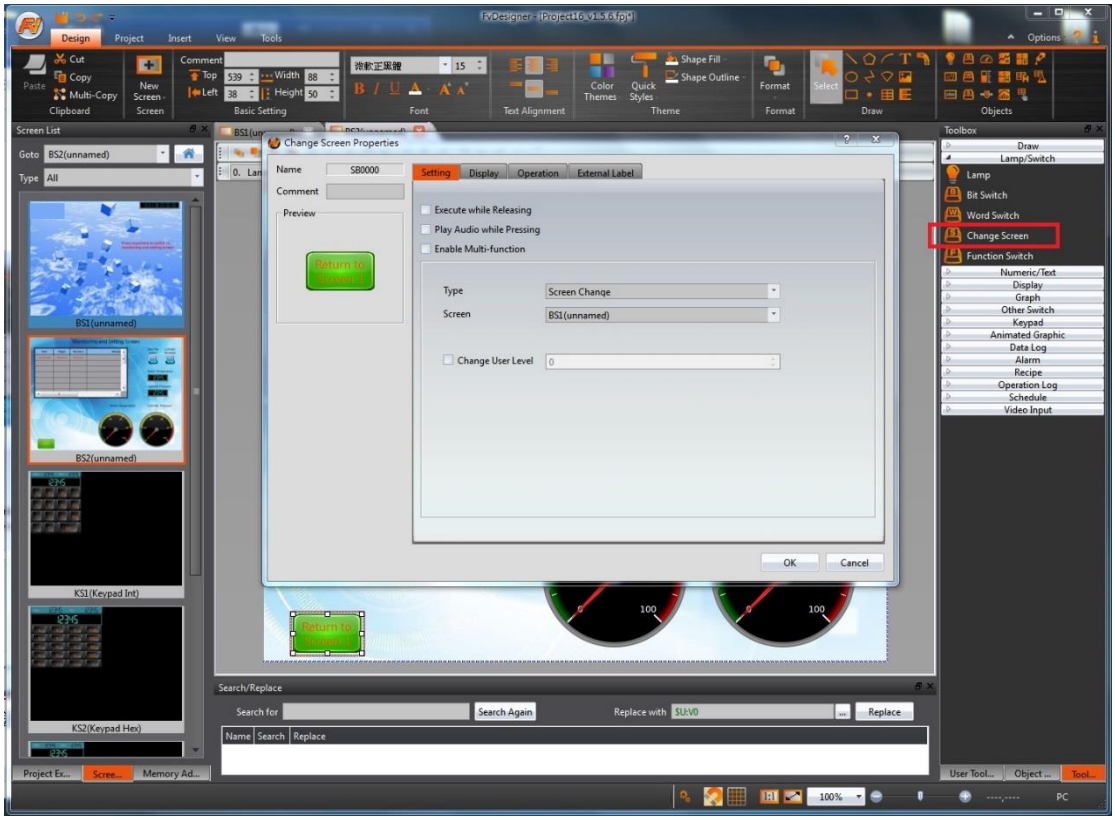


Figure 44 Add change screen object

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

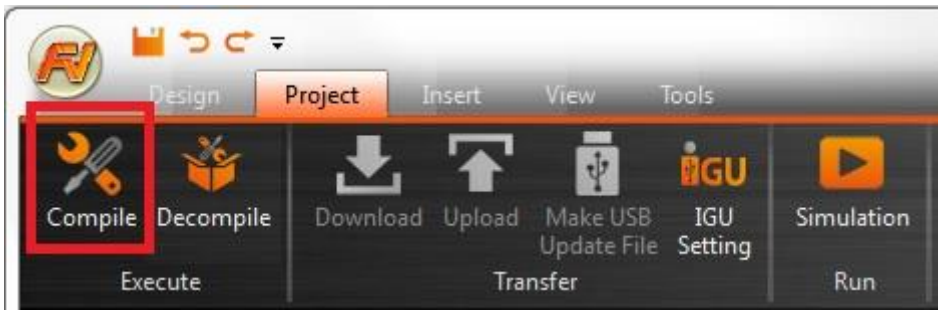


Figure 45 Press compile option

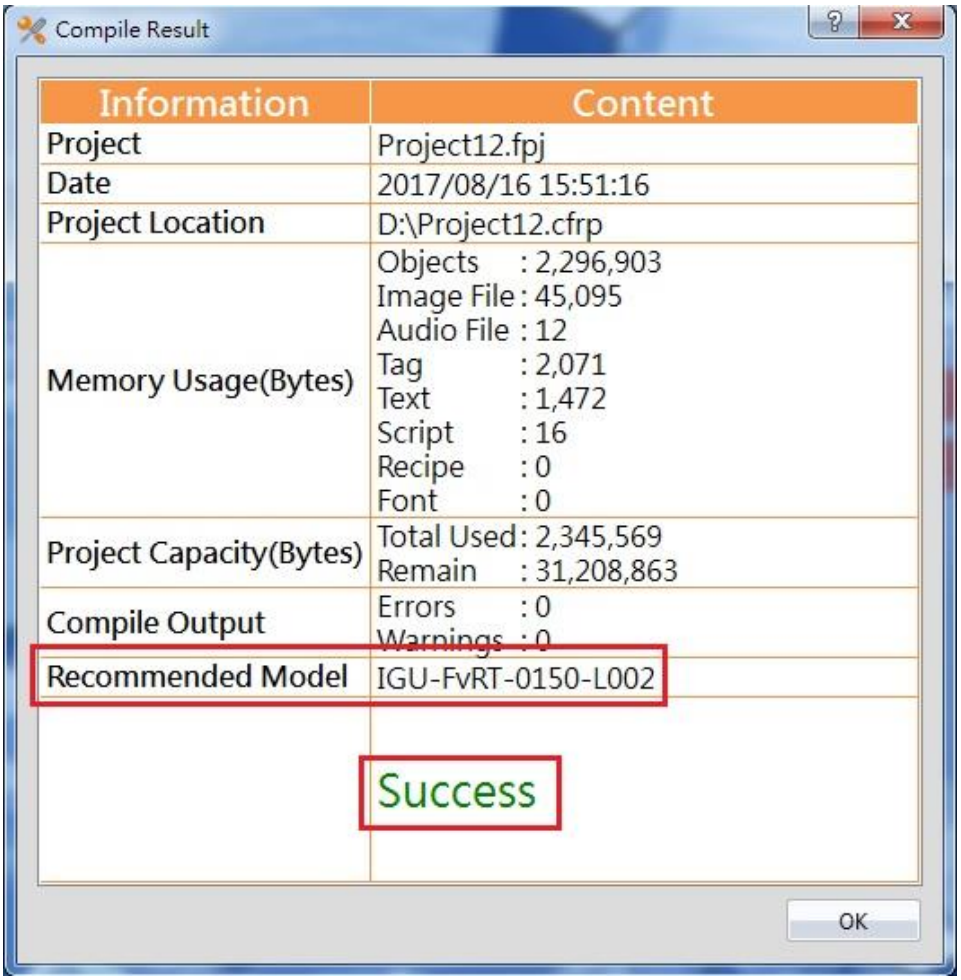


Figure 46 Compile Complete

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 MERITEK PLC MBs 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.

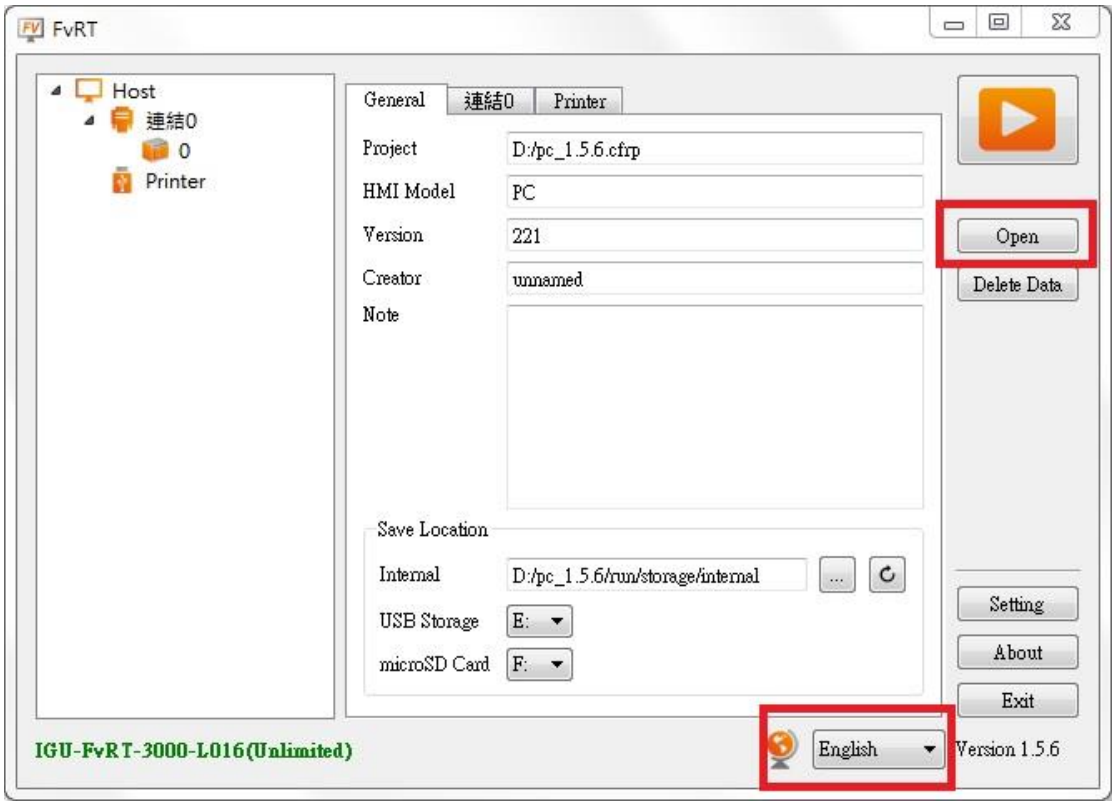


Figure 47 Open

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.

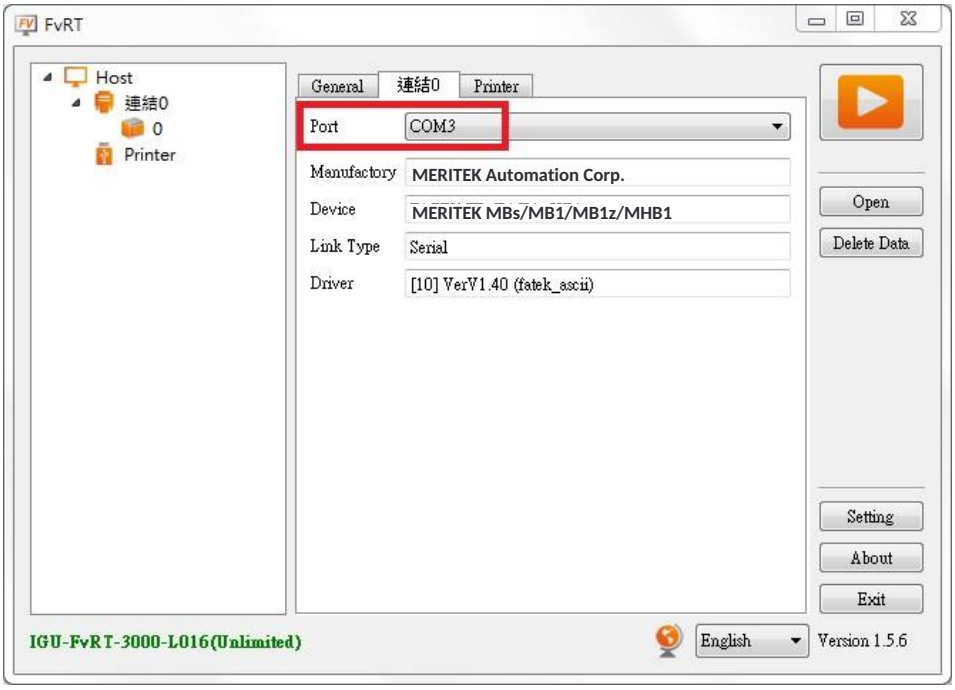


Figure 48【Link】paging

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

Figure 49 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.

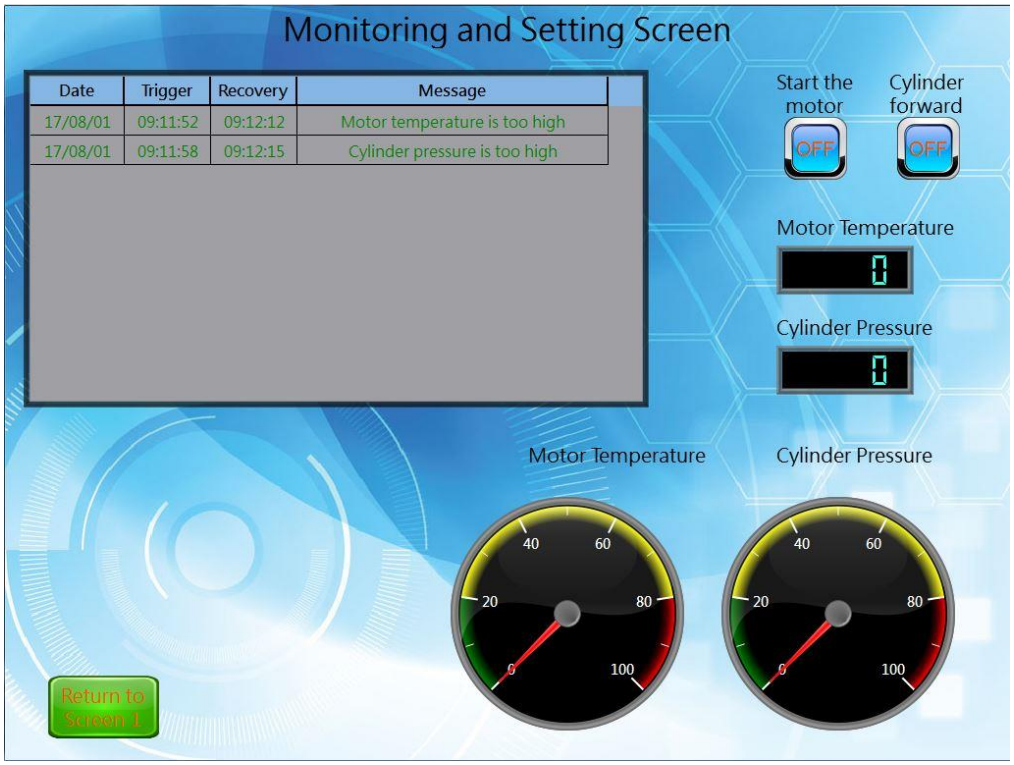


Figure 50 Screen 2 of the project

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

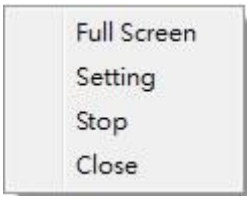


Figure 51 FvRT leaves the project

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.

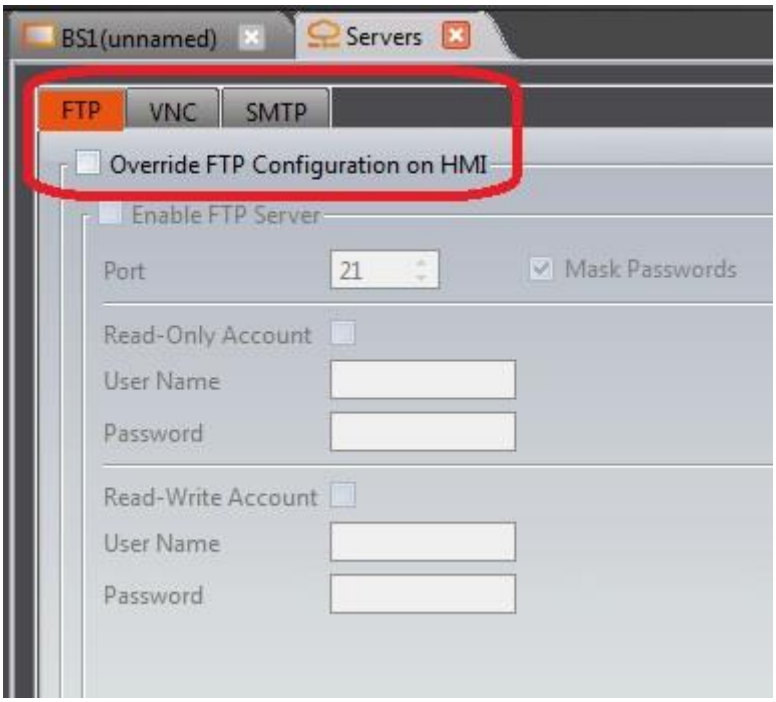


Figure 52 Model selection HMI can select FTP function

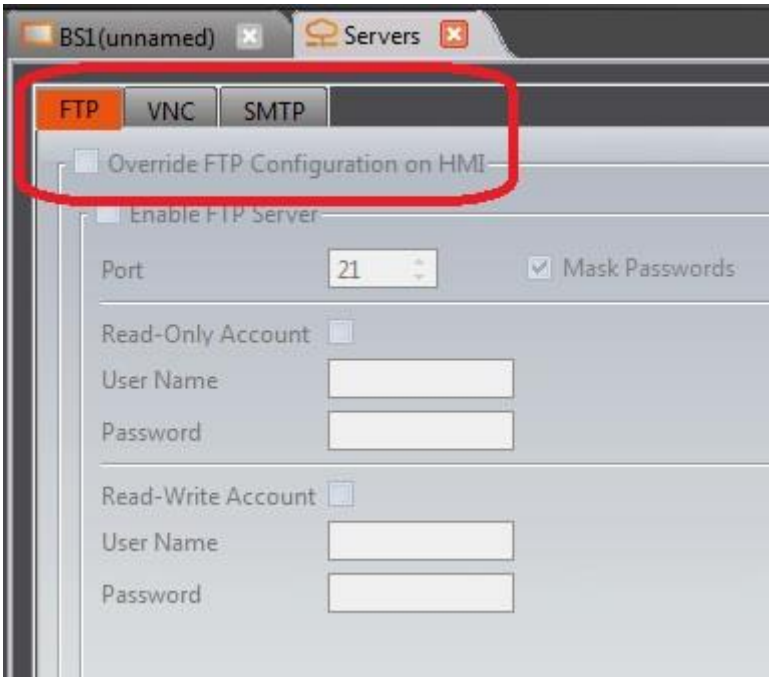


Figure 53 Model selection PC can not choose FTP function

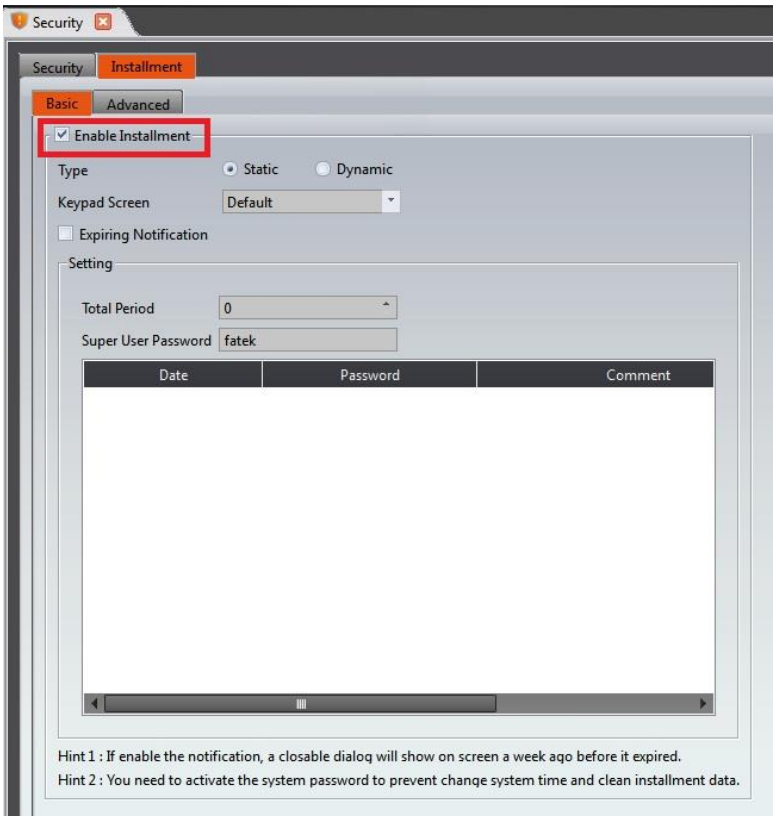


Figure 54 Model selection HMI can select installment function

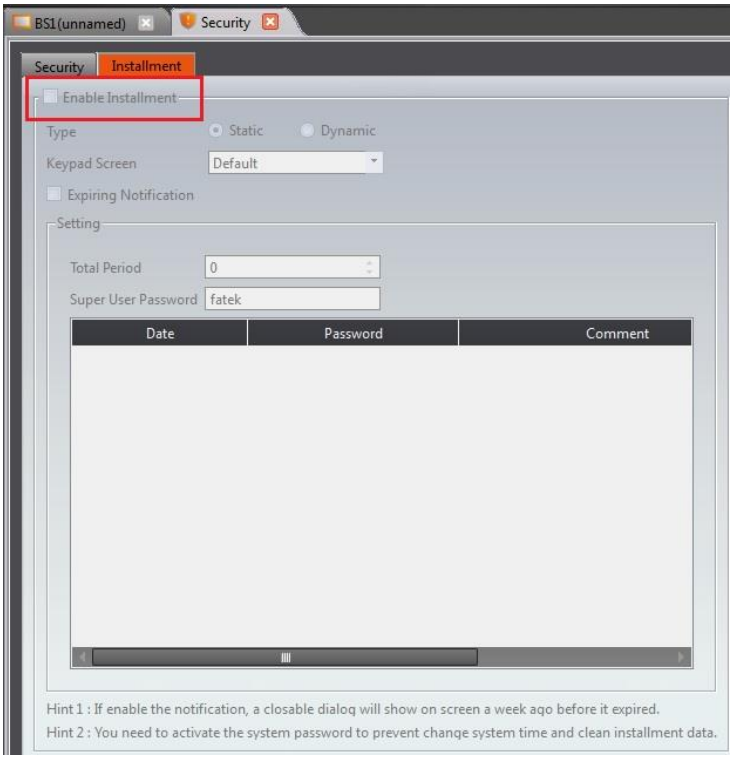


Figure 55 Model selection PC can not choose installment function

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, 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, MERITEK 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.

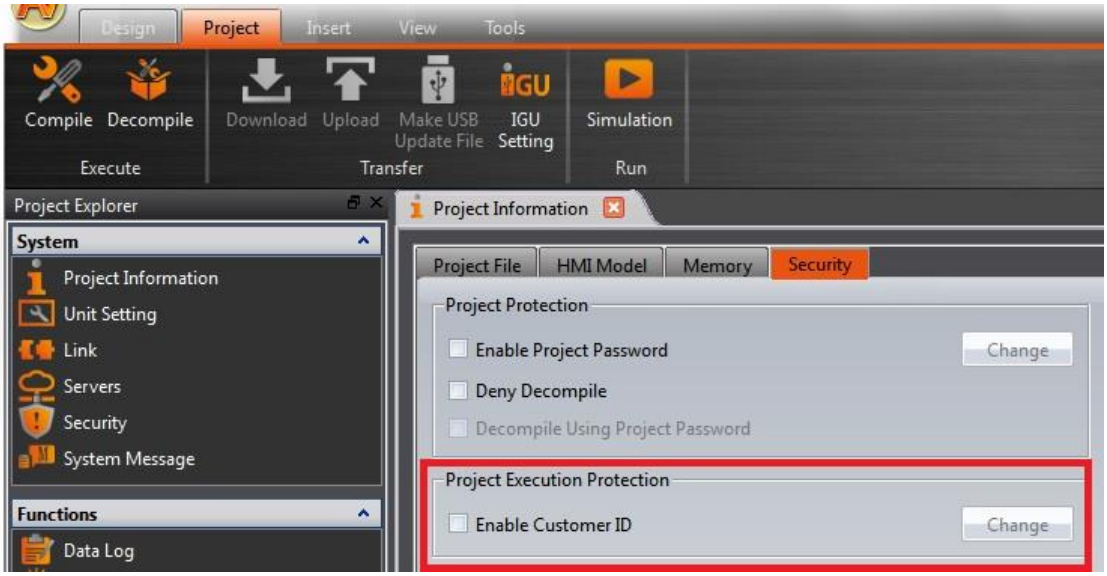


Figure 56 Enable the project's customer ID function.

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】.

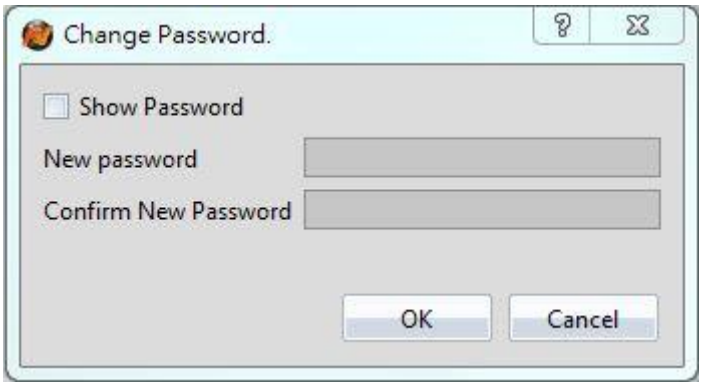


Figure 57【Change Password】dialog of project

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.

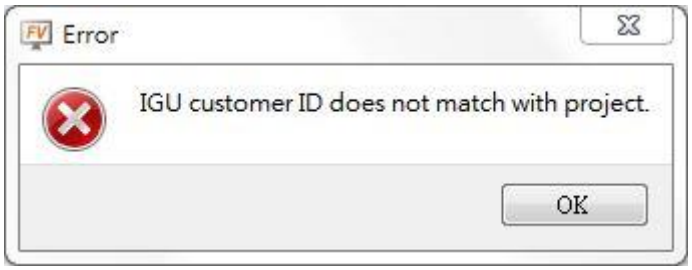


Figure 58 IGU-FvRT (USB Dongle) Customer ID and project different message

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 59 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.

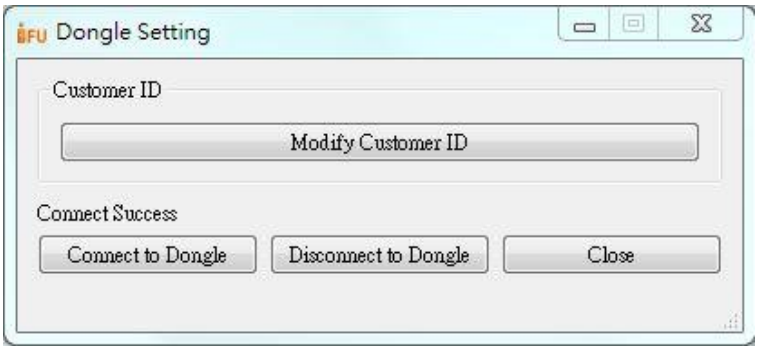


Figure 60【Dongle Setting】dialog

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 61 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.