

1 Introduction	1
2 Quick start	
2.1 Electrical connection of the screen	
2.1.1 Connect to the power supply	
2.1.2 Connect to the computer	
2.1.3 Serial port connection	
2.1.4 USB Host connection	2
2.1.5 Network port using	2
2.2 Software downloading and installing	
2.2.1 Software downloading	
2.2.2 Software installing	
2.2.3 Installation is completed	
2.3 First use	4
2.4 Project download and upload	
2.4.1 Project decompiling	
2.4.2 Project uploading	12
2.4.3 Project downloading	
2.4.4 Project uploading to USB disk	17
2.4.5 Project downloading from USB disk	
3 Description for communication connection	22
3.1 Mitsubishi	22
3.1.1 Mitsubishi_FX0S_FX0N_FX1S_FX1N_FX2	22
3.1.2 Mitsubishi FX2N	23
3.1.3 Mitsubishi_FX3U_ENET_L	24
3.1.4 Mitsubishi FX3U_FX3G	
3.1.5 Mitsubishi_melsec_ethernet	
3.1.6 Mitsubishi Melsec Q	
3.2 Modbus RTU Server - Serial port service	29
3.3Modbus TCP Server– Ethernet service	
3.4 THINGET	
3.5 DELTA	
3.6 KEYENCE	
3.7 HollySys	
3.8 Yaskawa	
3.8.1 Yaskawa network device	34
3.8.2 Yaskawa	
3.9 Panasonic	
3.10 Hitachi	
3.11 Yokogawa	
3.12 OMRON	
3.13 Kinco	42

## 

3.14 FATEK	43
3.15 Inovance	44
3.16 HCFA	45
3.17 Kewei	46
3.18 Flexem	47
3.18.1 flexem_fl2n_mistubishi_fx2n_compatable	47
3.18.2 Differences between flexem_fl2n_mistubishi_fx2n_compatable	and
flexem_fl2n_modbus	48
3.18.3 flexem_fl2n_modbus	49
3.19 TRIO	
3.19.1 TRIO _modbus	
3.19.2 TRIO _modbus_extend	
3.19.3 Differences between TRIO _modbus and TRIO _modbus_extend	
3.20 Siemens	
3.20.1 Siemens S7_200	
3.20.2 Siemens S7_200 Network	
3.20.3 Siemens S7_300 MPI	
3.20.4 Siemens S7_300_network	
3.20.5 Siemens S7_1200_network	
3.20.6 Siemens S7_200 Network Module	
3.21 MEGMEET	
3.22 MIKOM	
3.23 LS	
3.23.1 ls_mster_cpu_serial	
3.23.2 ls_xgt_cpu_serial	
3.24 Modbus.	
3.24.1 Differences between Modbus_RTU and Modbus_RTU_Extend	
3.24.2 Modbus_RTU	
3.24.3 Modbus_ RTU _Extend	
3.24.4 Modbus_TCP	
3.24.5 Modbus_ UDP	
4 Detailed manual	
4.1 File	
4.1.1 Save Project	
4.1.2 Close Project	
4.1.3 Save Project As	
4.1.4 Project Used Recently	
4.1.5 Open Project	
4.1.6 Create New Project 4.1.7 Transform Project	
4.1.7 transform Project	
4.1.8 EXIL	
4.2 view	
4.2.1 Uuliiit	00



4.2.2 Project	67
4.2.3 Reference	67
4.2.4 Current language	67
4.2.5 Current Status	67
4.2.6 Find and Replace	68
4.2.7 Restore to the Default View	68
4.2.8 Window	68
4.2.9 Output	69
4.2.10 Error	69
4.3 Edit	69
4.3.1 Cancel	69
4.3.2 Recovery	69
4.3.3 Find/Replace	
4.3.4 Cut	
4.3.5 Copy	
4.3.6 Multi-Copy	
4.3.7 Paste	70
4.3.8 Delete	70
4.3.9 Inching	70
4.3.10 Alignment	70
4.3.11 Size	
4.3.12 Layer	70
4.3.13 Same Color	70
4.3.14 Group	
4.3.15 Ungroup	
4.3.16 Center horizontally	
4.3.17 Center vertically	71
4.3.18 Lock	71
4.3.19 Unlock	71
4.4 Window	71
4.4.1 Create New Window	71
4.4.2 Delete Window	71
4.4.3 Current Window Properties	71
4.4.4 Edit Starting LOGO Window	75
4.4.5 Show the Public Window	75
4.4.6 Show the Lower Layer Window	
4.4.7 Jump to the Target Window	
4.4.8 Show Grid	76
4.4.9 Grid alignment	76
4.4.10 Align to alignment line	
4.4.11 Grid Setting	76
4.4.12 Window Zoom	77
4.5 Drawing	77



	4.5.1 Straight Line	
	4.5.2 Fold Line	78
	4.5.3 Rectangle	79
	4.5.4 Polygon	81
	4.5.5 Ellipse	85
	4.5.6 Arc	89
	4.5.7 Sector	
	4.5.8 Sector Ring	92
	4.5.9 Static Picture	
	4.5.10 Static Text	103
4.6 0	Component	115
	4.6.1 Switch	115
	4.6.2 Indicator Light	146
	4.6.3 Numeric Value and Character Display	155
	4.6.4 Toggle Switch and menu	178
	4.6.5 Timer and Data Transmission	203
	4.6.6 Barand Meter	215
	4.6.7Curve Graphs	228
	4.6.8 Scale	255
	4.6.9 Table	264
	4.6.10 Slider	272
	4.6.11 Moving Component	275
	4.6.12 Window	278
	4.6.13 List	290
	4.6.14 Tools	316
	4.6.15 Pipeline	324
4.7Li	ibrary	331
	4.7.1GraphicsLibrary	331
	4.7.2Text Library	340
	4.7.3Address Tag Library	344
	4.7.4 Audio Library	346
4.8N	Nacro	351
	4.8.1Create Macro	351
	4.8.2Edit Macro	353
	4.8.3 EnablePassword Verification	354
	4.8.4 Update MacroPassword	356
4.9 F	Recipe	357
	4.9.1General	358
	4.9.2 Data Information	362
4.10	Setup	367
	4.10.1 HMI settings	367
	4.10.2 System Settings	371
	4.10.3Communication Settings	427



	4.10.4 Options	452
	4.11 Tools	
	4.11.1 Compile	456
	4.11.2Compile All	
	4.11.3Download	
	4.11.4 Pack to Disk	
	4.11.5 Upload	
	4.11.6 Decompile	459
	4.11.7 Offline Simulation	
	4.12 Help	
	4.12.10nline Help	
	4.12.2Check for Updates	
	4.12.3 About	
	4.13 General functions	
	4.13.1 Address editor	461
	4.13.2 Drawing	
	4.13.3Font settings	
	4.13.4 Graphic edit	
	4.13.5 Control settings	
	4.13.6 Display	
	4.13.7 Keyboard setting	
	4.13.8 Label	
	4.13.9 Marquee	507
	4.13.10 Logic Control	
	4.13.11 Shadow Effect	
	4.13.12 Position	
	4.13.13 Rotation	
	4.13.14 Dynamic Graphics	
	4.13.15 Table Drawing	525
	4.13.16 Export CSV	
5 Us	se topic	530
	5.1 Findand Replace	530
	5.2 Reference	531
	5.3 Outline	537
	5.4 Macro	540
	5.4.1 Macro Editor Introduction	541
	5.4.2 A Macro example	547
	5.5 Online software upgrade	559
6 Ap	opendix	
	6.1The Use of Register	559
	6.1.1 Word Register	559
	6.1.2 Bit Register	
	6.2 Built-in Functions	



6.2.1 Read Write Function	
6.2.2 System Functions	
6.2.3 Computation and Conversion Function	575
6.2.4 Operator	576
6.3 System Prompts List	576



### 1 Introduction

The software "HCTDesigner" you are using is a new configuration software product developed by our R&D team for three years. It was produced with more than ten years of technical experience and accumulation based on sufficient practices on human-machine interface product development and field actualization. We believe you will feel our specialization and concentration when you use this software. Thank you!

## 2 Quick start

### 2.1 Electrical connection of the screen

#### 2.1.1 Connect to the power supply

The rated voltage of the screen is DC18~28V, and DC24V power supply is recommended. The interface is at the back, as shown in Fig. 1, the "24V+" is connected to "DC24V", the "24V-" (or "0V") is connected to "GND". If the field is involved with a high interference, a highly reliable earth must be connected to the "FG" port. (Note: FG- Frame Ground, the reference grounding for the metal shell frame and the DC end.)

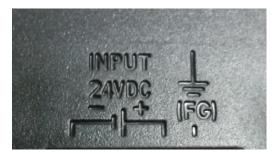


Fig. 1

#### 2.1.2 Connect to the computer

The screen can be connected to the computer only via a USB data cable for project uploading and downloading, as shown in Fig. 2.The communication with computer can be realized when it is connected to the "USB SLAVE" end. The USB communication drive can be installed by the system in default during software installation, or the drive can be manually installed if it is damaged.The drive file is saved in the installation directory:"C:\Program Files (x86)\HCFA\HCTDesigner 1.0\Driver".





Fig. 2

#### 2.1.3 Serial port connection

The serial port of the screen is a standard DB 9-pin port supporting communication modes RS232/485/422, as shown in Fig. 3.Different screen types are integrated with different quantities of serial ports, and please refer to the <u>Description for Communication Connection</u> for the detailed connecting method.







#### 2.1.4 USB Host connection

The screen is integrated with a USB Host device interface. This interface makes it easy to upload or download the project and the prescript by using the U disk. The sampling or warning data can also be saved in the U disk via this interface. A mouse or a keyboard with USB interface can be connected via the USB interface. A set of wireless mouse and keyboard is also usable. As shown in Fig. 4, a U disk can be directly inserted into the "USB HOST" port and be used.



Fig. 4

#### 2.1.5 Network port using

The standard RJ-45 network interface is used in the screen for communication with any down unit, as shown in Fig. 5. An RJ-45 plug can be directly inserted into the "Ethernet" port and used.



Fig. 5

### 2.2 Software downloading and installing



#### 2.2.1 Software downloading

The software "HCTDesigner" can be downloaded from <u>http://hechuanplc.co</u>m/" or "http://oem.gongkongfan.net/102/studio/packages/".There are different versions according to the different operating systems (OS), as shown in Fig. 6.

[To Parent	Directory]		
3/3/2016	5:29 PM	323919413	HCTDesigner-1.0.10020-en.zip
3/3/2016	5:29 PM	352329842	HCTDesigner-1.0.10020-ForXP-en.zip
3/3/2016	5:29 PM	355386397	HCTDesigner-1.0.10020-ForXP-zh.zip
3/3/2016	5:29 PM	329707624	HCTDesigner-1.0.10020-zh.zip
3/3/2016	5:19 PM	257	HCTDesigner.Revision



#### 2.2.2 Software installing

Double click the "SETUP.exe" to install the software "HCTDesigner", as shown in Fig. 7. Click the left button to start installation.

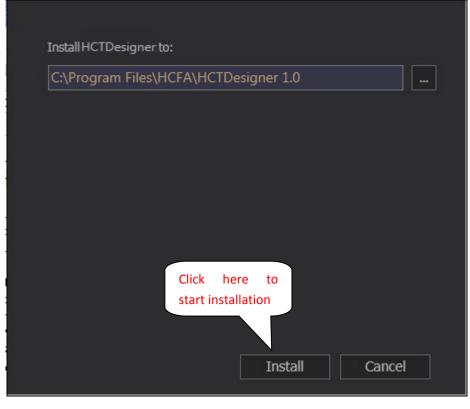


Fig. 7

#### 2.2.3 Installation is completed.

Click the button to complete the software installation, as shown in Fig. 8.





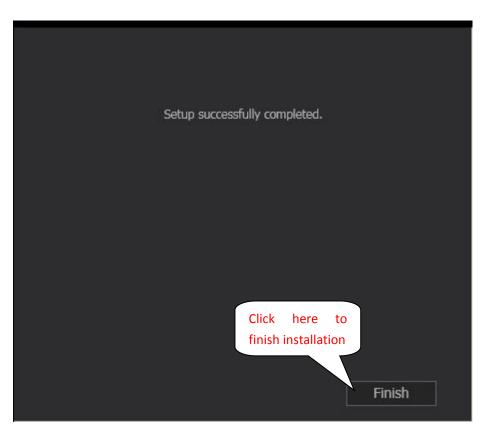
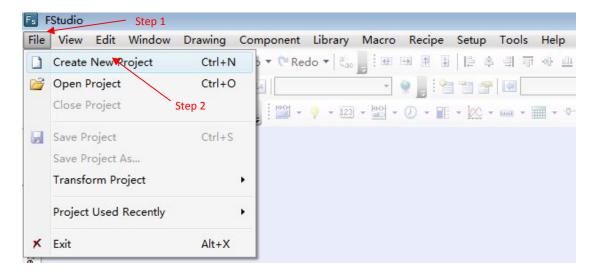


Fig.8

### 2.3 First use

(1) Click the menu "File"—"New", or click the shortcut "<sup>1</sup>, as shown in Fig. 9.



(a)



Fs FStudio					
File View Edit Wind	low Drawing Component	Library Macro	Recipe	Setup To	ools Help
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(2) Enter the project name and select the project saving path. The project name can be Chinese, as shown in Fig. 10.

Create Nev	v Project		×
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HM	I Project		
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		The saving path	
Name(N):			0
Location(L):	E:\2015-2016-1\project-fe	• (	
<u>.</u>		OK Cano	ol

Fig. 10

(3) Select the touch screen type, as shown in Fig. 11.

Local HMI:TP2507/TP2510	Please select HMI model: Select appropriate HMI model b	weerson size and	olution Coloct "All" where w
	are not sure.	ly screen size and res	olution. select All when yo
	LCD Size(Inch):		•
	Screen Resolution(Pixel): All		•
	HMI Device Type:	07/TP2510	•
	Product Description	07/TP2510	
	Model: TP2507/TP2510 TL250		select type
	LCD Size: 7	Resolution:	800 X 480
	Color: 24BIT Color	Touch Panel Typ	e:Resistive Touch Panel
	Button: None	Ethernet:	Yes
	USB Host:1	SD/TF Card:	Yes
	COM1: RS232\RS485-2\RS48	5-4 COM2:	RS232\RS485-2\RS485-4
	COM3: RS232	COM4:	RS232
	CAN: None	Expansion Port:	None
	Vedio: None	Audio:	None



#### Fig. 11

(4) Click the button "Next" and set the bus line communication mode for the touch screen, as shown in Fig. 12.

	Ethernet Setting Auto IP Address IP Address: Subnet Mask: Gateway:	s (DHCP) 192.168.0.200 255.255.255.0 192.168.0.1	SRW10014~17 SRW10018~21
	DNS1: DNS2: Use system bit reg (Auto-allocate or s Rotation Display		
	<ul> <li>Normal (Horizo</li> <li>Vertical (Rotate</li> <li>Vertical(Rotate</li> <li>Upside Down(R</li> </ul>	90 degrees Cloc 90 Degree count	Preview

#### (a) HMI Property

Local HMI:TP2507/TP2510	HMI Property COM1 COM2 COM3 COM4
COM1::HCFA HCA8s_HCA8c_HCA8 COM2:Unused COM3:Unused COM4:Unused Remote Connection Service	<ul> <li>Unused Connect Device(Master)</li> <li>Provide Service(Slave)</li> <li>Manufacturer: HCFA</li> <li>Device Type: HCFA HCA8s_HCA8c_HCA8</li> <li>Device Alias: Alias cannot be null, Default:Device1</li> </ul>
	Pre-set Station No.: Constant   Communication Setting Communication Type: RS485-4 Baud Rate: 9600 Data Bit: 7 Stop Bit: 1 Parity Bit: Even Reset Advance

(b) COM



Local HMI:FE4070	-	Remo	te HMI Remote	PLC Ethernet	PLC(Or Ser	vice by Remote H	IMI)
-COM1:Device1:FLEXEM FL2	N(MISTUBISH	ID	Device Alias	IP	Port	Device Type	Default Sta
-COM2:Unused COM3:Unused		1		192.168.0.2	502	Modbus TCP	1
-COM4:Unused Remote Connection Service		ress of	Ethernet PLC 192.168.0		: Constar	it 🔻 5	02
			MODBUS Compa	tible			
	Device Ty	/pe:	Modbus TCP				•
111	Device Ty Device Al	/pe: [ lias: [4	Modbus TCP Alias cannot be n	ull, Default:Devic	e2		•
[	Device Ty Device Al	/pe: [ lias: [4	Modbus TCP	ull, Default:Devic	e2	1 Advance	
	Device Ty Device Al	/pe: [] lias: [/ tation [	Modbus TCP Alias cannot be n No.: Constant 🔹	ull, Default:Devic	e2	1 Advance	

(c) Ethernet PLC (Or Service by Remote HMI)

Fig. 12

(5) After the project is initialized, click the button "Confirm" and the project is created, as shown in Fig. 13.

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(6) Add an "Input" variable and a "Display" variable into the picture and set the properties, as shown in Fig. 14.



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		Set t	he v	ariable a	address			
							1000	

(b)

### Fig. 14

(7) Click "Offline simulating" button and wait till engineering is completed, as shown in Fig. 15.



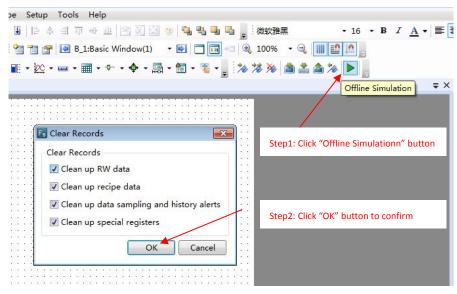
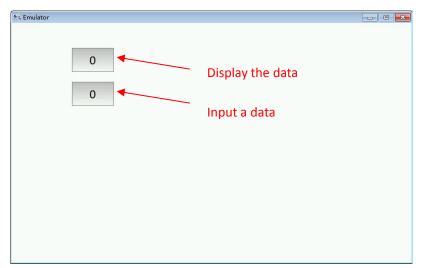


Fig. 15

(8) Debug with the simulator to view the design effect, as shown in Fig. 16.

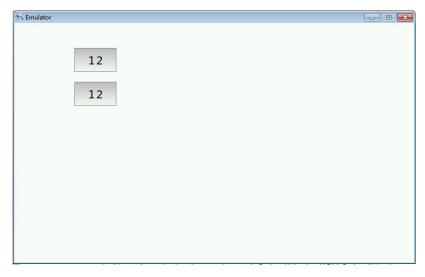


(a)





(b)





# Fig. 16

### 2.4 Project download and upload

#### 2.4.1 Project decompiling

The project upload package file is operated for the project decompiling. The file type is fpg. Decompiling can create a project package. The function of project package can be seen in <u>Quick</u> <u>start/Project download and upload/Project uploading</u> or <u>Quick start/Project download and</u> <u>upload/Project uploading</u> to <u>USB disk</u>.

①Firstly, click the tool button "Decompile", select the package fpg file, set the project saving path, and click the "Decompile" button, as shown in Fig. 17.



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Decompile 🗸 🗸
FsTools v1.4.4
Bownload Upload System Step1: click here
Protocol
USB
Ethernet Scan
Upload Data Source
Project      RW Data      Recipe      Logs      Step3: set the saving path
Step2: select a file
Stands start decompiling
Decompile Step4: start decompiling
Choose a folder to save decompiled files
: Decompile

Fig. 17

2 Enter the password for decompiling. The default password is "888888" which can be modified can viewed in the "General Setting" of the software, as shown in Fig. 18.

Please en	ter a Dec	ompile passv	ord
•••••	•••		
OK		Cancel	

Fig. 18

③After the "Decompile Success!" dialog box appears, click "OK" to complete the decompiling, as shown in Fig. 19.





Fig. 19

#### 2.4.2 Project uploading

(1) Click the "Upload" icon on the tool bar, set the communication mode, select to upload the project, and start to upload the project, as shown in Fig. 20.

ponent Library Macro Recipe Setup Tools Help	
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Step 1: click	here
Download Upload System	
Protocol Step 2: select the commucation protocol Ethernet Scan Upload Data Source Step 3: select the type of upload data source	
Project     RW Data     Recipe     Logs     Step 4: click here to start uplo	ading
Upload	
Decompile Choose a file to be decompiled (*. fpg) Choose a folder to save decompiled files Decompile	

Fig. 20

(2) Enter the password for uploading, as shown in Fig. 21. The default password is "8888888" which can be modified in "Global Settings", as shown in Fig. 22.



tornload   Protocol USB Bthernet 0.0.0.0.0 Sean Please enter a Upload Password! Project Project 0K Cancel Decompile Choose a file to be decompiled (#. fpg) Choose a folder to save decompiled files Choose a folder to save decompiled files Decompile Explicitly: Decompile Choose a folder to save decompiled files Decompile Decompile Explicitly: Decompile Decompile Decompile Choose a folder to save decompiled files Decompile
Image: State of the state
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Froject     OK Cancel
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Choose a file to be decompiled (*. fpg)         Choose a folder to save decompiled files          Decompile         Fig. 21         fio - E\2015-2016-1\project-fe\FirstP\F
Choose a folder to save decompiled files        Decompile         Fig. 21         Interview of the same of the s
Fig. 21 Fig. 21 Fig
Fig. 21 io - El/2015-2016-1/project-fe/FirstP/FirstP.fspj w Edit Window Drawing Component Library Macro Recipe Setup Tools Help S S Status0 V Drawing Component Library Macro Recipe Setup Tools Help S S Status0 V Drawing Component Library Macro Recipe Setup Tools Help Communication Con Step1: click here COM3: Unuse COM3: Unuse Communication Con Step1: click here Communication Con Step1: click here Communication Con Step1: click here Communication Con Step1: click here Communication Con Decompilation Password: 888888 Decompilation Password: 888888 Dim the brightness: Lowest Dim the Backlight And Screensaver Dim the Dightness: Lowest Dim the Dightn
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v + P X       System Settings         Local HMI FE4070       Image: System Settings         P HMI Settings       User Privilege         Task Schedule       Data Sampling         PLC Control       Alarm And Event         Global Settings       Extended Settings         Laguange Settings       Favorite Font Templates         User Privilege       Task Schedule         Data Sampling       PLC Control         Alarm And Event       Global Settings         Extended Settings       Laguange Settings         Forget Properties       Initialization         Initial Window:       B_1:Basic Window(1 •         COM3: Unuse       Initial Componition         Project Properties       Initial Macro         Backlight And Screensaver       Main Window(HOME)         Remote PMII       Dim the brightness: Lowest       Imitial Window(HOME)         Imitial Remote PMII       Imitial Remote PLC       Imitial Section (1 • )
cocal HMI FE4070     Issue Privilege     Task Schedule     Data Sampling     PLC Control     Alarm And Event       Image: HMI Settings     Image: System Setings
User Privilege       Task Schedule       Data Sampling       PLC Control       Alarm And Event         Window       Global Settings       Extended Settings       Laguange Settings       Favorite Font Templates       User Leve         I       Step1: click here       Initial Vindow:       Initialization       Initialization       Initialization         I       COM3: Unuse       Initial Competities       Initial Window:       Initial Window:       Initial Macro         I       Decompilation       Password:       888888       Initial Macro       Main Window(HOME)         I       Remote HMI       Image Remote HMI
Window       Oser Privilege       Task Schedule       Data Samping       Ptc Control       Alarm And Event         Communication Con       Global Settings       Extended Settings       Laguange Settings       Favorite Font Templates       User Leve         I       Step1: click here       V Upload       Password: 888888       Initialization       Initialization         I       COM3: Unuse       Imitial Communication Password: 888888       Initial Window: B_1:Basic Window(1 •         I       Decompilation Password: 888888       Initial Macro         Backlight And Screensaver       Main Window(HOME)         Imitial Station       Imitial Station         Imitial Station       Imitial Station         Imitial Station       Imitial Station         Imitial Macro       Imitial Macro         Imitial Station       Imitial Station         Imitial S
Communication Con       Project Properties         Initialization       Initialization         COM3: Unuse       Initialization         COM4: Unuse       Initialization         COM4: Unuse       Initialization         Communication Con       Initialization         Remote Connecti       Initialization         Remote HMI       Initialization         Initial Macro       Initial Macro         Initial Macro       Initialization         Initial Macro       Initialization         Initial Macro       Initial Macro         Initial Macro       Initialization         Initial Macro       Initialization         Initial Macro       Initial Macro         Initial Macro       Initialization         Initial Macro       Initialization         Initial Macro       Initial Macro         Initin Macro       Initial Macro
Step1: Click Here     Upload Password: 888888     Initial Window: B_1:Basic Window(1 •     COM4: Unuse     Swap Serial Pi     Backlight And Screensaver     Backlight And Screensaver     O Dim the brightness: Lowest - O I (1)     Dim the B_1:Basic Window(1 •
Step1: Click Here     Upload Password: 888888     Initial Window: B_1:Basic Window(1 •     COM4: Unuse     Swap Serial Pi     Backlight And Screensaver     Backlight And Screensaver     O Dim the brightness: Lowest - O I (1)     Dim the B_1:Basic Window(1 •
COM3: Unuse COM4: Unuse COM4: Unuse COM4: Unuse Compilation Password: 888888  Compilation Password: 88888  Compilation Password: 888888  Compilation Password: 888888  Compilation Password: 888888  Compilation Password: 888888  Compilation Password: 88888  Compilation Password: 888888  Compilation Password: 888888  Compilation Password: 888888  Compilation Password: 888888  Compilation Password: 88888  Compilation Password: 88888  Compilation Password: 888
→ COM4: Unuse Swap Serial Pi Remote Connecti Remote HMI Dim the brightness: Lowest - NA () Main Window(HOME) Dim the brightness: Lowest - NA () I B_1:Basic Window(1 - )
Backlight And Screensaver      Backlight And Screensaver      Dim the brightness:     Lowest      Dim the brightness      Lowest
Remote HMI     Dim the brightness:     Dowest     Dim the brightness:     Dowest     Dim the brightness:     Dowest     Dim the brightness:     D
- 2 Remote PLC ): B_1:Basic Window(1 ▼
Stan2: modify the naccword
Lither     Step2: double click here     and wait for
Printer Printer Use the drop-down window or not?
Greensaver: Note: Only for capacitive screen.
System Settings
R Global Setting
- Rig Global Setting Clock
By Extended Setting     Source: HMI Internal Clock      Aguange Setting
Bit Extended Setting             Q Laguange Setting             TT Favorite Font Ten    Source: HMI Internal Clock   Source: HMI Internal Clock
Extended Setting     Guagange Setting     Tr Favorite Font Ten     Setup the time souce of events,     historical data etc.     Setup the time souce of events,     historical data etc.
Bit Extended Setting <ul> <li>             € Laguange Setting             </li> <li>             Tr Favorite Font Ten             </li> <li>             Laguange Layel             </li> </ul>
Extended Setting     Laguange Setting     Laguange Setting     Tr Favorite Font Ten     Surger Level     Totor Privilege     Task Schedule     Laguange Setting     Totor Ten     Setup the time souce of events,     historical data etc.     SRW0~7: Year/Month/Day/Hour/     Address:     SRW0~7: Year/Month/Day/Hour/     Minute/Second/Millisecond/Week     Touch Audio
Extended Setting     Laguange Setting     Laguange Setting     Tr Favorite Font Ten     User Privilege     Tor Set up the time source of events,     historical data etc.     SRW0~7: Year/Month/Day/Hour/     Address:     SRW0~7: Year/Month/Day/Hour/     Minute/Second/Willisecond/Week



3 Select the project uploading path and save the file name, and click "Save".

④If the screen is correctly connected to the computer, the packaging operation will be started for uploading. Select the "Project" option, and click the "Upload" button, as shown in Fig.



23. When the uploading operation is finished, the "Uploading Success!" dialog box pops up, as shown in Fig. 24. Then click the "OK" button.

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Protocol			
USB			
🔘 Ethernet 🛛 0	. 0 . 0 . 19 Scan	1	
O Ethernet O	. o . o . ro	J	
Upload Data Sourc	e -		
Project	🔘 RW Data 🛛 🔘 Recipe	🔘 Logs	
	42%	Upload	
		oparta	
Decompile			
Choose a file to	be decompiled(*.fpg)		
Choose a folder	to save decompiled files		
		Dec	ompile

Fig. 23

Jownload Upload System		
Protocol © USB © Ethernet 0 . 0 . 0 .	19 Same	
Upload Data Source	Uploading Sucess !	
Decompile Choose a file to be decompiled(*	OK OK	
Choose a folder to save decompil		ecompile



Fig. 24

#### 2.4.3 Project downloading

①Switch on the power supply to the touch screen, select "Download" in the software, and wait till downloading is completed, as shown in Fig. 25.

Tools Help					
리 ㅠ ~ 프   알 쥐 왜 ㅎ 백 백 백 백 월				5	-
😫 B_1:Basic Window(1) 🔹 💽 🛅 🖘 🔍 100%	•	Q	#	6	in
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			::	:::	· · · ·
Packaging Project					· · · ·
			::		
			::		:::

Fig. 25

(2) Select the project downloading mode, USB or network, and click OK to download, as shown in Fig. 26. If "Communication failure" appears, please check if the downloading line is correctly connected (USB line or network line). If the downloading operation is failed, please cut off the power supply to restart the HMI and try again.



wnload Upload System	Delete Option (Project Valid)
© USB © Ethernet 192 . 168 . 0 . 200 Scan	✓ Delete Cytlon(Foject Valla) ✓ Delete RW Data ✓ Delete Recipe Data ✓ Delete Sampling and Alarm History Data
Data Source Project © Fpg File RW Data © Recipe E:\project\FS\ss\bin	Delete HMI Memory Block Delete User's Info Download Option (Project Valid) Batch Mode Force Mode
	Download
	Click here

Fig. 26

3 Wait till downloading is completed, and then click "OK", as shown in Fig. 27.

Protocol © USB @ Ethernet 192 . 168 . 0 . 200 Scan	Delete Option(Project Valid) Delete RW Data Delete Recipe Data Delete Sampling and Alarm History	
Data Source Project © Fpg File RW Data © Recipe E:\project\FS\ss\bin	Data Delete HMI Memory Block Delete User's Info Download Option(Project Valid) Batch Mode Force Mode	
Download fgui:84%	Download	
Download: Check20151106143844145.cfg Download: Bin/fcs Download: Bin/fds Download: Bin/fgui		



(a)

Protocol © USB @ Ethernet 192 . 168 . 0 . 2	200 Scan	Delete Option(Project Valid) V Delete RW Data Delete Recipe Data Delete Sampling and Alarm History Data
Data Source Project Fpg File RW Data Recipe E:\project\FS\ss\bin	FSTools Download Sucess!	Lete HMI Memory Block .ete User's Info d Option(Project Valid)
Download Setup succe Download: Bin/Images/e3507661.png Download: Bin/Images/e42a923e.png	ОК	Download
Download: Bin/Images/efd62780.png Download: Bin/Images/ef1d1b1e.png Download: Bin/Images/f7b70040.png Download: Bin/info.dat Download: Bin/Setup		

(b) Fig. 27

#### 2.4.4 Project uploading to USB disk.

The uploading to USB disk is similar to the downloading from USB disk. Please see the details in the <u>Quick start/Project download and upload/Project Downloading from USB disk</u>. Select "Export the Project" in the 4<sup>th</sup> step.

#### 2.4.5 Project downloading from USB disk

1Pack the project in the software and save it into the Usb disk, as shown in Fig. 28.



Tools Help	
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🍸 💽 B_1:Basic Window(1) 🔹 💽 🛅 📩 🖘 🔍 100% 🔹 🔍 🏢	
- 🔤 - 🖮 - 🕂 - 🏟 - 🔜 - 🛅 - 🐃 - 📒 加	6
① Click here to	
······································	 
Pack to Disk	
Compile and download the project to disk, downloadable with USB disk or FSTOOLLS.	
Name: FirstT_20151111_b01.fpg	
Location: G:\project\FS\FirstT	
Help OK Cancel	
(a)	
🕞 Address Tag Library	
Packing to the disk finished.	
Open file folder Off	
(b)	

Fig. 28

(2) Insert the USB disk into the touch screen. When the touch screen is activated, press and hold at any point on the screen with a finger, as shown in Fig. 29.



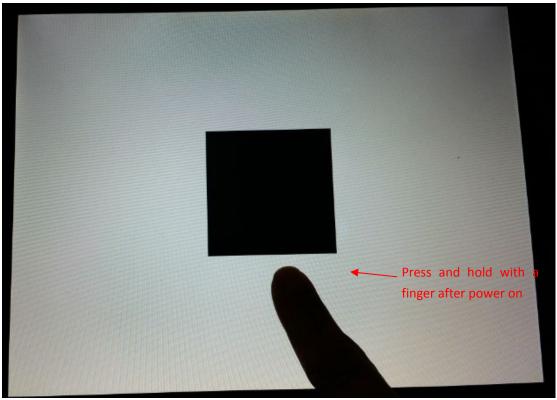


Fig. 29

③ Press the button "Setup" for uploading, as shown in Fig. 30. Select "Project" and enter the password, as shown in Fig. 31. The default password for project management is "888888" which can be modified in the "Global Setting" of the software.









	Setup 🌣			
General	Brightness:			
Network	Time: 2015/1 MAX			
Project	User level · · · · · · · · · · · · · · · · · · ·	-		
Information ①Click	k here			
Advanced	Backlight Timeout: 4 5 6 CLR	1		
Security	Screen Dim Timeout: 7 8 9 Enter			
	State: 🍟 Net 🎓 USB 📇 Udisk 🕋 S	SD		

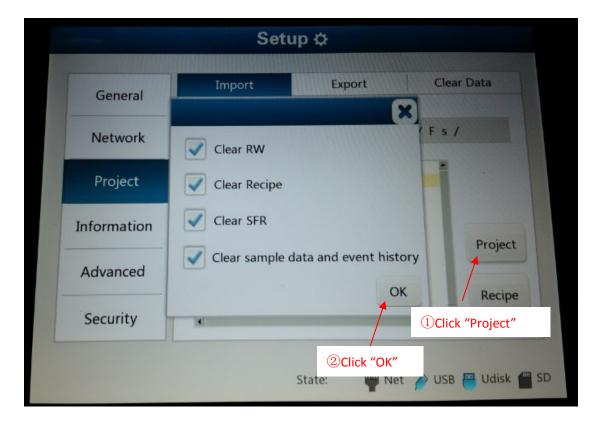
Fig. 31

(4) Select the package file in the USB disk on the tab page "Import" (if project uploading to a USB disk is needed, please select the tab page "Export". The path for uploading the project file needs to be given), and wait till data transmission is completed, as shown in Fig. 32.

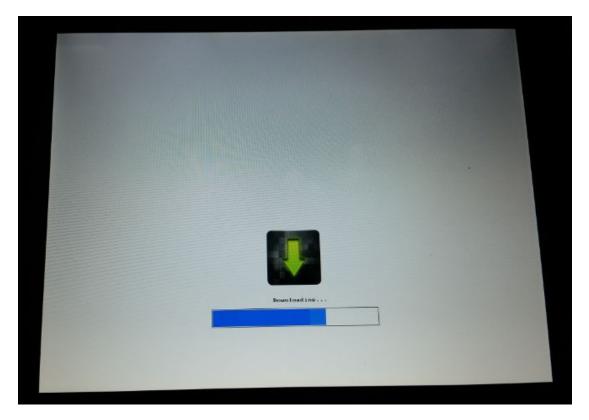


General	Import	Export	Clear Data
Network	Path:	/disk/usb	1/Fs/
Project	ï_20151113_I	b01.fpg	
Information			Project
Advanced			Froject
Security			Recip

(a)







(c)

Fig. 32

## **3** Description for communication connection

### 3.1 Mitsubishi

#### 3.1.1 Mitsubishi\_FXOS\_FXON\_FX1S\_FX1N\_FX2

Mitsubishi FX series CPU port RS232 cable

Mitsubishi serial programming cable is used to communicate with the HMI device.

Mitsubishi FX series communication port RS232 cable

	HMI	Controller
5 4 3 2 1	2 RX	3 TXD
9876	3 TX	2 RXD
	5 GND	5 GND

Mitsubishi FX series RS485-4 cable



### HCTDesigner SOFTWARE MANUAL

۲X-
`X+
IND
RX-
X+
5



#### Registers supported by Mitsubishi FXOS\_FXON\_FX1S\_FX1N\_FX2

Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-571		000	
Input relay	X0-571		000	
Internal relay	M0-7999		DDDD	
Timer contact	T_bit0-255		DDD	
Counter contact	C_bit0-255		DDD	
Stepping relay	S0-9999		DDDD	
Special internal relay	SM8000-9999		DDDD	
Data register		D_word0-7999	DDDD	
Special data register		SD8000-9999	DDDD	
Timer current value		T_word0-255	DDD	
Counter current value		C_word0-255	DDD	

#### 3.1.2 Mitsubishi FX2N

Mitsubishi FX series CPU port RS232 cable

Mitsubishi serial port programming cable is used to communicate wiht the HMI device.

Mitsubishi FX series communication port RS232 cable

	HMI	Controller
5 4 3 2 1	2 RX	3 TXD
9876 🔘	3 TX	2 RXD
	5 GND	5 GND

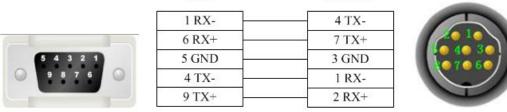
Mitsubishi FX series RS485-4 cable



### HCTDesigner SOFTWARE MANUAL

HMI

Controller



#### Registers supported by Mitsubishi FX2N:

Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-571		000	
Input relay	X0-571		000	
Internal relay	M0-7999		DDDD	
Timer contact	T_bit0-255		DDD	
Counter contact	C_bit0-255		DDD	
Stepping relay	SO-9999		DDDD	
Special internal relay	SM8000-9999		DDDD	
Data register		D_word0-7999	DDDD	
Special data register		SD8000-9999	DDDD	
Timer current value		T_word0-255	DDD	
Counter current value		C_word0-199	DDD	
Counter current value		C_dword200-255	DDD	

### 3.1.3 Mitsubishi\_FX3U\_ENET\_L

#### Mitsubishi\_FX3U\_ENET\_L cable

#### Across connection



HMI	Controller
1 TX+	3 RX+
2 TX-	6 RX-
3 RX+	1 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	2 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White

2 Orange

3 Green White

4 Blue

5 Blue White 6 Green

7 Brown White

8 Brown



#### **Direct connection**



HMI	Controller
1 TX+	1 RX+
2 TX-	2 RX-
3 RX+	3 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	6 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White 2 Orange 3 Green White 4 Blue 5 Blue White 6 Green 7 Brown White 8 Brown

#### Registers supported by Mitsubishi\_FX3U\_ENET\_L

Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-377		000	
Input relay	X0-377		000	
Internal relay	M0-7999		DDDD	
Special internal relay	SM8000-8511		DDDD	
Stepping relay	S0-4095		DDDD	
Timer	T0-511		DDD	
Counter	C0-255		DDD	
Data relay	D_bit0-17999.15		DDDDD.DD	
Data register		D0-7999	DDDD	
Special register		SD8000-8511	DDDD	
File register		R0-32767	DDDDD	
Timer current value		TV0-511	DDD	
Counter current value		CV0-199	DDD	
Counter current value		CV2 200-255	DDD	

#### 3.1.4 Mitsubishi FX3U\_FX3G

Mitsubishi FX series CPU port RS232 cable

The Mitsubishi serial port cable is used to communicate between the HMI device and the programming device.

#### Mitsubishi FX series communication port RS232 cable

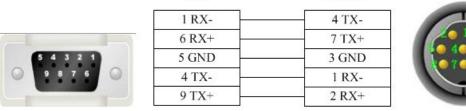
	HMI	Controller
5 4 3 2 1	2 RX	3 TXD
9876	3 TX	2 RXD
	5 GND	5 GND

Mitsubishi FX series RS485-4 cable



HMI

Controller



#### Registers supported by Mitsubishi FX3U\_FX3G

Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-764		000	
Input relay	X0-764		000	
Internal relay	M0-7999		DDDD	
Timer contact	T_bit0-511		DDD	
Counter contact	C_bit0-255		DDD	
Stepping relay	S0-4095		DDDD	
Special internal relay	SM8000-9999		DDDD	
Data register bit	D_bit0.0-127999.F		DDDDDD.H	
Data register		D_word0-17999	DDDDD	
Special data register		SD8000-9999	DDDD	
Timer current value		T_word0-511	DDD	
File register		R0-32767	DDDDD	
Counter current value		C_word0-199	DDD	
Counter current value		C_dword200-255	DDD	

#### 3.1.5 Mitsubishi\_melsec\_ethernet

#### Mitsubishi Melsec Ethernet (Ascii/Bin)

Mitsubishi\_Melsec\_Ethernet (Ascii/Bin) cable

Across connection



HMI	Controller
1 TX+	3 RX+
2 TX-	6 RX-
3 RX+	1 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	2 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White

- 2 Orange 3 Green White
- 4 Blue
- 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown



#### Direct connection



HMI	Controller
1 TX+	1 RX+
2 TX-	2 RX-
3 RX+	3 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	6 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White 2 Orange 3 Green White 4 Blue 5 Blue White 6 Green 7 Brown White 8 Brown

#### Registers supported by Mitsubishi\_Melsec\_Ethernet (Ascii/Bin)

Device	Bit Address	Word Address	Format	Notes
Output relay	YO-FFFF		нннн	
Input relay	X0-FFFF		нннн	
Internal relay	M0-65535		DDDDD	
Special internal relay	SM0-65535		DDDDD	
Latch relay	L0-65535		DDDDD	
Alarm	F0-65535		DDDDD	
Variable address relay	V0-65535		DDDDD	
Link relay	BO-FFFF		нннн	
Timer contact	TS0-65535		DDDDD	
Timer coil	TC0-65535		DDDDD	
Accumulative timer contact	SS0-65535		DDDDD	
Accumulative timer coil	SC0-65535		DDDDD	
Counter contact	CS0-65535		DDDDD	
Counter coil	CC0-65535		DDDDD	
Special link relay	SB0-FFFF		нннн	
Stepping relay	S0-65535		DDDDD	
Data output relay	DY0-FFFF		нннн	
Data input relay	DX0-FFFF		нннн	
Data register		D0-65535	DDDDD	
Special register		SD0-65535		
Link register		W0-FFFF	нннн	
Stepping register		SW0-FFFF	нннн	
Timer current value		TN0-65535	DDDDD	
Accumulative timer current value		SN0-65535	DDDDD	
Counter current value		CN0-65535	DDDDD	
Variable address register		Z0-65535	DDDDD	
File register		R0-65535	DDDDD	
File register		ZR0-393216	DDDDDD	

### 3.1.6 Mitsubishi Melsec Q



.

Controller

2 TXD

1 RXD

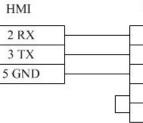
3 GND 5 CTS 6 RTS

#### Mitsubishi Melsec Series Q RS232 cable

	HMI	Controller	Т
5 4 3 2 1	2 RX	2 TXD	21
9876	3 TX	1 RXD	5
	5 GND	3 GND	1
	53 83	16 K.	

#### Mitsubishi Melsec Series Q (Special) RS232 cable







Mitsubishi MelsecSeries Q C24 communication module RS232 cable

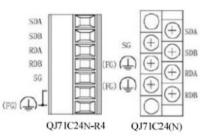
HMI	Controller
2 RX	3 TXD
3 TX	2 RXD
5 GND	5 GND
,	1 DCD
	4 DTR
	6 DSR
	7 RTS
	8 CTS



#### Mitsubishi Melsec Series Q C24 communication module RS485-4 cable



HMI	Controller
1 RX-	SDB
6 RX+	SDA
5 GND	SG
4 TX-	RDB
9 TX+	RDA



#### Registers supported by Mitsubishi Melsec Q:

Device	Bit Address	Word Address	Format	Notes
Data output relay	DDY0-7FF	——	ннн	
Data input relay	DX0-7FF		ннн	
Stepping relay	S0-2047		DDDD	
Special link relay	SBO-3FF		ннн	



Counter coil	CC0-511		DDD
Counter contact	CS0-511		DDD
Accumulative timer coil	SC0-511		DDD
Accumulative timer contact	SS0-511		DDD
Timer coil	TC0-511		DDD
Link relay	B0-7FF		ннн
Variable address relay	V0-1023		DDDD
Alarm	F0-1023		DDDD
Latch relay	L0-2047		DDDD
Internal relay	M0-8191		DDDD
Output relay	Y0-7FF		ннн
Input relay	X0-7FF		ннн
Timer contact	TS0-511		DDD
Data register		D0-11135	DDDDD
File register		ZR0-65535	DDDDD
Variable address register		Z0-9	D
Stepping register		SW0-3FF	ННН
File register		R0-32767	DDDDD
Counter current value		CN0-511	DDD
Accumulative timer current		SN0-511	DDD
value			
Timer current value		TN0-511	DDD
Link register		W0-7FF	ннн

## 3.2 Modbus RTU Server - Serial port service

Modbus RTU Server series RS232 cable



HMI	Controller
2 RX	3 TXD
3 TX	2 RXD
5 GND	5 GND

Modbus RTU Server series RS485-2 cable



	HMI	Controller
5 4 3 2 1 9 8 7 6	1 RX-	
	6 RX+	+
	5 GND	GND

Modbus RTU Server series RS485-4 cable

HMI

Controller



1 RX-	TX-
6 RX+	TX+
5 GND	GND
4 TX-	RX-
9 TX+	RX+
	1 RX- 6 RX+ 5 GND 4 TX-

#### Registers supported by Modbus RTU Server:

hegisters supported by mousus into server.					
Device	Bit Address	Word Address	Format	Notes	
System internal/external output node	LB0-65535		DDDDD	LBn: 0X(n+1) n: 0-65535	
				Fox example: LB0 = 0X1	
System internal/external input node	LB0-65535		DDDDD	LBn: 1X(n+1) n: 0-65535	
				Fox example: LB0 = 1X1	
Analog input data relay		LW0-9998	DDDDD	LWn: 3X(n+1) n: 0-9998	
				Fox example: LW0 = 3X1	
Analog input data relay		RW0-55535	DDDDD	RWn: 3X(n+10000)	
				n: 0-55535	
				Fox example: RW0 =	
				3X10000	
Data register		LW0-9998	DDDDD	LWn: 4X(n+1) n: 0-9998	
				Fox example: LW0 = 4X1	
Data register		RW0-55535	DDDDD	RWn: 4X(n+10000)	
				n: 0-55535	
				Fox example: RW0 =	
				4X10000	

### **3.3Modbus TCP Server– Ethernet service**

Modbus TCP Server cable



#### Across connection



HMI	Controller
1 TX+	3 RX+
2 TX-	6 RX-
3 RX+	1 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	2 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



- 1 Orange White
- 2 Orange 3 Green White
- 4 Blue
- 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown

#### Direct connection



HMI	Controller
1 TX+	1 RX+
2 TX-	2 RX-
3 RX+	3 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	6 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White

- 2 Orange
- 3 Green White
- 4 Blue 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown

#### Registers supported by Modbus TCP Server

Device	Bit Address	Word Address	Format	Notes
System internal/external output node	LB0-65535		DDDDD	LBn: 0X(n+1) n: 0-65535
				Fox example: LB0 = 0X1
System internal/external input node	LB0-65535		DDDDD	LBn: 1X(n+1) n: 0-65535
				Fox example: LB0 = 1X1
Analog input data relay		LW0-9998	DDDDD	LWn: 3X(n+1) n: 0-9998
				Fox example: LW0 = 3X1
Analog input data relay		RW0-55535	DDDDD	RWn: 3X(n+10000)
				n: 0-55535
				Fox example: RW0 =
				3X10000
Data register		LW0-9998	DDDDD	LWn: 4X(n+1) n: 0-9998
				Fox example: LW0 = 4X1
Data register		RW0-55535	DDDDD	RWn: 4X(n+10000)
				n: 0-55535
				Fox example: RW0 =
				4X10000

# **3.4 THINGET**



#### THINGET Controller series RS232 cable



#### THINGET Controller Series RS485-2 cable

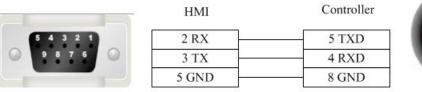
	HMI	Controller
5 4 3 2 1	1 RX-	-
9876	6 RX+	+
	5 GND	GND

#### • Registers supported by THINGET Controller:

	1	1		1
Device	Bit Address	Word Address	Format	Notes
Status node	SO-99999		DDDDD	
Counter node	C0-99999		DDDDD	
Timer node	то-99999		DDDDD	
Interal relay node	M0-99999		DDDDD	
Output relay node	Y0.0-303237.7		000000.0	
Input relay node	X0.0-303237.7		000000.0	
FlashROM register		FD0-9999	DDDD	
Data register		D0-9999	DDDD	
Timer		TD0-9999	DDDD	
Counter		CD0-9999	DDDD	

# 3.5 DELTA

DELTA DVP series RS232 cable

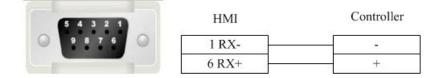






123456

DELTA DVP series RS485-2 cable

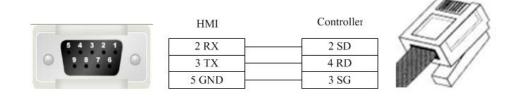


#### Registers supported by DELTA DVP:

Device	Bit Address	Word Address	Format	Notes
External output node	Y0-9999		0000	
External inputnode	X0-9999		0000	
Internal auxiliary node	M0-9999		DDDD	
Sequence control node	S0-9999		DDDD	
Timer node	T0-9999		DDDD	
Counter node	C0-9999		DDDD	
Timer buffer		TV0-9999	DDDD	
Counter buffer		CV0-127	DDD	
Counter buffer (32 bit)		CV2 232-255	DDD	
Data register		D0-65535	DDDDD	

# **3.6 KEYENCE**

KEYENCE KV-1000-3000 series CPU port RS232 cable



#### Registers supported by KEYENCE KV-1000-3000:

Device	Bit Address	Word Address	Format	Notes
Latch relay	LR0.0-15999.15		DDDDD.DD	
Internal auxiliary relay	MR0.0-15999.15		DDDDD.DD	
Control relay	CR0.0-639.15		DDD.DD	
relay	R0.0-15999.15		DDDDD.DD	
Extended data memory		FM0-32767	DDDDD	
Extended data memory		EM0-65534	DDDDD	
High speed counter comparator		TC0-3999	DDDD	
Timer		TM0-511	DDD	

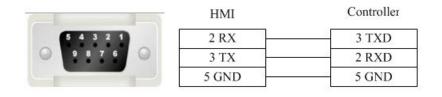


Counter	 CM0-9999	DDDD	
Variable address register	 Z0-12	DD	
Data memory	 DM0-65534	DDDDD	

# 3.7 HollySys

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HollySys LM series RS232 cable



HollySys LM series RS485-2 cable



HMI	Controller
1 RX-	8
6 RX+	3
5 GND	- 5

Registers supported by HollySys LM:

Device	Bit Address	Word Address	Format	Notes
External output node	Q0.0-4095.7		DDDD.O	
External inputnode	10.0-4095.7		DDDD.O	
Intermediate auxiliary register bit	M100.0-62535.7		DDDDD.O	M0-99(Used by
				systematic diagnoses)
Analog output register		QW0-510	DDDD	
Analog input register		IW0-4095	DDDD	
Intermediate register		MW0-8188	DDDD	
Intermediate register(32 bit)		MD0-8186	DDDD	

# 3.8 Yaskawa

- 3.8.1 Yaskawa network device
  - Yaskawa UDP Slave cable



#### Across connection

	12345678
1	7/7
	Y

HMI	Controller
1 TX+	3 RX+
2 TX-	6 RX-
3 RX+	1 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	2 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



- 1 Orange White
- 2 Orange 3 Green White
- 4 Blue
- 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown

#### **Direct connection**



HMI	Controller
1 TX+	1 RX+
2 TX-	2 RX-
3 RX+	3 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	6 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White

- 2 Orange
- 3 Green White
- 4 Blue 5 Blue White
- 6 Green

- 7 Brown White
- 8 Brown

#### Registers supported by Yaskawa UDP slave:

Device	Bit Address	Word Address	Format	Notes
Coil	MB0.0-65534.F		DDDDD.H	
Inputrelay	IBO.O-FFFF.F		нннн.н	
Output relay	QB0.0-FFFF.F		нннн.н	
Hold register		MW0-65534	DDDDD	
Inputregister		IW0-FFFF	нннн	
Output register		QW0-FFFF	нннн	
Hold register		ML0-65534	DDDDD	

#### 3.8.2 Yaskawa

Yaskawa MP Series SIO (Extension) cable 

	HMI	Controller
	2 RX	2 TXD
	3 TX	3 RXD
5 4 3 2 1	5 GND	7 GND
9876	13 74	5 CTS
		4 RTS

Registers supported by Yaskawa MP Series SIO (Extension): •



Device	Bit Address	Word Address	Format	Notes
Coil	MB0.0-65534.F		DDDDD.H	
Inputrelay	IBO.O-FFFF.F		нннн.н	
Hold register		MW0-65534	DDDDD	
Input register		IW0-FFFF	нннн	

# 3.9 Panasonic

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Panasonic FP series RS232 cable

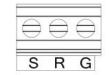




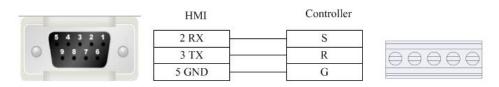
Panasonic FP series CPU terminal RS232 cable



HMI	Controller
2 RX	S
3 TX	R
5 GND	G



Panasonic FP series communication card RS232 cable.



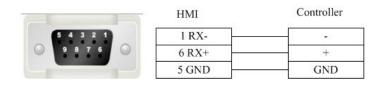
#### Panasonic FP2/3 series RS232 cable

	HMI	Controller
	2 RX	 2 TXD
	3 TX	 3 RXD
	5 GND	 7 GND
		4 RTS
5 4 3 2 1		5 CTS
9876		8 CD
		9 ER

Panasonic FP series RS485-2 cable



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#### Panasonic FP3 series RS485-4 programming port cable

	HMI		Controller 15pin	
	1 RX-	[	9 TXDA	
	6 RX+		2 TXDB	
	5 GND		7 GND	
	4 TX-		10 RXDA	
	9 TX+		3 RXDB	
			4 RTA+	(
3 2 1			5 CTS+	1
3 2 1 8 7 6 🔘			11 RTS-	
			12 CTS-	9

Panasonic FP series (other modules) RS485-4 cable

	HMI	Controller
5 4 3 2 1 9 8 7 6	1 RX-	4 SD-
	6 RX+	2 SD+
	4 TX-	5 RD-
	9 TX+	3 R D+

Registers supported by Panasonic FPO/FPX:

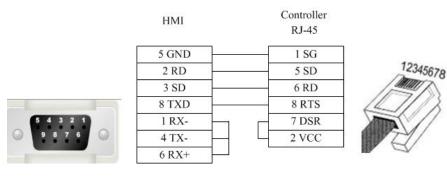
Device	Bit Address	Word Address	Format	Notes
External output node	Y0-9999.F		DDDD.H	
External input node	X0-9999.F		DDDD.H	
Timer bit	T0-9999		DDDD	
Counter bit	C0-9999		DDDD	
Link auxiliary node	L0-9999.F		DDDD.H	
Internal auxiliary node	R0-9999.F		DDDD.H	
T/C current value		EV0-65535	DDDDD	
T/C set value		SV0-9999	DDDD	
Data register		DT0-99999	DDDDD	
Output register		WY0-32767	DDDDD	
Input register		WX0-32767	DDDDD	
Internal auxiliary register		WR0-32767	DDDDD	
Link data register		LD0-99999	DDDDD	
Link register		WL0-32767	DDDDD	



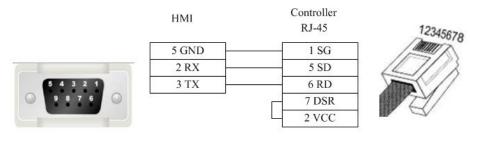
File register		FL0-99999	DDDDD	
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# 3.10 Hitachi

### EHV-CPU\_APPLICATION series programming cable



#### EHV-CPU\_APPLICATION series RS232 cable



#### EHV-CPU\_APPLICATION series RS485-4 cable

0	5 9	43	2 1	0	
0	5 9	43 8	2 1 7 6	0	>

HMI	Controller 15pin
1 RX-	12 SDN
6 RX+	13 SDP
5 GND	11 SG
9 TX+	7 RDP
4 TX-	9 RT
	10 RDN



Registers supported by EHV-CPU\_APPLICATION



Device	Bit Address	Word Address	Format	Notes
Input	X_bit0-FFFF		нннн	
Output	Y_bit0-FFFF		нннн	
Internal Output	R_bit0-FFFF		нннн	
CPU Link	L_bit0-FFFF		нннн	
Data Area	M_bit0-FFFF		нннн	
Timer	T_C_bit0-FFFF		нннн	
Counter	C_L_bit0-FFFF		нннн	
Input		WX0-FFFF	нннн	
Output		WY0-FFFF	нннн	
Internal Output		WR0-FFFF	нннн	
CPU Link		WL0-FFFF	нннн	
Data Area		WM0-FFFF	нннн	
Timer Counter		TC0-FFFF	НННН	
Data		DIF0-FFFF	НННН	
Data	(1111)	DFN0-FFFF	нннн	

Notice (Similar for other address types)

PLC(Format)	HMI(Format)
WY100(HDD)	WY100(HHH)
WY101(HDD)	WY10 <mark>1</mark> (HHH)
WY102(HDD)	WY102(HHH)
WY114(HDD)	WY10E(HHH)
WY115(HDD)	WY10F10F(HHH)

# 3.11 Yokogawa

Yokogawa FA-M3 series RS232 cable

Yokogawa serial port programming cable is used to communicate with the HMI device.

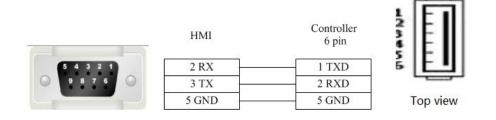
Yokogawa FA-M3 series RS232 cable



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#### Yokogawa FA-M3 series RS485-4 cable



HMI	Controller
1 RX-	SDA-
6 RX+	SDB+
5 GND	FG
4 TX-	RDA-
9 TX+	RDB+

#### Yokogawa FA-M3 series RS4852 cable

#### HMI



	SDA-
1 RX-	RDA-
5 GND	FG
6 RX+	SDB+
	RDB+

#### Registers supported by Yokogawa FA-M3:

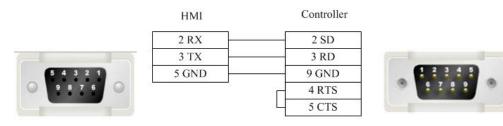
Device	Bit Address	Word Address	Format	Notes
Input Relay	X1-65535		DDDDD	
Output Relay	Y1-65535		DDDDD	
Internal Relay	11-65535		DDDDD	
Special Relay	M1-65535		DDDDD	
Link Relay	L1-65535		DDDDD	
Data Register		D_word1-65535	DDDDD	
File Register		B_word1-65535	DDDDD	
Index Register	1 <u>1.11.11</u>	V_word1-65535	DDDDD	
Link Register		W_word1-65535	DDDDD	
Special Register		Z Word1-65535	DDDDD	



# **3.12 OMRON**

Omron CP1H\_CP1L

#### OMRON CP1H\_CP1L series RS232 cable



#### OMRON CP1H\_CP11 series (communication module) RS485-2 cable



1 RX-5 GND 6 RX+

HMI

RDA-	RDB	SDA	- SDB	•
-		-		1

#### OMRON CP1H\_CP1L series RS485-4 cable

HMI

Controller

Controller

SDA-

RDA-

FG

SDB+ RDB+



1 RX-	1 SDA-
6 RX+	2 SDB+
5 GND	5 FG
4 TX-	6 RDA-
9 TX+	8 RDB+



#### OMRON CP1H\_CP1L series (communication module) RS485-4 cable



HMI	Controller
1 RX-	SDA-
6 RX+	SDB+
5 GND	FG
4 TX-	RDA-
9 TX+	RDB+

DA-F	RDB+	SDA-	SDB+	FO

Registers supported by OMRON CP1H\_CP1L



Device	Bit Address	Word Address	Format	Notes
Work Relay	W_bit 0.0-8191.15	<u>200000</u> 73	DDDD.DD	
Hold Relay	H_bit 0.0-24576.15	<u>0</u>	DDDDD.DD	
Data Relay	D_bit 0.0-524288.15		DDDDDD.DD	
Counter Relay	C_bit 0.0-65535.15	1 <del></del> -1)	DDDDD.DD	
Timer Relay	T_bit 0.0-65535.15	677272-11	DDDDD.DD	
Auxiliary Relay	A_bit 0.0-15360.15		DDDDD.DD	
Channel I/O	CIO_bit 0.0-98304.15	1111127	DDDDD.DD	
Work Register		W_word 0-511	DDD	
Hold Register		H_word 0-1535	DDDD	
Data Register		D_word 0-32767	DDDDD	
Counter Register		C_word 0-4095	DDDD	
Timer Register		T_word 0-4095	DDDD	
Auxiliary Register		A_word 0-959	DDD	
Channel I/O Register		CIO word 0-6143	DDDD	

# 3.13 Kinco

Kinco series RS232 cable •

200 C C C C C C C C C C C C C C C C C C	
Control	ller



HMI	Controller
2 RX	3 TXD
3 TX	2 RXD
5 GND	5 GND

Kinco series RS485-2 cable •

5 4 3 2 1	HMI	Controller
9876	1 RX-	В
	6 RX+	A

#### Registers supported by Kinco •

Device	Bit Address	Word Address	Format	Notes
System internal/external input node	10.0-31.7		DD.O	
System internal/external output node	Q0.0-31.7		DD.O	
Intermediate auxiliary register	M0.0-31.7		DD.O	
Intermediate bit register	VW0.0-4094.7		DDDD.O	
Analog input register		AIW0-62	DD	
Analog output register		AQW0-62	DD	
Intermediate register		VW0-4094	DDDD	



Intermediate register	 VD0-4092	DDDD	

# **3.14 FATEK**

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FATEK FB series RS232 cable •

	HMI	Controller	
54321	2 RX	4 TXD	
9876	3 TX	2 RXD	3
	5 GND	1 GND	L.

FATEK FB special series RS232 cable



HMI	Controller
2 RX	2 TXD
3 TX	1 RXD
5 GND	6 GND
	3 RTS
	4 CTS



FATEK FB series CB module RS232 cable



HMI	Controller
2 RX	2 TXD
3 TX	3 RXD
5 GND	5 GND

FATEK FB series R485-2 cable



.

HMI	Controller
1 RX-	D-
6 RX+	D+
5 GND	G

#### registers supported by FATEK FB

Device	Bit Address	Word Address	Format	Notes
External output node	Y0-9999		DDDD	
External inputnode	X0-9999		DDDD	
Internal auxiliary node	M0-9999		DDDD	
Sequence control node	S0-9999		DDDD	
Timer node	T0-9999		DDDD	
Counter node	C0-9999		DDDD	



Data register	 R0-9999	DDDD	
Data register	 D0-9999	DDDD	
Timer buffer	 т0-9999	DDDD	
Counter buffer	 CO-199	DDD	
Counter buffer (32bit)	 DRC200-255	DDD	

# 3.15 Inovance

• Inovance\_H2u series CPU port RS232 cable

Inovance serial port programming cable is used to communicate with the HMI device.

. Inovance\_H2U series communication port RS232 cable

	5	4	3 2	2 1	
0		9 8	7	6	0
0	10				-

HMI	Controller
2 RX	3 TXD
3 TX	2 RXD
5 GND	5 GND

Inovance\_H2u series RS485-4 cable



HMI	Controller
1 RX-	4 TX-
6 RX+	7 TX+
5 GND	3 GND
4 TX-	1 RX-
9 TX+	2 RX+



HMI	Controller
1 RX-	SDB
6 RX+	SDA
5 GND	SG
4 TX-	RDB
9 TX+	RDA



#### Registers supported by Inovance\_H2U

Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-571		000	
Input relay	X0-571		000	
Internal relay	M0-7999		DDDD	



Timer contact	T_bit0-255		DDD
Counter contact	C_bit0-255		DDD
Stepping relay	S0-9999		DDDD
Special internal relay	SM8000-9999		DDDD
Data register		D_word0-7999	DDDD
Special data register		SD8000-9999	DDDD
Timer current value		T_word0-255	DDD
Counter current value		C_word0-199	DDD
Counter current value		C_dword200-255	DDD

# 3.16 HCFA

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HCFA series PLC series CPU port RS232 cable

HCFA serial port programming cable is used to communicate with the HMI device.

HCFA series PLC circular 8-pin RS485-4 cable



Controller
4 TX-
7 TX+
3 GND
1 RX-
2 RX+



## Registers supported by HCFA HCA2s\_HCA2c\_HCA2\_LX1N\_LX1S

Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-571		000	
Input relay	X0-571		000	
Internal relay	M0-7999		DDDD	
Timer contact	T_bit0-255		DDD	
Counter contact	C_bit0-255		DDD	
Stepping relay	S0-9999		DDDD	
Special internal relay	SM8000-9999		DDDD	
Data register	——	D_word0-7999	DDDD	
Special data register		SD8000-9999	DDDD	
Timer current value		T_word0-255	DDD	
Counter current value		C_word0-255	DDD	

Registers supported by HCFA HCA4



Device	Bit Address	Word Address	Format	Notes
Hold Relay	HR_bit 00.00-99.15		DD.DD	
Data Relay	DM_bit 0000.00-6655.15		DDDD.DD	
Link Relay	LR_bit 00.00-63.15		DD.DD	
Auxiliary Relay	AR_bit 00.00-959.15		DD.DD	
Channel I/O	CIO_IR_bit 000.00-511.15	(100000)	DDD.DD	
Counter Relay		CNT_word 000-511	DDD	
Timer Relay		TIM_word 000-511	DDD	
Hold Register		HR_word 00-99	DD	
Data Register		DM_word 0000-6655	DDDD	
Link Register		LR_word 00-63	DD	
Auxiliary Register		AR_word 000-959	DDD	
Channel I/O Register		CIO IR word 000-511	DDD	

#### Registers supported by HCFA HCA8s\_HCA8c\_HCA8

Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-764		000	
Input relay	X0-764		000	
Internal relay	M0-7999		DDDD	
Timer contact	T_bit0-511		DDD	
Counter contact	C_bit0-511		DDD	
Stepping relay	S0-4095		DDDD	
Special internal relay	SM8000-9999		DDDD	
Data register bit	D_bit0.0-7999.F		DDDD.H	
Data register		D_word0-7999	DDDD	
Special data register		SD8000-9999	DDDD	
Timer current value		T_word0-255	DDD	
File register		R0-32767	DDDDD	
Counter current value		C_word0-199	DDD	
Counter current value		C_dword200-255	DDD	

# **3.17** Kewei

Kewei cable

HMI	Controller	
2 RX	2 TXD	
3 TX	3 RXD	
5 GND	5 GND	-
	2 RX 3 TX	2 RX 2 TXD 3 TX 3 RXD



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Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-377		000	
Input relay	X0-377		000	
Internal relay	M0-7999		DDDD	
Timer contact	T_bit0-255		DDD	
Counter contact	C_bit0-255		DDD	
Stepping relay	S0-9999		DDDD	
Special internal relay	SM8000-9999		DDDD	
Data register		D_word0-7999	DDDD	
Special data register		SD8000-9999	DDDD	
Timer current value		T_word0-255	DDD	
Counter current value		C_word0-199	DDD	
Counter current value		C_dword200-255	DDD	

#### Registers supported by Kewei

# 3.18 Flexem

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# 3.18.1 flexem\_fl2n\_mistubishi\_fx2n\_compatable

Flexem(MISTUBISHI FX2N COMPATIBLE)

Flexem FL2N series RS232 cable

		1	1	
~				~
0	9	8 7	6	0

2 RX	3 TXD
3 TX	2 RXD
5 GND	5 GND

Controller

#### Flexem FL2N series RS485-2 cable

HMI



HMI	Controller
1 RX-	
6 RX+	+
5 GND	GND

#### Registers supported by Flexem FL2N(MISTUBISHI FX2N COMPATIBLE)

Device	Bit Address	Word Address	Format	Notes
External input node	X000-571		000	
External output node	Y000-571		000	
Internal auxiliary node	S0000-9999		DDDD	
Special auxiliary node	SM8000-9999		DDDD	
Timer node	T_bit000-255		DDD	



Counter node	C_bit000-255		DDD	
Timer buffer		T_word000-255	DDD	
Counter buffer		C_word000-255	DDD	
Counter buffer (32 bit)		C_dword200-255	DDD	
Data register		D0000-7999	DDDD	
Special data register		SD8000-9999	DDDD	

# 3.18.2 Differences between flexem\_fl2n\_mistubishi\_fx2n\_compatable and flexem\_fl2n\_modbus

Differences between FLEXEM FL2N(MISTUBISHI FX2N COMPATIBLE) and FLEXEM FL2N(modbus): FLEXEM FL2N(MISTUBISHI FX2N COMPATIBLE) is compatible with Mitsubishi, while FLEXEM FL2N(modbus) is compatible with MODBUS.

Additional description:

1 1 If modbus applies PLC Addresses (Base 1), please refer to the table below for the address correspondence

Device	Туре	Address	Protocol address	Function code
Y	Bit	Y0-377	0001-0256	1,5,15
х	Bit	x0-377	1201-1456	1,5,15
				2
М	Bit	M0-M2047	2001-4048	1,5,15
SM	Bit	SM0-SM511	4401-4912	1,5,15
S	Bit	SO-S999	6001-7000	1,5,15
т	Bit	T0-T255	8001-8256	1,5,15
С	Bit	C0-C255	9201-9456	1,5,15
D	Word	D0-D4095	0001-4096	3,6,16
SD	Word	SD0-SD511	8001-8512	3,6,16
т	Word	T0-T255	9001-9256	3,6,16
С	Word	C0-C199	9501-9700	3,6,16
С	Double word	C200-C255	9701-9756	3,16

2 If modbus applies Protocol Addresses (Base 0), please refer to the table below for the address correspondence

Device	Туре	Address	Protocol address	Function code
Y	Bit	Y0-377	0000-0255	1,5,15
Х	Bit	x0-377	1200-1455	1,5,15
				2



М	Bit	M0-M2047	2000-4047	1,5,15
SM	Bit	SM0-SM511	4400-4911	1,5,15
S	Bit	SO-S999	6000-6999	1,5,15
Т	Bit	T0-T255	8000-8255	1,5,15
С	Bit	C0-C255	9200-9455	1,5,15
D	Word	D0-D4095	0000-4095	3,6,16
SD	Word	SD0-SD511	8000-8511	3,6,16
Т	Word	T0-T255	9000-9255	3,6,16
С	Word	C0-C199	9500-9699	3,6,16
С	Double word	C200-C255	9700-9755	3,16

## 3.18.3 flexem\_fl2n\_modbus

FLEXEM FL2N (Modbus compatible protocol)

Flexem FL2N series RS232 cable



HMI	Controller
2 RX	3 TXD
3 TX	2 RXD
5 GND	5 GND

#### Flexem FL2N series RS485-2 cable

	5 4 3 2	
0	987	6 0
0		

•

HMI	Controller
1 RX-	
6 RX+	+
5 GND	GND

#### Registers supported by Flexem Fl2N (Modbus)

	, ,			
Device	Bit Address	Word Address	Format	Notes
External input node	X0-571		000	
External output node	Y00-571		000	
Internal auxiliary node	S0-999		DDD	
Internal auxiliary node	M0-2047		DDDD	
Special auxiliary node	SM0-511		DDD	
Timer node	T_bit0-255		DDD	
Counter node	C_bit0-255		DDD	
Analog output register		AQ0-255	DDD	
Analog input register		AI0-255	DDD	
Timer buffer		T_word0-255	DDD	
Counter buffer		C_word0-255	DDD	
Counter buffer (32 bit)		C_dword200-255	DDD	



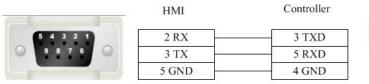
Data register	 D0-4095	DDDD	
Special data register	 SD0-511	DDDD	

# 3.19 TRIO

3.19.1 TRIO \_modbus

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TRIO\_modbus series RS232 cables





TRIO\_modbus series RS485-4 cable

HMI

Controller



	1 RX-	7 TX-
-	6 RX+	8 TX+
	5 GND	4 GND
	4 TX-	2 RX-
	9 TX+	1 RX+



Registers supported by TRIO\_modbus

Device	Bit Address	Word Address	Format	Notes
System internal/external output node	0X1-65535		DDDDD	
System internal/external input node	1X1-65535	——	DDDDD	
Analog input data register		3X1-65535	DDDDD	
Data register		4X1-65535	DDDDD	

## 3.19.2 TRIO \_modbus\_extend

TRIO\_modbus\_extend series RS232 cable





#### TRIO\_modbus\_extend series RS485-4 cable

	HMI	Controller	
	1 RX-	7 TX-	
	6 RX+	8 TX+	
5 4 3 2 1	5 GND	4 GND	
9876	4 TX-	2 RX-	
	9 TX+	1 RX+	

#### Registers supported by TRIO\_modbus\_extend

			1	
Device	Bit Address	Word Address	Format	Notes
System internal/external output node	0X1-65535		DDDDD	
System internal/external input node	1X1-65535		DDDDD	
Analog input data bit	3X_BIT1.0-65535.15		DDDDD.DD	
Data register bit	4X_BIT1.0-65535.15		DDDDD.DD	
Analog input data register		3X1-65535	DDDDD	
Data register		4X1-65535	DDDDD	
Data register		5X1-65535	DDDDD	
Data register		6X1-65535	DDDDD	
Data register		3X-DINV1-65535	DDDDD	
Data register		4X-DINV1-65535	DDDDD	

#### 3.19.3 Differences between TRIO \_modbus and TRIO \_modbus\_extend

Many data memory such as analog input data bit, data register bit and data register are added into TRIO\_modbus\_extend on the base of TRIO\_modbus.

## 3.20 Siemens

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- 3.20.1 Siemens S7\_200
  - Siemens S7-200 series RS232 cable

Siemens serial port programming cable is used to communicate with HMI device.

Siemens S7-200 series RS485-2 cable

HMI

Controller

8 D-

3 D+

5 GND





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Registers	supported	by Siemens	S7-200
inegiotero	Supporteu	Sy Sichiens	0, 200

Device	Bit Address	Word Address	Format	Notes
Digital output and Peripheral image register node	Q.B0.0-127.7		DDD.O	
Internal memory bit	M.B0.0-255.7		DDD.O	
Digital input and Peripheral image register node	I.B0.0-127.7		DDD.O	
Special memory bit	SM.B0.0-4399.7		DDDD.O	
Variable memory node	V.B0.0-81919.7		DDDDD.O	
Timer bit	Tim0-255		DDD	
Counter bit	Cnt0-255		DDD	
SCR node	S.B0.0-255.7		DDD.O	
Digital output and Peripheral image register		QW0-14	DD	
Digital output and Peripheral image register (32 bit)		QD0-12	DD	
Digital input and Peripheral image register		IW0-14	DD	
Digital input and Peripheral image register (32 bit)		ID0-12	DD	
Internal memory		MW0-30	DD	
Internal memory (32 bit)		MD0-28	DD	
Analog output		AQW0-62	DD	
Analog input		AIW0-62	DD	
SCR		SW0-30	DD	
SCR (32 bit)		SD0-28	DD	
Special memory register		SMW0-548	DDD	
Special memory register (32 bit)		SMD0-546	DDD	
Variable memory		VW0-10238	DDDDD	
Variable memory (32 bit)		VD0-10236	DDDDD	
Timer current value		Tim0-255	DDD	
Counter current value		Cnt0-255	DDD	

# 3.20.2 Siemens S7\_200 Network

Siemens S7-200 Network Cable

Across connection



HMI	Controller
1 TX+	3 RX+
2 TX-	6 RX-
3 RX+	1 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	2 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White

- 2 Orange 3 Green White
- 4 Blue
- 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown



#### Direct connection



HMI	Controller
1 TX+	1 RX+
2 TX-	2 RX-
3 RX+	3 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	6 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White 2 Orange 3 Green White 4 Blue 5 Blue White 6 Green 7 Brown White 8 Brown

#### Registers supported by siemens S7-200 Network:

Device	Bit Address	Word Address	Format	Notes
Digital output and Peripheral image register node	Q.B0.0-127.7		DDD.O	
Internal memory bit	M.B0.0-255.7		DDD.O	
Digital input and Peripheral image register node	I.B0.0-127.7		DDD.O	
Variable memory node	V.B0.0-65535.7		DDDDD.O	
Digital output and Peripheral image register		QW0-14	DD	
Digital output and Peripheral image register (32 bit)		QD0-12	DD	
Digital input and Peripheral image register		IW0-14	DD	
Digital input and Peripheral image register (32 bit)		ID0-12	DD	
Internal memory		MW0-30	DD	
Internal memory (32 bit)		MD0-28	DD	
Variable memory		VW0-8190	DDDDD	
Variable memory (32 bit)		VD0-8188	DDDDD	

#### 3.20.3 Siemens S7\_300 MPI

Siemens S7-300 MPI series RS232 cable

SIEMENS serial port programming cable is used to communicate with HMI device.

Siemens S7-300 MPI series RS485-2 cable



HMI	Controller
1 RX-	8 D-
6 RX+	3 D+
5 GND	5 GND

#### Registers supported by Siemens S7-300 MPI

Device	Bit Address	Word Address	Format	Notes
External output node	Q.B0.0-511.7		DDD.O	
External input node	I.B0.0-511.7		DDD.O	



Internal auxiliary node	M.B0.0-4095.7		DDDD.O	
Data register node	DBn_DBX0.0-9999.7		DDDD.O	The main address
				can be set during
				the hardware
				configuration.
External output register		QW0-126	DDD	
External output register (32 bit)		QD0-124	DDD	
External input register		IW0-126	DDD	
External input register (32 bit)		ID0-124	DDD	
Internal register		MW0-2046	DDDD	
Internal register (32 bit)		MD0-2044	DDDD	
Data register		DBn_DBW0-65534	DDDDD	The main address
				can be set during
				the hardware
				configuration.
Data register (32 bit)		DBn_DBD0-65532	DDDDD	The main address
				can be set during
				the hardware
				configuration.

# 3.20.4 Siemens S7\_300\_network

Siemens S7-300 Network cable

# Sien Across connection



HMI	Controller
1 TX+	3 RX+
2 TX-	6 RX-
3 RX+	1 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	2 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White 2 Orange

- 3 Green White
- 4 Blue
- 5 Blue White
- 6 Green
- 7 Brown White 8 Brown

Direct connection



HMI	Controller
1 TX+	1 RX+
2 TX-	2 RX-
3 RX+	3 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	6 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



- 1 Orange White
- 2 Orange 3 Green White
- 4 Blue
- 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown



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Device	Bit Address	Word Address	Format	Notes
External output node	Q.B0.0-2047.7		DDDD.O	
External input node	I.B0.0-2047.7		DDDD.O	
Data register node	DBn_DBX0.0-9999.7		DDDD.O	The main address
				can be set during
				the hardware
				configuration.
External output register		QW0-2046	DDDD	
External output register (32 bit)		QD0-2044	DDDD	
External input register		IW0-2046	DDDD	
External input register (32 bit)		ID0-2044	DDDD	
Internal register		MW0-2046	DDDD	
Internal register (32 bit)		MD0-2044	DDDD	
Data register		DBn_DBW0-65534	DDDDD	The main address
				can be set during
				the hardware
				configuration.
Data register (32 bit)		DBn_DBD0-65532	DDDDD	The main address
				can be set during
				the hardware
				configuration.

# Registers supported by S7-300 Network

# 3.20.5 Siemens S7\_1200\_network

#### Siemens S7-1200 Network cable

# Siem Across connection



HMI	Controller
1 TX+	3 RX+
2 TX-	6 RX-
3 RX+	1 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	2 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



- 1 Orange White
- 2 Orange 3 Green White
- 4 Blue
- 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown



#### Direct connection



HMI	Controller
1 TX+	1 RX+
2 TX-	2 RX-
3 RX+	3 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	6 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White 2 Orange 3 Green White 4 Blue 5 Blue White 6 Green 7 Brown White 8 Brown

#### Registers supported by S7-1200

Device	Bit Address	Word Address	Format	Notes
External output node	Q.B0.0-127.7		DDD.O	
External input node	I.B0.0-127.7		DDD.O	
Internal auxiliary node	M.B0.0-2047.7		DDDD.O	
Data register node	DBn_DBX0.0-6553 5.7		DDDDD.O	The main address can be set during the hardware configuration.
External output register		QW0-126	DDD	
External output register (32 bit)		QD0-124	DDD	
External input register		IW0-126	DDD	
External input register (32 bit)		ID0-124	DDD	
Internal register		MW0-2046	DDDD	
Internal register (32 bit)		MD0-2044	DDDD	
Data register		DBn_DBW0-65534	DDDDD	The main address can be set during the hardware configuration.
Data register (32 bit)		DBn_DBD0-65532	DDDDD	The main address can be set during the hardware configuration.

# 3.20.6 Siemens S7\_200 Network Module

Siemens S7-200 Network Module cable



#### Across connection



HMI	Controller
1 TX+	3 RX+
2 TX-	6 RX-
3 RX+	1 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	2 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



- 1 Orange White
- 2 Orange 3 Green White
- 4 Blue
- Diue
- 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown

#### Direct connection



HMI	Controller
1 TX+	1 RX+
2 TX-	2 RX-
3 RX+	3 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	6 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White

- 2 Orange
- 3 Green White
- 4 Blue
- 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown

#### Registers supported by Siemens S7-200 Network Module

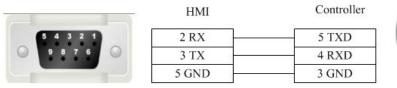
	1	1		
Device	Bit Address	Word Address	Format	Notes
Digital output and Peripheral image register node	Q.B0.0-127.7		DDD.O	
Internal memory bit	M.B0.0-255.7		DDD.O	
Digital input and Peripheral image register node	I.B0.0-127.7		DDD.O	
Variable memory node	V.B0.0-65535.7		DDDDD.O	
Digital output and Peripheral image register		QW0-14	DD	
Digital output and Peripheral image register (32 bit)		QD0-12	DD	
Digital input and Peripheral image register		IW0-14	DD	
Digital input and Peripheral image register (32 bit)		ID0-12	DD	
Internal memory		MW0-30	DD	
Internal memory (32 bit)		MD0-28	DD	
Variable memory		VW0-8190	DDDD	
Variable memory (32 bit)		VD0-8188	DDDD	

# **3.21 MEGMEET**

MEGMEET M280 series CPU port RS232 cable



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#### MEGMEET M280 series communication port RS232 cable



HMI	Controller	
2 RX	TXD	
3 TX	RXD	
5 GND	GND	



#### MEGMEET M280 series RS485-2 cable



- HMI		Controller
1 RX	-	RS485-
6 RX-	+	RS485+
5 GNI	D	GND



#### Registers supported by MEGMEET M280

Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-571		000	
Input relay	X0-571		000	
Internal relay	M0-10239		DDDDD	
Timer contact	T_bit0-511		DDD	
Counter contact	C_bit0-511		DDD	
Stepping relay	S0-4096		DDDD	
Special internal relay	SM0-511		DDD	
Auxiliary register		R0-32767	DDDDD	
Data register		D_word0-7999	DDDD	
Special data register		SD0-511	DDD	
Variable address register		Z0-15	DD	
Timer current value		T_word0-511	DDD	
Counter current value		C_word0-199	DDD	
Counter current value		C_dword200-255	DDD	



# 3.22 MIKOM

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#### MIKOM MX1H series CPU port RS232 cable



HMI	Controller
2 RX	5 TXD
3 TX	4 RXD
5 GND	3 GND



#### MIKOM MX1H series RS485-2 cable



HMI	Controller
1 RX-	RS485-
6 RX+	RS485+
5 GND	GND

#### Registers supported by MIKOM MX1H

Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-777		000	
Input relay	X0-777		000	
Internal relay	M0-4095		DDDD	
Timer contact	T_bit0-511		DDD	
Counter contact	C_bit0-511		DDD	
Stepping relay	S0-1535		DDDD	
Special internal relay	SM0-511		DDD	
Auxiliary register		Un 0-199	DDD	n: 0-7
Data register		D0-32767	DDDDD	
Special data register		SD0-511	DDD	
Variable address register		Z0-255	DDD	
Timer current value		T_word0-511	DDD	
Counter current value		C_word0-199	DDD	
Counter current value		C_dword200-255	DDD	

# 3.23 LS

- 3.23.1 ls\_mster\_cpu\_serial
  - LS Master\_K CPU Serial S232 cable



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	HMI	Controller
5 4 3 2 1	2 RX	3 TXD
9876	3 TX	2 RXD
	5 GND	5 GND

# Registers supported by LS Master\_K CPU Serial

Device	Bit Address	Word Address	Format	Notes
Auxiliary Relay	M0.0-4096.F		DDDD.F	
I/O Relay	P0.0-4096.F		DDDD.F	
Link Relay	L0.0-4096.F	· · · · · · ·	DDDD.F	
Keep Relay	K0.0-4096.F	8	DDDD.F	
Special Relay	F0.0-4096.F		DDDD.F	
Data Register Bit	D_bit0.0-4096.F		DDDD.F	
Timer Bit	T_bit0.0-4096.F		DDDD.F	
Counter Bit	C_bit0.0-4096.F		DDDD.F	
Data Register		D0-9999	DDDD	
Timer		T0-4096	DDDD	
Counter		C0-4096	DDDD	
Auxiliary Relay		M_Word0-4096	DDDD	
Special Relay		F_Word0-4096	DDDD	
Link Relay		L Word0-4096	DDDD	

# 3.23.2 ls\_xgt\_cpu\_serial

LS XGT CPU Serial RS232 cable



HMI	Controller
2 RX	6 TX
3 TX	2 RX
5 GND	3 GND



Registers supported by LS XGT CPU Serial



Device	Bit Address	Word Address	Format	Notes
Auxiliary Relay	M_Bit0.0-16383.F		DDDDD.F	
I/O Relay	P_Bit0.0-16383.F	1000000	DDDDD.F	
Keep Relay	K_Bit0.0-65535.F	( <u>1.200</u> )	DDDDD.F	
Special Relay	F_Bit0.0-16383.F	( <b></b> )	DDDDD.F	
Timer Bit	T_Bit0.0-9999.F	1222223	DDDD.F	
Counter Bit	C_Bit0.0-9999.F	l <del>ectore</del> )	DDDD.F	
Index Relay	Z_Bit0.0-9999.F	( <u>11111</u> )	DDDD.F	
Index Relay	ZR_Bit0.0-163839.F	(555757)	DDDDDD.F	
Link Relay	L_Bit0.0-32767.F		DDDDD.F	
Communication Relay	N_Bit0.0-81819.F		DDDDD.F	
Data Relay	D_Bit0.0-163839.F	1 <del></del>	DDDDDD.F	
File Relay	R Bit0.0-163839.F		DDDDDD.F	

Data Register		D0-10239	DDDDD	
I/O Relay	1	P0-9999	DDDD	
Auxiliary Relay	(1000000)	M0-9999	DDDD	
Keep Register		K0-9999	DDDD	
Special Register	(11))))	F0-9999	DDDD	
Timer		T_SV0-9999	DDDD	
Counter		C_SV0-9999	DDDD	
Timer	00000	T_CV0-9999	DDDD	
Counter		C_CV0-9999	DDDD	
Index Register		Z0-9999	DDDD	
Step Control Register	(Transmis)	S0-9999	DDDD	
Link Register		L0-9999	DDDD	
Communication Register	(22020)	N0-9999	DDDD	
File Register		R0-10239	DDDDD	
Index Register	(11111)	R0-10239	DDDDD	

# 3.24 Modbus

### 3.24.1 Differences between Modbus\_RTU and Modbus\_RTU\_Extend

Many data memory such as analog input data bit, data register bit and function code data register are added into Modbus\_RTU\_Extend on the base of Modbus\_RTU.

#### 3.24.2 Modbus\_RTU

Modbus RTU series RS232 cable



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HMI	Controller
2 RX	3 TXD
3 TX	2 RXD
5 GND	5 GND

#### Modbus RTU series RS485-2 cable

HMI

Controller

Controller



1 RX-	
6 RX+	+
5 GND	GND

#### Modbus RTU series RS485-4 cable

HMI



TX-
TX+
GND
RX-
RX+

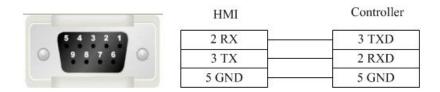
#### Registers supported by RTU:

Device	Bit Address	Word Address	Format	Notes
System internal/external output node	0X1-65535	——	DDDDD	
System internal/external input node	1X1-65535	——	DDDDD	
Analog input data register		3X1-65535	DDDDD	
Data register		4X1-65535	DDDDD	

## 3.24.3 Modbus\_ RTU \_Extend

Modbus RTU Extend

Modbus RTU Extend series RS232 cable



Modbus RTU Extend series RS485-2 cable



#### HCTDesigner SOFTWARE MANUAL

	HMI	Controller
54321	1 RX-	
9 8 7 6	6 RX+	+
	5 GND	GND

HMI

#### Modbus RTU Extend series RS485-4 cable

Controller



	1 RX-	TX-
-	6 RX+	TX+
	5 GND	GND
1	4 TX-	RX-
	9 TX+	RX+

#### Registers supported by Modbus RTU Extend:

Device	Bit Address	Word Address	Format	Notes
System internal/external output node	0X1-65535		DDDDD	
System internal/external input node	1X1-65535		DDDDD	
Analog input data bit	3X1_BIT1.0-		DDDDD.DD	
	65535.15			
Data register bit	4X1_BIT1.0-		DDDDD.DD	
	65535.15			
Analog input data register		3X1-65535	DDDDD	
Data register		4X1-65535	DDDDD	
Data register		5X1-65535	DDDDD	
Data register		6X1-65535	DDDDD	
Data register		3X-DINV1-65535	DDDDD	
Data register		4X-DINV1-65535	DDDDD	

#### Notice:

4X\_DINV and 3X\_DINV are the big end format of double word 4X, and it is a word type address. For example, 4X3 is the hexadecimal 1234, 4X4 is the hexadecimal 5678, and 4X\_DINV is the hexadecimal 12345678.

#### 3.24.4 Modbus\_TCP

Modbus TCP cable



#### Across connection



HMI	Controller	
1 TX+	3 RX+	
2 TX-	6 RX-	
3 RX+	1 TX+	
4 BD4+	4 BD4+	
5 BD4-	5 BD4-	
6 RX-	2 TX-	
7 BD3+	7 BD3+	
8 BD3-	8 BD3-	



- 1 Orange White
- 2 Orange
- 3 Green White
- 4 Blue
- 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown

#### **Direct connection**

	12345678
1	7/
P	Y

HMI	Controller
1 TX+	1 RX+
2 TX-	2 RX-
3 RX+	3 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	6 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



- 1 Orange White
- 2 Orange
- 3 Green White 4 Blue
- 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown

#### Registers supported by TCP

Device	Bit Address	Word Address	Format	Notes
System internal/external output node	0X1-65535	——	DDDDD	
System internal/external input node	1X1-65535		DDDDD	
Analog input data register		3X1-65535	DDDDD	
Data register		4X1-65535	DDDDD	

#### 3.24.5 Modbus\_UDP

Modbus UDP cable 

Across connection



HMI	Controller
1 TX+	3 RX+
2 TX-	6 RX-
3 RX+	1 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	2 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White

- 2 Orange
- 3 Green White 4 Blue
- 5 Blue White
- 6 Green
- 7 Brown White
- 8 Brown



#### Direct connection



TIM	
1 TX+	1 RX+
2 TX-	2 RX-
3 RX+	3 TX+
4 BD4+	4 BD4+
5 BD4-	5 BD4-
6 RX-	6 TX-
7 BD3+	7 BD3+
8 BD3-	8 BD3-



1 Orange White 2 Orange 3 Green White 4 Blue 5 Blue White 6 Green 7 Brown White 8 Brown

#### Registers supported by Modbus UDP:

HMI

Device	Bit Address	Word Address	Format	Notes
System internal/external output node	0X1-65535		DDDDD	
System internal/external input node	1X1-65535		DDDDD	
Analog input data register		3X1-65535	DDDDD	
Data register		4X1-65535	DDDDD	

Controller

# **4 Detailed manual**

## 4.1 File

#### 4.1.1 Save Project

Shortcut key: <Ctrl>+<S>. Save the project being edited.

#### 4.1.2 Close Project

Close the current project without exiting the software, usually used for switching among projects.

#### 4.1.3 Save Project As

Use a new path or new name to save the current project (without deleting the previous project).

#### 4.1.4 Project Used Recently

Display the paths of no more than 10 projects opened recently and each one can be directly opened by clicking.

#### 4.1.5 Open Project

Shortcut key: <Ctrl>+<O>. It is used to open an existing project other than any project repeatedly.

After the software is opened, any project with the file suffix name "\*.fsprj" can be opened by clicking it on the project name.



Remark: if the software is correctly installed, the user can directly open the project by clicking the corresponding file with the postfix \*.fsprj in the Windows Explorer.

#### 4.1.6 Create New Project

Shortcut key: <Ctrl>+<N>. It is used to create a new project.

After the project is correctly created, a file folder with the same name will be created to save the project files related.

Create Nev	/ Project			Contrasta	×
Category(C)					
HM	I Project				
		Project name			
	/	/			
Name(N):		Pro	ject path		0
Location(L):	E:\project\FS			• (	
			OK	Canc	el

Please refer to the "First Use" for the following settings.

#### 4.1.7 Transform Project

Convert project from software FD2000 into the current software version. But only the picture name and the text can be converted, and other parameters must be reset.

#### 4.1.8 Exit

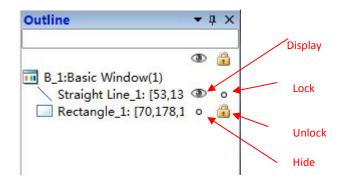
Shortcut key: <Alt>+<X>. It is used to close the project and exit the software.

#### **4.2 View**

#### 4.2.1 Outline

Open/close the outline view, and list all available components on the current window. One or all components can be quickly hidden or locked.





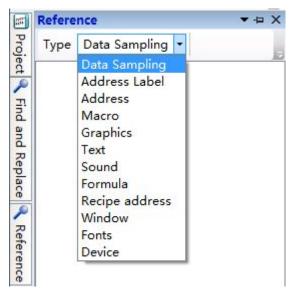
## 4.2.2 Project

Open/close project view which the tree structure facilitates the operation such as "HMI setting", "window", "communication connection", "system setting", "library", "macro", and "prescription", and so on. Details can be seen in <u>Detailed manual /Setup</u>.

## 4.2.3 Reference

Open/close the Reference view. The reference information is collected and displayed here.

The information used by the current project such as address, macro and prescription can be viewed quickly.



#### 4.2.4 Current language

Select the current displaying language and the checked language is the current displaying language.

Note: the language refers to the content edited well by the current project other than translated by the system automatically!

## 4.2.5 Current Status

The checked Status is the current status. It is used to display the components displaying effect quickly in different status.





## 4.2.6 Find and Replace

Open/close the Find and Replace view, used to search or replace any word address, bit address or text used in the current project.

ind and Replace		▼ -
🔘 Bit Address 🔘	Word Address	Text
Search Range		
<b>V</b> Text Library	🗸 Label 🛛 Co	mponent De:
Search settings		
Case-sensitive	E Full Text M	latching
Search Text:		Search
Replace Text:	Replace	Replace All
Position to check u	nder current po	stion by double

## 4.2.7 Restore to the Default View

Restore to the Default View- readjust the view arrangement of the software and restore the default arrangement.

## 4.2.8 Window

Open/close the window view and use the tree structure facilitates modifying the Power-on Screen, Public Window, Basic Window, Keyboard Window and System Window.

#### 4.2.8.1Power-on Screen

It is the window displayed at startup. Any picture expected to be used by the user, such as the company Logo, can be displayed. But it will disappear after a while before entering the configuration screen. The picture formats supported are BMP, JPG, GIF and PNG.

#### 4.8.2.2Common window

The common window always exists and all common window attributes are effective no matter the configuration screen is on a basic window or a pop-up window. The general effective components such as t macro and timer can be set in this window.



#### 4.8.2.3Drop-down Window

TheDrop-down Window can be operated to edit the content of the drop down list when the configuration screen is running. But this function is only effective for a capacitor screen.

#### 4.8.2.4Basic Window

The attribute of basic window can be viewed or modified here. The window of number 29001~29006 is provided to log on with the user's authority for the user. It can be directly used in the software.

#### 4.8.2.5Create Basic Window

A new basic window can be created by clicking "Create Basic Window" in the software picture. The window name, size and other attributes need to be set. The new basic window can also be created in the default attributes.

#### 4.8.2.6Keyboard Window

The keyboard window attributes can be viewed or modified after clicking here. And a customized keyboard can be created which used in the software.

#### 4.8.2.7System window

The system window can be viewed (it can also be modified under direction) after clicking here, for example, the system window of "communication information".

#### 4.2.9 Output

Open/close the output view. The compiling information can be output and displayed here.

#### 4.2.10 Error

Open/close the error view. All errors collected during compiling are recorded here.

## 4.3 Edit

#### 4.3.1 Cancel

Cancel the operation and go back to the previous one.

#### 4.3.2 Recovery

Recover the last action cancelled.

#### 4.3.3 Find/Replace

Set the designated searching range and search the bit address/ word address/ text or replace with a new bit address/ word address/ text.



4.3.4 Cut

Cut away the selected component and temporarily save it on the clipboard.

4.3.5 Copy

Copy the selected component and temporarily save it on the clipboard

4.3.6 Multi-Copy

Set the copy range, quantity, interval and direction, and make the addresses change in any rule to obtain more components (many components can be copies and pasted integrally, and the addresses will change orderly).

4.3.7 Paste

Paste the content of the clipboard onto the project.

4.3.8 Delete

Delete the selected components from the project.

4.3.9 Inching

Move left/right/up/down for one unit.

4.3.10 Alignment

It is effective only when many components are selected. It is used to align these components on the left, on the vertical middle line, on the right, on the up, on the horizontal middle line, or on the bottom.

#### 4.3.11 Size

It is effective only when many components are selected. It is used to set these components to the same width, height or same size.

4.3.12 Layer

It is effective only when the component is selected. It is used to set the component to the top, to the bottom, to the previous layer, to the next layer, or set many components in the same horizontal space or in the same vertical space.

## 4.3.13 Same Color

It is effective only when many components are selected. It is used to set all components in the same color.

4.3.14 Group

Integrate many components.

4.3.15 Ungroup

Make the components of group to restore into individuals.



# 4.3.16 Center horizontally

Center all selected components horizontally in the window.

4.3.17 Center vertically

Center all selected components vertically in the window.

4.3.18 Lock

Lock the position of the component and stop it from size adjusting or position adjusting.

4.3.19 Unlock

Unlock a locked component and restore it to the state that its size or position can be adjusted.

# 4.4 Window

#### 4.4.1 Create New Window

Create a new window and allow the user to set the window number, width, height and any other basic attribute or function.

#### 4.4.2 Delete Window

Delete the selected window

## 4.4.3 Current Window Properties

Set the current window attributes and allow the user to set he window number, width, height and any other basic attribute or function.

4.4.3.1Basic



-		- T.C.L.
	Andify Win	wobd

	Background and Border	Action and Function	Timer	Timing Data Transmission	
Vindo	w Description: Basic Wind	low		Print Page	
	w No. (By Type): 1024 ♀ Height:	600 🗘	1 🗘	Window number (used for window switching)1 Window Type: Base Window	
	W Orientation: O Horizon			window Type: Base Window	
	opup Window			Safety	
				User Level: 0:	
Ove	rlapped Window			Window Effect	
	rlapped Window Bottom Layer: None		•	Window Effect	
			•	20-10 B	

#### 4.4.3.2Background and Border

Modify	Window				
Basic	Background and Bord	ler Action and Function	n Timer	Timing Data Transmission	
	ure Color:	Select Color 👻 📝			
© Pa	attern Filling:		Image		
G	radient Filling:				
	Border Width:	0 🗘			
	Border Color:	Border Color 💌 📝			
Wind	dow Transparency: 0	%(Opacity) 🔹			
Help					OK Cancel

### 4.4.3.3Action and Function

The action to open or close a window can be used to activate a bit, a word, a macro command or switch among windows.



asic Background ar	nd Border Action and F	unction Timer Timing Data Transmission	
Action/Condition	Execute	Operation Target	
Slide to the left	Add Action And Fu	inction	
Slide to the right Nindow Initialize	Action Or Condition	Window I 👻	
	<ul> <li>Execute</li> <li>Bit Settings</li> <li>Word Settings</li> <li>Execute Macro</li> <li>Switch Page</li> </ul>	Set Constant 0 ~	Add Nove Up
		OK Cancel	Delete Edit

## 4.4.3.4Timer

It is used to set an executing cycle. You can execute a macro or directly set a word or a bit according to the trigger conditions.

Basic Background and Border Action and Function		
Timer Trigger and Stop  Timer Function Timing and Execution Execution Period: 10  Delay		
Trigger Condition:  Bit Word Condition  Trigger when the window is open Trigger when the window is closed Trigger Address:  Trigger Mode: OFF -> ON  Auto Reset	Condition for stop  Timer will stop when the window closed.  If need to end, please choose the end condition.  Stop when specified count value reached  Clear  Edit	
Help	OK Cancel	ncel



🖥 Modify Window	23
Basic Background and Border Action and Function Timer Timing Data Transmission	
Serial No. Trigger Condition Stop Condition Timing Cycle Timing Function	
Timer ?	
Trigger and Stop Timer Function	
Run Macro macro_1 ▼ Macro Code Edit	
Bit Setting     Use Address Tag      Status Setting     Deirce: [UCALIfical Perioder]	
V Status Setting Word Setting Deivce: LOCAL:[Local Register]	
Mode:  Set ON Address Type: LB Delete	
Address: 0 System Register Clear	
O Perodic Inverse     Format(Range) DDDDDD0(0~799     Edit	
Address Index	
Microinstruction and Status Setting Run Simultaneously, and the precedence is not sure	
Audio Play	ancel
Help OK Cancel	

## 4.4.3.5Timer Data Transmission

It is used to transmit words or bits in batches. And an action can be set before or after write-in.

Basic Background and Border Action and	d Function Timer Timing Da	ta Transmission		
ata Transmission Item igger and Stop Data Transmission Notification iming and Execution execution Period: 10	ransmission [ Source Addree	Target Addres DataTy	pe Word(Bit)Nc	
Trigger Condition: Bit Word Condition Trigger when the window is open Trigger when the window is closed	Condition for stop Timer will stop when If need to end, please of Stop when specified Condition Judgemen	hoose the end conditio count value reached	n.	Add Items Delete Clear Items Edit
Help		ОК	Cancel	OK Canc



	ction Timer Timing Data Transmission	
Serial No. Trigger Type Repeating Per Trans	mission I Source Addres Target Addres DataType Word(Bit)Nc	
Transmission Item	? 💌	
er and Stop Data Transmission Notification		
sfer Direction: One Way 🔻		
Transmission		
ata Type: 💿 Word 🔘 Bit Transmission words	Constant	
		Add Items
Source Address	Target Address	
Use Address Tag	🔲 Use Address Tag	Delete
Deivce: LOCAL:[Local Register]	Deivce: LOCAL:[Local Register]	
		Clear Items
		Edit
Address Type: LW	Address Type: LW	
Address: 0 System Register	Address: 0 System Register	
Address: 0 System Register Format(Range) DDDDDDD(0 Occupy: 1 Word	Address: 0 System Register Format(Range) DDDDDDD(0 Occupy: 1 Word	
Address: 0 System Register	Address: 0 System Register	

Ē	Modify Window	
	Basic Background and Border Action and Function Timer Timing Data Transmission	
	Serial No. Trigger Type Repeating Per Transmission I Source Addres Target Addres DataType Word(Bit)Nc	
ata Transr	mission Item	
igger and		
otification	Settings	
Before Wr	riting After Writing	
🔲 Notify	Bit Address:	
		Add Items
Notify	Byte Address:	
		Delete
		Clear Items
Trigge	er Macro:	
		Edit
		OK Cancel
Help	OK Cancel	

# 4.4.4 Edit Starting LOGO Window

The user can set the properties of the Power-on Screen window (double click the window after open the Power-on Screen)

# 4.4.5 Show the Public Window



Display/hide the Public Window and facilitate the user to view the effect of the Public Window displayed/hidden in the Basic Window.

### 4.4.6 Show the Lower Layer Window

Display/hide the lower layer window (the three lower layer windows are effective at the same time) and facilitate the user to view the effect of lower layer window displayed/hidden in the basic window.

## 4.4.7 Jump to the Target Window

When the selected component is integrated with a paging function, it is used to jump to the target screen window.

#### 4.4.8 Show Grid

Display the grid and facilitate the user to view the position of components.

#### 4.4.9 Grid alignment

Facilitate components aligning by the grid alignment function.

#### 4.4.10 Align to alignment line

Activate the function of aligning the components in a line.

#### 4.4.11 Grid Setting

Pop up the Grid Setting window. The user can customize the grid color and space here.

Grid	d Setting	<u>×</u>
1	] Show Grid	
	Grid Alignment	
E.	Grid Color	
	💿 Set 🔳 Grid Point Co 💌 🍠	
	Select the reverse color of current background in the second s	ound
1	Interval	
	Width: 10 🔷 Height: 10 🔦	
	OK Car	ncel



### 4.4.12 Window Zoom

Resize the window in a proportion including 50%, 75%, 100%, 125%, 150%, 175%, or 200%.

# 4.5 Drawing

### 4.5.1 Straight Line

ArbitrarilyLine	◎ Vertical
V Line	Position
Line Color 👻 🍠	Fixed Point: X : 130 <b>\$</b> Y : 131 <b>\$</b>
Line Width	■ Locked Width: 154 🗘 Height: 1 🗘
Line Type	Rotation
Arrow	Fix Point O O
	<u></u>
	RotationAngle 0 🗢 NonRotation

#### 4.5.1.1General

• Arbitrarily Line

The user can draw a straight line at will.

Horizontal

Rotate the straight line drawn by the user to the horizontal position around the center point.

• Vertical

Rotate the straight line drawn by the user to the vertical position around the center point.

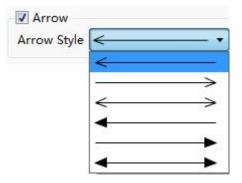
• Line

See Detailed manual/General functions/Drawing/Bordersettings.

• Arrow

The user can set the arrow pattern in the combo box, see the figure below.





#### Position

### See <u>Detailed manual/General functions/Drawing/Position</u>.

- Rotate
- See <u>Detailed manual/General functions/Drawing/Rotation</u>.

#### 4.5.1.2Dynamic Graphics

See <u>Detailed manual/General functions/Drawing/Dynamic Graphics</u> for the details.

#### 4.5.1.3Indicator Light

See <u>Detailed manual/Component/Indicator Light</u> for the details.

#### 4.5.1.4Display

See <u>Detailed manual/General functions/Drawing/Display</u> for the details.

## 4.5.2 Fold Line



		Indicator Light	Display Position				
Line	e Color 💌 🍠		Fixed Point:	<b>X</b> :	196 🗘	<b>Y</b> :	403
Line W			Locked	Width:	234 🗘	Height:	107
Line Ty		-	Rotation Fix Point				
			RotationAng	e 0 🗳	NonRot	tation	

Click the left key to fix the fold line point in drawing. And click the right key to finish drawing. See details in: <u>Detailed Manual/ Drawing/ Straight Line</u>.

# 4.5.3 Rectangle

● Rec	ctangle 💿 Squar order	e	Position				
	Line Color 👻 📝		Fixed Point: X :	132 🗘	<b>Y</b> :	200	×
Line	Width		<b>✓</b> Locked Width:	125 🗘	Height:	45	×
C	namfer		Fix Point RotationAngle	O O O	tation		
📃 Fil	Č						
	adow Effect						



## 4.5.3.1 General

• Rectangle

A rectangle is set to be drawn by the user.

• Square

Make the rectangle width equal to its length, and thus it is set into a square.

Border

See Detailed manual/General functions/Drawing/Border settings.

• Chamfer

After it is checked, edges of the rectangle drawn by the user can be chamfered in Line type (as shown in Fig. a) or in Fillet type (as shown in Fig. b). The maximum chamfering length cannot be larger than 1/2 of the shortest side length.

	☑ Chamfer
	Chamfer Type Line Cutting Angle 0
a.	
	Line
	Chamfer
b.	Chamfer Type Line ▼ Cutting Angle 0 ▼ Line Fillet
D.	
	Fillet
• Position	
See Detailed manual/G	eneral functions/Drawing/Position.
Rotate	
	eneral functions/Drawing/Rotation.
• Fill	eneral functions/Drawing/Filling settings.
	eneral functions/ Drawing/ filling settings.
Fill	
Backgro	und Color 👻 Fill Type SolidColor 👻
• Shadow Effect	

See Detailed manual/General functions/Drawing/Shadow Effect.



#### 4.5.3.2Dynamic Graphics

See <u>Detailed manual/General functions/Drawing/Dynamic Graphics</u> for the details.

#### 4.5.3.3Indicator Light

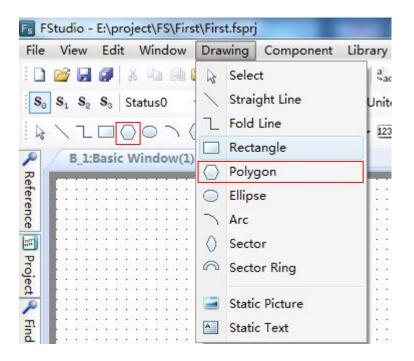
See <u>Detailed manual/Component/Indicator Light</u> for the details.

#### 4.5.3.4Display

See <u>Detailed manual/General functions/Drawing/Display</u> for the details.

#### 4.5.4 Polygon

Draw a polygon by click the polygon tool. You can find the polygon tool in the shortcut tool bar, the shortcut menu and the pull-down menu.

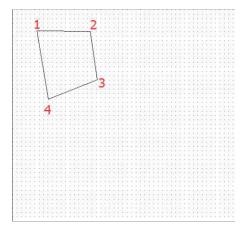






6	1	5		Pa Se			. 4	All													trl trl					
			1	Ac	d	١	/e	ct	0	r I	Gı	a	pł	nic	s									۲	1	Straight Line
			1	Ac	d	0	0	m	p	0	ne	en	ts											٠	2	Fold Line
				Grid																				Rectangle		
				Grid													<u>،</u>	$\bigcirc$	Polygon							
			1	w	in	d	ov	v	Pr	0	pe	er	tie	95											0	Ellipse
						2	7					÷		÷	7	÷		ż	7	÷		2	7	÷	5	Arc
		•	:	•			:	• • •	•		•	• • •			:	•			:	• •			:	•	0	Sector
		20 -33	•	•	3	100		•		100		•	84 23	2	•	•	14 13	100		•		10	•		9	Sector Ring
				:				:				:				:			:	:				:		
			:	:	:		:	•	:		:	•	•••		:	:	•	2	:	•		- 25	:	•		Static Picture
•			•	• •			•	• •	• •		•	• •	• •		•	• •			•	• •			•	• •		Static Text

A side will be added every time when the left key is clicked. After all sides are obtained, a polygon can be obtained by clicking the left key and then clicking the right key.



4.5.4.1General



tus0 - L1 L2 L3 L4 🖪	Polygon	
	General Dynamic Graphics Indicator Light	Display
ndow(1)* ×	V Border	Position
	Line Color 👻 🕜	Fixed Point: X : 177 🗘 Y : 192 🗘
	Line Width	□ Locked Width: 135 \$ Height: 144 \$
	Line Type 🛛 🗸 🔻	Rotation
		Fix Point
		RotationAngle 0 🔿 NonRotation
	- ▼ Fill	(b)
	Background Color 👻 🍠 Fill Ty	
	Shadow Effect	(c)
	Color: ShadowColor 👻 🍠	Shadow Excursion X 4 🗢 Y 4 🗢
	Help Description:	OK Cancel

(a)Frame line pattern and frame line width (b)Polygon filling color (c)Polygon shadow effect

Please see details for the using method of polygon drawing.

### 4.5.4.2Dynamic Graphics





• L1 L2 L3 L4	Polygon
ヽ () ∩ ( <b>≅</b> ≅ _	General Dynamic Graphics Indicator Light Display
w(1)* ×	
	✓ Use Dynamic Graphics
	Control Address: LW0
	Control Position: X: LW0 Y:LW1 Coordinate of the top-left point (a)
·····	Width : LW2 Height : LW3     For square and circle, only width is valid, height is not applicable.     (b)
	✓ Control Rotating: Angle: LW4 (C) Increase anti-clockwise, 0~360 degree
	Note: Location, size and rotating is set based on fixed reference point.
	Help Description: OK Cancel

(a) Position control (b) Size control (c) Rotation control

Please see <u>Detailed manual/General functions/Drawing/Dynamic Graphics</u> for the details.

4.5.4.3Indicator Light



s0 - Li Li Li Fi Polygon	? ×
🔿 🛇 🗢 🖃 💂 🛛 General Dynamic Graphics Indicator Light Display	
iow(1)* X	
Use As Bit Light	
Control Address: LB0	
When The Address Is On:	
Change Color: 🗾 Stroke Color 👻 📝	(a)
✓ Flick: Frequency: 1	(b)
	(c)
🗌 📕 Background Color 👻 🃝 🛛 Fill Type 🛛 SolidColor 🔹	
Help Description:	OK Cancel

(a) Modify the frame color (b) Control the frequency of flickering (c) Modify the filling color

See <u>Detailed manual/Component/Indicator Light</u> for the details.

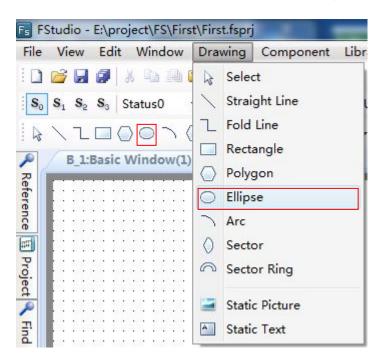
#### 4.5.4.4Display

See <u>Detailed manual/General functions/Drawing/Display</u> for the details.

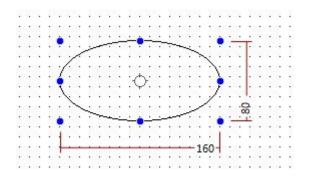
### 4.5.5 Ellipse

Click the ellipse icon on the tool bar by the left key, or select "Ellipse" command from the menu of Drawing.





Click and hold the editing area in the window, and drag the mouse to modify the ellipse size and shape.



4.5.5.1General



Sa Status0 - Li Li	Ellipse
	General Dynamic Graphics Indicator Light Display
:Basic Window(1)* X	Ellipse     Circle
	Border   Line Color   Line Width   Line Type
	RotationAngle 0 NonRotation
	Background Color V Fill Type SolidColor V (b)
	(c)
	✓ Shadow Effect       Color:     ShadowColor     ✓     ✓     Y     4      ✓
	Help Description: OK Cancel

(a) Ellipse border color, width and pattern (b) Ellipse filling color (c) Ellipse shadow effect.

# 4.5.5.2Dynamic Graphics



S <sub>3</sub> Status0 - L1 L2 L	Fs Ellipse	· SSFRUMENC · KOR-	? X
	General Dynamic Grap	hics Indicator Light Display	
Basic Window(1)* X	✓ Use Dynamic Graphic	s	
	Control Address:	LWO	
	Control Position:	X: LW0 Y:LW1 Coordinate of the top-left point	(a)
	🔽 Control Size:	Width : LW2 Height : LW3 For square and circle, only width is valid, height is not applicable.	(b)
	☑ Control Rotating:	Angle: LW4 Increase anti-clockwise, 0~360 degree	(c)
		Note: Location, size and rotating is set based on fixed reference	point.
and to be a sub-state to be the sub-state			
and periods periods periods periods			
	Help Description	: ОК	Cancel
C C			

(a) Position control (b) Size control (c) Rotation control

See <u>Detailed manual/General functions/Drawing/Dynamic Graphics</u> for the details.

4.5.5.3Indicator Light



2 S <sub>3</sub> Status0 - L1 L2 L		? X
	General Dynamic Graphics Indicator Light Display	
:Basic Window(1)* ×	☑ Use As Bit Light	
	Control Address: LB0	
	When The Address Is On:	
	✓ Change Color: Stroke Color ✓	(a)
	✓ Flick: Frequency: 1 X 0.1 Second	(b)
		(c)
	Background Color V Fill Type SolidColor V	(0)
	Help Description: OK	Cancel

(a) Modify the frame color (b) Control flickering frequency (c) Modify the filling color

See<u>Detailed manual/Component/Indicator Light</u> for the details.

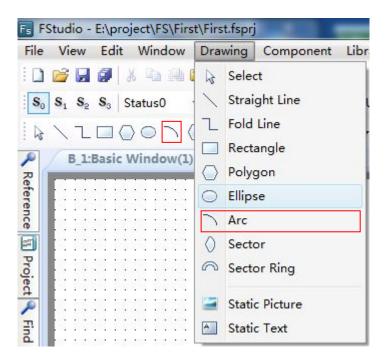
#### 4.5.5.4Display

See <u>Detailed manual/General functions/Drawing/ Display</u> for the details.

### 4.5.6 Arc

An arc can be drawn in a designated area. The arc component command can be found on the tool bar or from the menu of Drawing.



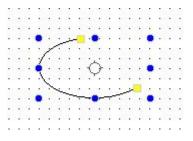


Select the arc component, designate any area to draw, and double click to set the arc properties.

Fi Arc	?
General Dynamic Graphics Indicator Light Dis	splay
✓ Line Line Color ▼ ✓ Line Width	Position         Fixed Point:       X :       169 ♀       Y :       200 ♀         □ Locked       Width:       111 ♀       Height:       96 ♀
Line Type	Rotation Fix Point
Angle Starting Angle 0 — End Angle 180	RotationAngle 0 NonRotation
Help Description:	OK Cancel

An arc can be got by setting the properties such as line color, width, type, starting angle, end angle, position and rotation. It can be freely drawn by dragging the yellow and blue areas.





## 4.5.7 Sector

A sector can be drawn in a designated area. The sector component command can be found on the tool bar or from the menu of Drawing.

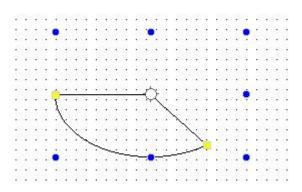
	Dra	wing	Component	Library	M	lacr	0	Re	cipe		Setu	q	Т	00	Is	H	lel	р	
0	$\square$	Selec	t	a eac			8 8	-N	t	•	1 2 1	4	108	1	ijit	-	Ð	<u>all</u> 1	
1	/	Straight Line			ed S	Sta 🔹	•	2		1			4	4	<b>B_</b>	1:6	Bas	ic	Wir
	l	Fold	Line			•	1		1	٦ ,			$\bigcirc$	C	) -	1	$\langle \rangle$	) (	2
1		Rect	angle		Ċ.		2						-					2	- 1
	$\bigcirc$	Poly	gon																
	$\bigcirc$	Ellips	se .	11	:::	::	::	::	::	::	::	::		::	:		:	: :	::
	$\overline{}$	Arc				: : :	: :	: : : :		: : : :			0.000	: : : :		•	÷		· ·
	0	Secto	or		2020	 				 	224	· · ·	-23	 			•		
	0	Secto	or Ring	÷	: : : :	: : : :	: :	::: :::	· · · ·	:::	: :	· · ·		::	•	· ·	:		:: ::
		Stati	c Picture		::	::	: :	::	::	::	: :	::		: : : :	:		•		: : : :
	<b>A</b>	Stati	c Text			· · : :		· · · : :		· · · : :		· · · : :	1000	· · · · :					· · · · ·

Select the sector component, designate any area to draw, and double click to set the sector properties.



)16-1\project-fe\1\1	Sector	? 💌
dow Drawing Co		
) 进 🛍 🗙 🔊 Unc	General Dynamic Graphics Indicator Light Display	
0 - Li L2 L3	V Border	Position
- 🕗 - 🔳 - 🖄 -	Line Color 👻 🥖	Fixed Point: X : 170 ♀ Y : 195 ♀
ow(1)* ×	Line Width	□ Locked Width: 100 \$ Height: 125 \$
	Line Type	Rotation
		Fix Point O-O
	Angle	• • •
	Starting Angle 0 😴 End Angle 180 🗙	6 <u> </u>
		RotationAngle 0 🜩 NonRotation
	🖉 Fill	
	Background Color 👻 🍼 Fill Type	SolidColor 🔻
	Shadow Effect	
	Color: ShadowColor 🖌 Shado	ow Excursion X 4 🗢 Y 4 🗢
ut	Help Description:	OK Cancel

A sector can be got by setting the properties such as line color, width, type, starting angle, end angle, position, rotation, fill color, fill type and shadow effect. It can be freely drawn by dragging the yellow and blue areas.



#### 4.5.8 Sector Ring

A sector ring can be drawn in a designated area. The sector ring component command can be found on the tool bar or from the menu of Drawing.



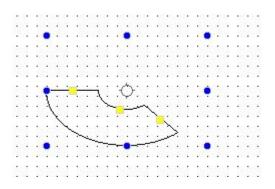
Drav	wing	Component	Libra	Ŋ	N	lac	ro		Re	cip	e	5	Set	tup	2	1	0	ol	s	H	lel	р		
2	Selec	st		a +ac		18	<del>d</del> :			1	ŧ		I.	5	專	12			ij†	40	ŀ	ull	1	Ŀ
$\mathbf{i}$	Strai	ght Line	U	nite	d	Sta	•	9			4	ľ	7		7	1	4	] [	B_1	L:B	as	ic	W	Vii
l	Fold	Line			4				1													-	6	6
	Recta	angle			Ŧ			1	M				-			-		~			V	L		
$\bigcirc$	Poly	gon		04	010			14		20	-		123	212	in i	2	145	-40	<u>,</u>	245	-	5	120	
$\bigcirc$	Ellips	se				: :	ł	:	: :	10,00					:	1	•			÷		ŝ		
7	Arc				: :	: :		:		1	: :		1				:		: :	:	:	1		
0	Secto	or		•	: :	•		•	• •		: : : :				•		•	•		:	:			
2	Secto	or Ring		04 83		•			 	10	 	234 813	288 199			12	•	•			•	е. С		
-	Stati	c P <mark>icture</mark>				: :		•	  		  				:	10100	:	:		:	:			
A	Stati	c Te <mark>xt</mark>		÷	: :	: :	•	•	: :	•	: :	•	•				•	•	••••	:	:			

Select the sector ring component, designate any area to draw, and double click to set the sector ring properties.

\\project-fe\1\1.fsprj	🐻 Sector Ring	?
Drawing Component	General Dynamic Graphics Indicator Light Display	
🖺 🗙 🍠 Undo 🔻 🍽 Re		01(\$2.00
• L1 L2 L3 L4 1-Eng	V Border	Position
) • 📰 • 🚧 • 🚥 • 🖬	Line Color 💌 📝	Fixed Point: X : 208 ♀ Y : 174 ♀
l)* X	Line Width 📃 💌	Locked Width: 137 C Height: 109 C
	Line Type	Rotation
	Sector Ring	Fix Point
	Inside and Outside Ring Scale (%): 50	
•••••••••••••••••••••••••••••••••••••••	Start Angle 0 🔶 End Angle 180 🔦	RotationAngle 0 📉 NonRotation
	Fill	
	Background Color 👻 📝 Fill Type Sol	idColor 🔻
totaked totaked totaked totak		
interior interior interior interior		
handed handed handed hande		
	Shadow Effect	
NUMBER OF STREET		
	Color: 🔄 Shadow Color 👻 🍠 Shadow Exe	cursion X 4 🗙 Y 4 🔦
NAME AND A MARKED AND		
	Help Description:	OK Cancel

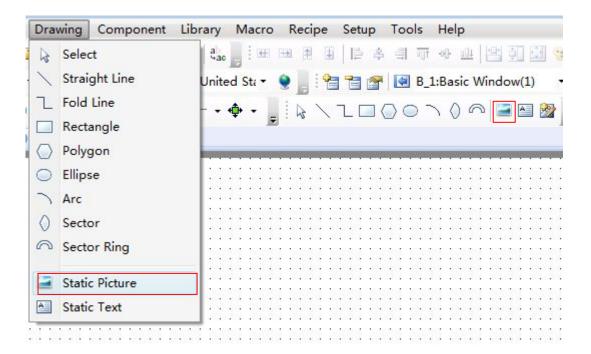


A sector ring can be got by setting the properties such as line color, line width, line type, starting angle, end angle, position, rotation, fill color, fill type and shadow effect. It can be freely drawn by dragging the yellow and blue areas.



## 4.5.9 Static Picture

In this software, the "Static Picture" function will be used frequently. This function can make the whole project more clear and beautiful. The static picture command can be found from the shortcut tool bar or the pull-down menu of Drawing.



After the static picture component is selected, drag by the left key of the mouse, and then the corresponding properties window will pop up.



File	View Edit Window Drawing	Static Picture	?
1	🔓 🖬 🧶 💺 🖦 🏨 🏝 🗙 🤊	General 😝 Dynamic Graphics Display	
S <sub>0</sub>		Position	Rotation
	B_1:Basic Window(1)* ×	Fixed Point: X : 77 🗘 Y : 141 🗘	Fix Point O O O
🗓 Project 🔍 Find and Replace 🌂 Reference		🔲 Locked Width: 131 🗘 Height: 109 🗘	<u> </u>
Find		Import from File Import from Lib.	RotationAngle 0 NonRotation
and		Image Preview	Scaling
Repla			Lock Aspect Ratio
ICe 9	· · · · · · · · · · · · · · · · · · ·		Use original size
Re	109		
fere			Transparent Color
nce	1314		Use PNG image transparent channel
			Use Designated Color
	E PROG PERS PERS PERS		
		Shadow Effect	
	. Diele Diele Diele Diele	Constant and Constant	
	E PROPERTIES PROPERTIES		
		Help Description:	OK Cancel

Local picture in the computer or in the software picture library can be imported by clicking the "Import from File" button or the "Import from Lib" button. And the picture will be put into the window by clicking the "OK" button.

File View Edit Window Drawing	Static Picture	? <b>×</b>
	eneral Dynamic Graphics Display	
S₀ S₁ S₂ S₃ Status0 - Li Li S₀ S₁ S₂ S₃ Status0 - Li Li S₀ S₁ S₂ S₃ Status0 - Li Li	Position	
	Fixed Point: X : 77 <b>\$</b> Y : 141 <b>\$</b> Fix	Point O O
roject	□ Locked Width: 131 🗘 Height: 109 🗘	
Find	Rota Import from File Import from Lib.	tionAngle 0 🔄 NonRotation
El Project Reference Reference	Trar	ng Lock Aspect Ratio se original size sparent Color Jse PNG image transparent channel Jse Designated Color
	Shadow Effect	
	Help Description:	OK Cancel



The static picture position can be modified. You can change the position by manually dragging or by setting the coordinates in the static picture properties window. The static picture size can be modified, too.

File View Edit Window Drawing	E Static Picture	? 💌
	General Dynamic Graphics Display	
$\mathbf{S}_0 \ \mathbf{S}_1 \ \mathbf{S}_2 \ \mathbf{S}_3 \ Status0 \ \mathbf{v} \ \mathbf{b} \ \mathbf{v}$	Position	Rotation
	Fixed Point: X : 77 🗘 Y : 141 🗘	Fix Point
Project	□ Locked Width: 131 🗘 Height: 109 🗘	
Find	Import from File Import from Lib.	RotationAngle 0 🐳 NonRotation
E Project	Image Preview	Scaling Lock Aspect Ratio Use original size Transparent Color Use PNG image transparent channel Use Designated Color
	Shadow Effect	
	Help Description:	OK Cancel

The static picture size and position can be fixed if the "Locked" is checked. And the static picture can be rotated around a fixed point. The fixed point and rotation angle can be set. The picture can be manually rotated (in any angle) after the fixing angle is set.



Fs FStudio - E:\2015-2016-1\project-fe\1\		
File View Edit Window Drawing	Static Picture	
🗋 🚰 🖬 🖉 🕺 🛍 🕮 🏝 🗡 🔊	General Dynamic Graphics Display	
So       S1       S2       S       Status0       •       □       □         Image: So       •       Image: S2       ·       Image: S2       Image: S2	Position Fixed Point: X : 12 \$ Y : 196 \$ V Locked Width: 131 \$ Height: 109 \$ Import from File Import from Lib. Image Preview	Rotation Fix Point
Replace	12N	Lock Aspect Ratio Use original size Transparent Color Use PNG image transparent channel Use Designated Color
	Shadow Effect	
	Help Description:	OK Cancel

The static picture size can be set in the properties window by the Scaling function. It can be set either by checking "Lock Aspect Ratio" (the fixed horizontal/vertical ratio) or by checking "Use original size" (keeping the original size).

: X:	12 🗘			Rotation
: X:	12 🗘			
		Υ:	196 🤤	Fix Point
Width:	131 🔹	Height:	109 🗘	• <u> </u>
rom File	Import	from Lib		RotationAngle 15 🗙 NonRotation
riew	N			Scaling   Lock Aspect Ratio  Use original size  Transparent Color  Use PNG image transparent channel  Use Designated Color
Effect				
	rom File riew	riew	view	riew



The picture effect can be beautified by the Shadow Effect function so that it can be differentiated from the background.

Static Picture	? <mark>×</mark>
General Dynamic Graphics Display	
Position	Rotation
Fixed Point: X : 116 C Y : 220 C	Fix Point
□ Locked Width: 125 C Height: 89 C	
Import from File Import from Lib.	RotationAngle 15 😴 NonRotation
Image Preview	Scaling Lock Aspect Ratio Use original size Transparent Color Use PNG image transparent channel Use Designated Color
⊂ I Shadow Effect Color: ShadowColor I Shadow	Excursion X 4 🗢 Y 4 🗬

The static picture can be set to display only when the corresponding conditions are satisfied. The user can choose that the static picture is displayed all the time or displayed in conditions by setting the Display properties. The conditional display type includes Level User, Privilege User and Logic Control.

Level User: The static picture will be displayed only in the corresponding user level. It can be activated by checking it.



s Static Picture		? 🔀
Visibility Control Always Display	play	
<ul> <li>● Conditional Display</li> <li>✓ Level User Min Level:</li> <li>□ Privilege User</li> <li>□ Logic Control</li> </ul>	0: 1:Level1 2:Level2	
Help Description:		OK Cancel

Privilege User: The static picture visibility control needs an authority. The authority system

settings dialog can be opened by clicking the button "……".



📧 Static Picture	System	Settings				8	6
General Dynamic Graphics Display 🥥	Global	Settings I	Extended Settings	Laguange Settings	Favorite Font Tem	plates User Level	1
Visibility Control	User	Privilege	Task Schedule	Data Sampling	PLC Control	Alarm And Event	
Always Display	No.	User Name	Predefined Password	Logout Time(min)	Permission		]
Conditional Display	1	Admin	888888	10	16:Admin		
E Level User							
✓ Privilege User Privilege: 0:Select User ▼							
Logic Control							
	$\mathbf{N}$						
	*						
Help Description:							]
					Delete	Add Modify	
m	Help				1	OK Cancel	
							_

Logic Control: The static picture visibility can be controlled by the address conditions. The conditions include bit control (address ON and OFF) and word control (word address value conditions).



General Dynamic Graphics Display 🥥	
Visibility Control O Always Display O Conditional Display Level User	
Privilege User	Condition Setting
✓ Logic Control	Module: 🔘 Bit Register 💿 Word Register
Condition	Address:
> 1 Add Modify Delete	Condition: Read Value > • A(1) None • A Constant • 1 •
	OK Cancel
Help Description:	OK Cancel

The static picture can be converted into a dynamic one by logic control. Static pictures can be quickly switched by picture stacking and the control address.



static Picture	? 🔀
General Dynamic Graphics 🥥 Display 🥥	
✓ Use Dynamic Graphics	
Control Address:	
Control Position:	
Control Size:	
Control Rotating:	
Note: Location, size and rotating is set based on fixed	reference point.
Help Description:	OK Cancel

When the control address is fixed, the position, size and rotation can be controlled. E.g.: when there are many sector pictures, they can be set to display rotating effect by setting the Control Rotating.

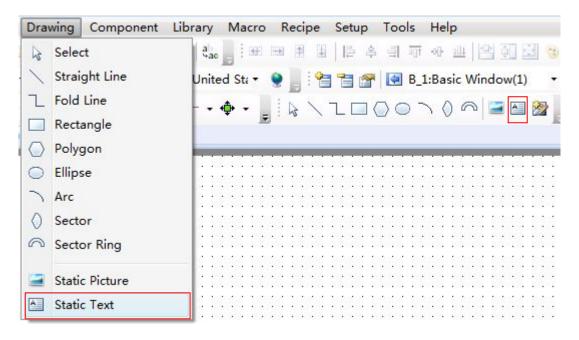


🕞 Static Picture	? 🔀
General Dynamic Graphics 🧿 Display 🧿	
✓ Use Dynamic Graphics	
Control Address:	
Control Position: X: Y: Coordinate of the top-left point	
Control Size: Width : Height : For square and circle, only width is valid, height is not applicable.	
☑ Control Rotating: Angle: Increase anti-clockwise, 0~360 degree	
Note: Location, size and rotating is set based on fixed reference	point.
Help Description: OK	Cancel

#### 4.5.10 Static Text

When editing in the software, a lot of texts will be used for marking, displaying and describing, and thus the project edited can be easy to understand. The Static Text command can be found from the shortcut tool bar or the menu of Drawing.





When click the Static Text command, the properties dialog will pop up. The content of the static text to be displayed can be written into the Tag Contents. The font, size, color and alignment mode can be set here.



🕞 Static Text	
General Display	
□ Language Independent Languages: 1-English (United S ▼) ♥ ○ Use Text Library Text Library	Position Fixed Point: X : 0 ↓ Y : 0 ↓ □ Locked Width: 50 ↓ Height: 50 ↓
Ise Labels           Tag Contents           Test	Marquee
Copy Current Text to All Languages Import from Favorite Font Templates.(I)	Set label position by language state separately. Left Right: Top Bottom:
○ Vector Font       ⑨ Graphic Font         Font:       Microsoft Sans Serif ▼         Size:       16 ▼ B I       ▼         Multi-line Alignment:       ■ ■ ■       T	
Microsoft Sans Serif	
Copy Current Properties to All Languages	
Help Description:	OK Cancel

These properties such as the current text font, size, color and the alignment mode can be copied to make future texts uniform.



🖥 Static Text	
General Display	
<ul> <li>Language Independent</li> <li>Languages: 1-English (United S •)</li> <li>Use Text Library Text Library</li> </ul>	Position Fixed Point: X : 0 ↓ Y : 0 ↓ □ Locked Width: 50 ↓ Height: 50 ↓
Ose Labels Tag Contents	Marquee
Test	Set label position by language state separately. Left Right:
Import from Favorite Font Templates.(I) Vector Font  Graphic Font Font: Microsoft Sans Serif  Size: 16  B I  V  Advanced	
Microsoft Sans Serif	
Copy Current Properties to All Languages	
Help Description:	OK Cancel

The function "Language Independent" can be checked to make sure the text is not influenced by other languages.



Fs Static Text	? 🔀
General Display	
□ Language Independent Languages: 1-English (United S ▼) ♥ O Use Text Library Text Library	Position         Fixed Point:       X :       0 ♀       Y :       0 ♀         □ Locked       Width:       50 ♀       Height:       50 ♀
Our Labels Tag Contents	Marquee
Test Copy Current Text to All Languages Import from Favorite Font Templates.(I) Vector Font  Graphic Font Font: Microsoft Sans Serif  Size: 16  B I I V	Set label position by language state separately. Left Right: Top Bottom:
Multi-line Alignment:	
Help Description:	OK Cancel

Sometimes, the project is provided to the users in different countries. You can set the different contents by switching Languages. Thus different texts can be displayed in different languages.



B Static Text	? 🔀
General Display	
<ul> <li>□ Language Independent</li> <li>Languages:         <ol> <li>□ English (United S ▼)</li> <li>□ Use Text Library</li> <li>□ Chinese (Simplified, PRC)</li> </ol> </li> </ul>	Position         Fixed Point:       X :       0 ◆       Y :       0 ◆         □ Locked       Width:       50 ◆       Height:       50 ◆
Our Se Labels Tag Contents	- Marquee
Test Copy Current Text to All Languages Import from Favorite Font Templates.(I)	Set label position by language state separately. Left Right: Top Bottom:
<ul> <li>Vector Font          <ul> <li>Graphic Font</li> <li>Font: Microsoft Sans Serif ▼</li> <li>Size: 16 ▼ B I ■ ▼</li> <li>Multi-line Alignment: I ■ I ■ T Advanced</li> </ul> </li> </ul>	
Microsoft Sans Serif	
Copy Current Properties to All Languages	
Help Description:	OK Cancel

Multi languages can be set in System Settings dialog which is opened by clicking the button

" to satisfy the different languages requirement.



static Text	1	System Settings				? 🗙
General Display		User Privilege Global Settings	Task Schedule Extended Settings	Data Sampling	PLC Control Favorite Font Te	Alarm And Event
Languages: 1-English (United S V )	Position Fixed P Lock Mare	Language Language Count: No. Langua 1 English	ge (United States)	• I	It Font mport from Favorite F ctor Font © Graphic Microsoft Sans Ser	ont Templates.(I)
Tag Contents	N	2 Chinese	(Simplified, PRC)	Size:	16 • B I	
Test Copy Current Text to All Languages Import from Favorite Font Templates.(I) Vector Font @ Graphic Font Font: Microsoft Sans Serif Size: 16 • B Z • * Multi-line Alignment = T Advanced Microsoft Sans Serif	] Set la		. by using system regis e project is downloade	ster	Microsoft Sa	
Copy Current Properties to All Languages						
Help Description:		Help				OK Cancel

When you check the "Set label position by language state separately" function, different texts can be aligned in different effects.



Static Text	? <mark>*</mark>
General Display	
<ul> <li>Language Independent</li> <li>Languages: 1-English (United S •)</li> <li>Use Text Library Text Library</li> </ul>	Position Fixed Point: X : 0 ♦ Y : 0 ♦ □ Locked Width: 50 ♦ Height: 50 ♥
Ose Labels Tag Contents	Marquee
Test Copy Current Text to All Languages Import from Favorite Font Templates.(I) Vector Font (a) Graphic Font Font: Microsoft Sans Serif ( Size: 16 (B) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	Set label position by language state separately. Left Right: Top Bottom:
Microsoft Sans Serif	
Help Description:	OK Cancel

The static textcan be used which is saved in the text library. The text library dialog can pop up by clicking the "Text Library" button. You can enter the text in the text library dialog in advanced and select it to use.



Fs Static Text		
General Display		
□ Language Independent Languages: 2-Chinese (Simplific ▼) ④ ④ Use Text Library Text Library Ack ▼) 膨成 ▼	Text Library      Search Language Display Sort by Name Display All Language      A B C D E F G H I J K L M N O P Q R S T U V W X V Z	es
O Use Labels	Name Status Number Reference	
Text Library Contents	- Ack 1 2	
测试	Status         1-English (United States)         2-Chinese (Simplified, PRC)           0         Test         測試	
▼ Import from Favorite Font Templates.()) Vector Font ③ Graphic Font Font: 微致推集 ▼ Size: 16 ▼ B Z ■ ▼ Z Multi-line Alignment 最高 Tr Advanced 微软雅黑		
Copy Current Properties to All Languages		Cancel
Help Description:	OK Cancel	

The static text can be set to a designated position, and the text can be locked to prevent any displaying defect caused by moving.



Static Text					? <b>X</b>
General Display					
🔲 Language Independent	Position	-	4		
Languages: 1-English (United S 🔻 💽	Fixed Point:	X :	0 \$	Y :	0 🗘
Use Text Library     Text Library	Locked	Width:	50 \$	Height:	50 \$
Ack	Marquee				
🔘 Use Labels					
Text Library Contents					
Test *					
	Set label	position by	/ language s	tate separat	ely.
-	Lef	t Right:			
	Top	Bottom:			
Import from Favorite Font Templates.(I)					
Vector Font   Graphic Font					
Font: Microsoft Sans Serif 🔻					
Size: 16 • B I					
Multi-line Alignment:					
Microsoft Sans Serif					
Copy Current Properties to All Languages					
Help Description:				ОК	Cancel

When the text includes a lot of words and characters, the revolving displaying function can be used to save the space. The revolving displaying function can be used by checking the "Marquee" function. The moving direction and the revolving displaying speed can be set in the properties dialog of the static text.



Static Text	?
General Display	
<ul> <li>Language Independent</li> <li>Languages: 1-English (United S •)</li> <li>Use Text Library Text Library</li> </ul>	Position         Fixed Point:       X :       0 \$       Y :       0 \$         □ Locked       Width:       50 \$       Height:       50 \$
Ack     ▼     Test     ▼       O Use Labels	Marquee Moving Direction RightToLeft
Text Library Contents Test	Step Length RightToLeft 10 🔷 x0.1S
	Set label position BottomToTop separately.
Import from Favorite Font Templates.(I)	Top Bottom:
○ Vector Font ◎ Graphic Font Font: Microsoft Sans Serif ▼ Size: 16 ▼ B Z ■ ▼ 🍠	
Multi-line Alignment: 📰 🗐 🔳 🔳 Advanced	
Microsoft Sans Serif	
Copy Current Properties to All Languages	
Help Description:	OK Cancel

Similar to static picture functions, the static text can be also set to display only if necessary. The user can choose that the static text is displayed all the time or displayed in conditions by setting the Display properties. The conditional display type includes Level User, Privilege User and Logic Control.

Level User: The static text will be displayed only in the corresponding user level. It can be activated by checking it. The user level system settings dialog can be opened by clicking the





😼 Static Text	🕼 System Settings	? 🔀
General Display	User Privilege Task Schedule	Data Sampling PLC Control Alarm And Event
Visibility Control	Global Settings Extended Settings	Laguange Settings Favorite Font Templates User Level
C Always Display		
Conditional Display	User Level Count: 3	
	Password Level Predefined Password	Grade Description
	OLevel Password None	
Privilege User	1Level Password 888888	Level1
🔲 Logic Control	2Level Password 888888	Level2
Help Description:	Please use system register SRW to realize the of Help	operation like password input and modification etc.

Privilege User: The static text visibility control needs an authority. The authority system settings dialog can be opened by clicking the button "……".

📧 Static Text	System Settings
General Display 🧿	Global Settings         Extended Settings         Laguange Settings         Favorite Font Templates         User Level           User Privilege         Task Schedule         Data Sampling         PLC Control         Alarm And Event
<ul> <li>Always Display</li> <li>Conditional Display</li> </ul>	No.         User Name         Predefined Password         Logout Time(min)         Permission           1         Admin         88888         10         16:Admin
Level User Privilege User Privilege: O:Select User	
Help Description:	Delete Add Modify Help OK Cancel



Logic Control: The static text visibility can be controlled by the address conditions. The conditions include bit control (address ON and OFF) and word control (word address value conditions).

# 4.6 Component

### 4.6.1 Switch

The Switch component includes Bit Set, Word Set, Window Operation, Function Key, Data Transferring and Recipe Transmission.



Con	ponent Library Macro Recipe Setup	1		Help	
	Switch		B	Bit Set	
0	Indicator Light	•	123 V	Vord Set	
123	Numeric Value and Character Display		🗔 Window Operation		
HHO	Toggle Switch and menu		E Function Key		
0	Timer and Data Transmission		3 0	Data Tranfering	
E	Bar And Meter		tt R	Recipe Transimission	
100	Curve Graphs	•			
had	Scale	٠			
	Table	٠	:::		
-0-	Slider	٠			
ф	Moving Component				
E .	Window		111		
<b>A</b>	List				
₩.	Tools		111		
1	Pipeline				

### 4.6.1.1Bit Set

"Bit Set" is a component by which the internal bit address of HMI or the bit address of each controller connected to HMI is operated. The type of "Execute Setting" includes "On", "Off", "Inverse", "Reset", "On Pulse" and "Off Pulse".



Action:	Press	-	
Execute Setting:	On Pulse	▼ Pulse Wid	dth 0.2 👻 Second
Address	On Off Inverse Reset		
Deivce: LOCA			•
Bit-index w		ster •	]
Address: 0	*		System Register
Format(Range	e) DDDDDD(0~79 ndex	99999)	

• On

Set the bit address to ON.

• Off

Set the bit address to OFF.

Inverse

It is set a "Switch" by which the current state can be conversed. If the current bit address is ON, after it is operated, the bit address will be conversed to OFF. If the current bit address is OFF, after it is operated, the bit address will be conversed to ON.

Reset

When it is operated and kept being held, the bit address is set at the ON state all the time. When it is released, the state of the bit address will be immediately switched to OFF.

• On Pulse

A rising edge pulse is produced which the bit address keeps the pulse "on" in a designated time width. The pulse width range is  $0.1^{-1.5}$  seconds.



Action:	Press	•	8				
Execute Setting:	On Pulse	•	Pulse	Width	0.2	•	Seconds
					0.1	-	
Address					0.2		
🔲 Use Addre	ss Tag				0.3		
Deivce: LOCA	L:[Local Regi	ster]		1	0.5		•
					0.6		
🔲 Bit-index w	ithin a Byte R	egiste	er		0.7	Ξ	
Address Type	: LB			•	0.9		
Address: 0	×			Sy	1.0		gister
Format(Range	) DDDDDD(0	~7999	999)	_	1.1		
					1.3		
📃 Address In	dex				1.4		
					1.5		

#### • Off Pulse

A falling edge pulse is produced which the bit address keeps the pulse "off" in a designated time width. The pulse width range is  $0.1^{-1.5}$  second.

For the "On Pulse", if the pulse width is set to 1 second and the current bit state is OFF, a 1 second ON pulse signal will be produced and then it goes back to the OFF state. If the current bit state is ON, a 1 second ON time will be still set because the bit state is already ON, and then the bit state will turn OFF.

Similar to the "Off Pulse", if the pulse width is set to 1 second and the current bit state is ON, a 1 second OFF pulse signal will be produced and then it goes back to the ON state. if the current state is OFF, a 1 second OFF time will be still set because the bit state is already OFF, and then the bit state will turn ON.

There is an "Action" attribute for the Bit Set component. It includes two options, "Press" and "Release". When the "Bit Set" component is pressed down, the bit set function will be executed immediately. When the "Release" attribute is selected and the "Bit set" component is pressed, the bit set function will not be executed. And when it is released, the "Bit set" function will be executed immediately. But the action is not valid when the "Execute Setting" is "Reset".



The "Bit Set" component has other property pages. For example, in the "Indicator Light" property page, it is recommended to check the "Use Indicator" option and set an address to monitor the "Bit set" component state if the "Use Graphics" option is checked in the "Graphics" property page. The details can be seen in the "System Manual/ Component/ Indicator Light".

Switch/Ind	icator Light							8 ×
Switch Inc	dicator Light	Jable	Graphics D	ynamic Graphics	Control Settings	Display		
🔽 Use Indi	cator							
Display ()		gister Contro	ol ▼ gister <sup>©</sup> Com	bined Bits				
A	ddress:							
	o.: 2	e state cond	ime As The Sv itions are met		Cor	ndition:	veLogic	NegativeLogic
Status	Condition	Tag Conten	t Blink	Frequency(0				
0	OFF		None	•				
1	ON		None	;				
						sh Mode: sh Freq.:	None	▼ 5 ☆ x0.1S
Help	Descriptic	on:						OK Cancel

The following brief example introduces the process for setting the HMI internal address LB100 into the "Inverse" attribute.

• In the software menu, click "Component/ Switch/ Bit Set" to open the following dialog.



Switch	Indicator Light	able Graphics Dynamic Graphics Control Settings Display	
🗸 Swite	ch Function	Bit Setting Property	1
Action		Bit Setting Property	
Press		Action: Press • Execute Setting: On • Address Use Address Tag Deivce: LOCAL:[Local Register] • Bit-index within a Byte Register Address Type: LB • Address: 0 • Format(Range) DDDDDD(0~799999)	
	Move Up	Address Index	Modify
	Bit	Help(H) OK Cancel	Recipe Transfer

The default action is "Press". The default Execute Setting is "On". The default address is "LB0". They are modified into the required as follows.



Action:	Press •
xecute Setting	Inverse 🔹
Address	
🔲 Use Addr	ress Tag
Deivce: LOC	CAL:[Local Register]
Bit-index	within a Byte Register
Address Typ	within a Byte Register pe: LB 100 System Register
Address Typ Address:	e: LB 🔹

• Click "OK" to add an operation action in the "Switch" list.



Press     Bit Setting     LOCAL:[Local Register]:LB100 Inverse       Move Up     Move Down     Copy     Delete     Clear     I			Display	Display	Control Settings	Dynamic Graphics	Graphics	Lable	Indicator Light	witch
Press     Bit Setting     LOCAL:[Local Register]:LB100 Inverse       Move Up     Move Down     Copy     Delete     Clear     I									h Function	Swite
Move Up Move Down Copy Delete Clear I					ess	Device Add	ution	Exec		Action
			verse	0 Inverse	Register]:LB100	LOCAL:[Loca	etting	Bit Se		Press
Move Up Move Down Copy Delete Clear Model Function:										
dd Function:										N
	Modify	Clear M	Clear		Delete	Сору	e Down	Move	love op	
Bit Word Window Operation Function Key Data Transfer Recip	Modify	Clear M	Clear		Delete	Сору	e Down	Move	(	
	Modify cipe Transfer			ey					nction:	
Help Description: OK				ey					nction:	

In the list, we can clearly see the execution attribute and the bit address to be operated.

Click "OK" in the Switch dialog to put the component into the window edited. In this way, a simple "Bit Set" component is finished.

#### 4.6.1.2Word Set

"Word Set" is a component by which various attributes of the internal word register of HMI or the word register of any controller connected to HMI are controlled. The Word Set property dialog can be opened by clicking the "Component/ Switch/ Word Set" in the menu. The default settings are shown as follows.



Switch Function	Action: Press V	
Press	Execute Settings: Add  Looping Reverse on reaching the end Add Constant Upper Limit: Constant 100	
	Address © Use Address Tag Deivce: LOCAL:[Local Register]	
Move Up	Address Type: LW  Address: 0 System Register Format(Range) DDDDDD(0~799999) Occupy: 1 Word Data Type: 16-bit Unsigned Address Index	Modify
Add Function: Bit	Help(H) OK Cancel	. Recipe Transfer

The type of "Execute Settings" includes "Add", "Subtract", "Increase", "Decrease", "Set Up Constants", "Set Up Character Strings", "Set Up Figures By Bit" and "Logic Operation".





12233	Add    Looping  Add	Reverse on reaching the e
Add	Subtract	1
Upper Limit:	Increase	100
	Decrease	
	Set Up Constants	
	Set Up Character Strings	
Address	Set Up Figures By Bit Logic Operation	
Address	Logic Operation	
🔲 Use Addre	ess Tag	
Deivce: LOC	AL:[Local Register]	*
Address Type	e: LW	•
Address: 0	A V	System Register
Address: 0		
Address: 0	e) DDDDDD(0~799999)	
Address: 0	e) DDDDDD(0~799999) Data Type:	Occupy: 1 - Word

### • Add

A designated data will be added to the value of the designated word register. The "Add" attributes contain the following settings.



Switch/Indicator Light	🖪 Words Setting Property	8
Switch Function	Action: Press V	
Press	Execute Settings: Add    Looping Reverse on reaching the end  Add  Constant  20  Upper Limit: Constant  100	
	Address Use Address Tag Deivce: LOCAL:[Local Register]	
Move Up	Address Type: LW  Address: 0 System Register Format(Range) DDDDDD(0~799999) Occupy: 1 Word Data Type: 16-bit Unsigned	Modify
dd Function:	Address Index      Help(H)     OK     Cancel	Recipe Transfer
Help Description:		OK Cancel

Add

At each time of operation, the set data will be added and written into the word register.

Upper Limit

It is the upper limit of the word register operated. When the result reached the upper limit of operation, no further "Add" operation can be done.

Looping

If "Looping" is checked, an option of "Lower limit" will appear. The operation will be continued at the upper limit and the adding operation will be done from the lower limit. For example, if the "Lower limit" is set to "0", the "Add" is set to "1", and the upper limit is set to "100", the Word Set component will be valid when it is added to "100". It will turn to 0, 1, 2, 3,and so on, at the next operations.

Reverse on reaching the end

If "Reverse on reaching the end" is checked, the operation will be continued at the upper limit and the result will change to reduce from the upper limit to the lower limit. When the result reached the lower limit, the operation will change to add.



The "Add", "Upper limit" and "Lower limit" are all "Constant" in default. They can also be set into "Variable". It is noted that the data type of variable register must comply with the "Word Set" component address type.

## Subtract

A designated data will be subtracted from the value of the designated word register till the "Lower limit". The "Subtract" attributes contain the following settings.

	🐻 Words Setting Property	
Switch Function Action Press	Action: Press   Execute Settings: Subtrac   Looping Reverse on reaching the end Subtract: Constant   20	
	Lower Limit: Constant	
Move Up	Address Type: LW Address: 0 System Register Format(Range) DDDDDD(0~799999) Occupy: 1 Vord Data Type: 16-bit Unsigned V Address Index	Modify
Bit Help Description:	Help(H) OK Cancel	OK Cancel

#### Subtract

At each time of operation, the set data will be subtracted from the word register.

### Lower Limit

It is the lower limit of the word register operated. When the result reached the lower limit of operation, no further "Subtract" operation can be done.

### Looping

If "Looping" is checked, an option of "Upper limit" will appear. The operation will be continued at the lower limit and the subtraction will be done from the upper limit. For example, if the "Lower limit" is set to "0", the "Subtract" is set to "1", and the upper limit is set to "100", the Word Set component will be valid when it is subtracted to "0". It will turn to 100, 99, 98, 97,and so on, at the next operations.



Reverse on reaching the end

If "Reverse on reaching the end" is checked, the operation will be continued at the lower limit and the result will change to add from the lower limit to the upper limit. When the result reached the upper limit, the operation will change to subtract.

• Increase

The result value will keep increasing if the component of "Increase" is pressed down. The increasing will stop if the component of "Increase" is released or the value reaches the upper limit. The component of "Increase" has attributes of "Immediately Execute Increase/Decrease Action", "Delaying Time" and "Execution Time".

witch Indicator Light Switch Function	Image: Setting Property         Action:         Press         Image: Image: Setting Property	
Action Press	Execute Settings:     Increase •       Add     Constant •       Upper Limit:     Constant •	
	Delaying Time: 0.15   Address  Use Address Tag  Deivce: LOCAL:[Local Register]	
Move Up	Address Type: LW Address: 0 System Register Format(Range) DDDDDD(0~799999) Occupy: 1 Word Data Type: 16-bit Unsigned	Modify
Add Function: Bit	Help(H) OK Cancel	Recipe Transfer

Immediately Execute Increase/Decrease Action

"Increase" and "Decrease" all have this attribute. If it is checked, the operation of "Increase" or "Decrease" will be executed immediately without waiting when the component is pressed down.

Delaying Time



When the attribute of "Immediately Execute Increase/Decrease Action" is not checked, the "Delaying time" attribute is valid. The default time is 0.1s and the maximum is 1.5s. If the time is 0.1s, it means the action of "Increase" will be delayed 0.1s to execute after the component is pressed down.

### Execution Time

The "Execution Time" means the time to execute the action "Increase" once. The time range is 0.1s  $\sim$  1.5s.

### Decrease

The function of "Decrease" is similar to the attribute of "Increase". The result value will keep decreasing if the component of is pressed down. The component of "Decrease" also has attributes of "Immediately Execute Increase/Decrease Action", "Delaying Time" and "Execution Time".

witch Indicator Light L	🖥 Words Setting Property 🛛 💌	
Switch Function	Action: Press + Immediately Execute "Increase/Decrease" Action	
Action	Execute Settings: Decreas 🔹 🖸 Looping 🔲 Reverse on reaching the end	
Press	Subtract: Constant	
	Lower Limit: Constant V 0 V	
	Delaying Time: 0.15   Execution Time: 0.15   Address	
	🔲 Use Address Tag	
	Deivce: LOCAL:[Local Register]	
	Address Type: LW	
	Address: 0 System Register Format(Range) DDDDDD(0~799999) Occupy: 1 Vord	
Move Up	Data Type: 16-bit Unsigned 🔹	Modify
Bit		Recipe Transfer
	Help(H) OK Cancel	
Help Description:		OK Cance

### • Set Up Constants

A data is written to the designated register. The data (Setting Value) can be a "Constant" or a "Variable".



Switch/Indicator Light	🖪 Words Setting Property 📃 🔀	8
Switch Function Action Press	Action: Press Execute Settings: Set Up Setting Value: Constant 0	
	Address Use Address Tag Deivce: LOCAL:[Local Register]	
Move Up	Address Type: LW  Address: 0 System Register Format(Range) DDDDDD(0~799999)Occupy: 1 Word Data Type: 16-bit Unsigned Address Index	Modify
Bit	Help(H) OK Cancel	sfer Recipe Transfer
Help Description:		OK Canc

In the figure above, a constant "0" is written to the register LW0 of HMI.

• Set Up Character Strings

This function is similar to "Set Up Constants". A character string can be written to the word register. For example, character string "A123" is written to the register LWO and LW1 of HMI.





Switch Function   Action:   Press   Content:   Constant •   A123   Use UNICODE   Swap high and low bytes     Address   Use Address Tag   Deivce:   LOCAL:[Local Register]     Address:   0   Address:   0   System Register   Format(Range)   DDDDDDD(0~799999)Occupy:   2   Word   Data Type:   Character String *   Modify   Address Index	3 2	8	🕞 Words Setting Property	witch/
Action   Press   Execute Settings: Set Up I * W0 A123 W0 A123 W0 A123 W0 A123 Use UNICODE Swap high and low bytes Address Use Address Tag Deivce: LOCAL:[Local Register] Address Type: LW Address: 0 System Register Format(Range) DDDDDD(0~799999)Occupy: 2 * Word Data Type: Character String * Modify Address Index fer Recipe Trans				
Press       W0 A123         Content:       Constant • A123         Use UNICODE       Swap high and low bytes         Address       Use Address Tag         Deivce:       LOCAL:[Local Register]         Address       Address:         Address:       System Register         Format(Range)       DDDDDDD(0~799999)Occupy:       Word         Move Up       Address Index       Modify         Bit       Fer       Recipe Trans				ction
Use UNICODE     Address   Use Address Tag   Deivce:   LOCAL:[Local Register]     Address Type:   LW   Address:   0   System Register   Format(Range)   DDDDDD(0~799999)Occupy:   2   Word   Data Type:   Character String   Modify   Address Index		W0 A123	Execute Settings: Set Up I V	ress
Address Address Tag Deivce: LOCAL:[Local Register] Address Type: LW Address: 0 \$ystem Register Format(Range) DDDDDD(0~799999)Occupy: 2 \$Word Data Type: Character String \$ Modify ifer Recipe Trans				
Use Address Tag         Deivce:       LOCAL:[Local Register]         Address Type:       LW         Address:       0         O       System Register         Format(Range)       DDDDDDD(0~799999)Occupy:       2         Move Up       Data Type:       Character String *       Modify         dd Function:       Bit       ifer       Recipe Trans			Use UNICODE Swap high and low bytes	
Use Address Tag         Deivce:       LOCAL:[Local Register]         Address Type:       LW         Address:       0         Address:       0         System Register         Format(Range)       DDDDDDD(0~799999)Occupy:         Data Type:       Character String *         Modify       Address Index				
Use Address Tag   Deivce:   LOCAL:[Local Register]   Address Type:   LW   Address:   0   System Register   Format(Range)   DDDDDD(0~799999)Occupy:   2   Word   Data Type:   Character String *   Modify   Address Index				
Use Address Tag   Deivce:   LOCAL:[Local Register]   Address Type:   LW   Address:   0   System Register   Format(Range)   DDDDDD(0~799999)Occupy:   2   Word   Data Type:   Character String *   Modify   Address Index				
Deivce:       LOCAL:[Local Register]         Address Type:       LW         Address:       0         Address:       0         System Register         Format(Range)       DDDDDDD(0~799999)Occupy:         Deivce:       LW         Move Up       0         dd Function:       Modify         Bit       ifer				
Address Type: LW  Address: 0  Address: 0				
Address:       0       System Register         Format(Range)       DDDDDDD(0~799999)Occupy:       2       Word         Data       Type:       Character       String       Modify         Bit			Deivce: LOCAL:[Local Register]	
Address:     0     System Register       Format(Range)     DDDDDDD(0~799999)Occupy:     2     Word       Data     Type:     Character     String     Modify       dd     Function:     Address     Index     Index				
Address:     0     System Register       Format(Range)     DDDDDDD(0~799999)Occupy:     2     Word       Data     Type:     Character     String     Modify       dd     Function:     Address     Index     Index				
Format(Range) DDDDDD(0~799999)Occupy: 2 word       Move Up       dd Function:       Bit   Format(Range) DDDDDD(0~799999)Occupy: 2 word         Modify   Format(Range) Address Index Format(Range) DDDDDD(0~799999)Occupy: 2 word				
Move Up     Data Type: Character String     Modify       dd Function:     Address Index     ifer				
Move op     Image: Address Index       Bit     Image: Address Index				
dd Function: Bit fer Recipe Trans		Modify		N
			Address Index	dd Fu
	fer	fer Recipe Transfe		
Help(H) OK Cancel				
			Help(H) OK Cancel	
Help Description:		OK Cano		

"Set Up Character Strings" has two optional attributes "Use UNICODE" and "Swap high and low bytes". When "Use UNICODE" is checked, it means the character string written to registers is coded by UNICODE. The string is normally displayed only in "UNICODE". If "Swap high and low bytes" is checked, the high and low bytes in the character string will be exchanged before written to the word register.

• Set Up Figures By Bit

This function has two modes, "Add" and "Subtract". By this function, each bit of the value can be added or subtracted.



witch Indicator Light	🖪 Words Setting Property 📃	<u> </u>
Switch Function	Action: Press V	
Action	Execute Settings: Set Up I - Mode:   Add Subtract	
Press	Digit Bit: 5	LW0 5
Move Up Add Function: Bit Help Description:	Address Use Address Tag Deivce: LOCAL:[Local Register] Address Type: LW Address: 0 System Register Format(Range) DDDDDD(0~799999)Occupy: 1 Word Data Type: 16-bit Unsigned Address Index Help(H) OK Cancel	Modify sfer Recipe Transfer

This function has an attribute "Date type". It can be "16-bit Unsigned" or "32-bit unsigned number". In other words, only unsigned single word and unsigned double word can use this function. If the data type is "16-bit unsigned number", the value range is 0~65535. So the parameter of this function "Digit bit" can be 1~5. That means the number length is 1~5. "1" means units digit, "2" means tens digit, "3" means hundreds digit, "4" means thousands digit, and "5" means ten thousands digit. For example, if the "Digit bit" is 3 and the "Mode" is "Add", it means the hundreds digit is operated for adding. If the hundreds digit of a register is 6 and when this component is pressed down, the hundreds bit will change into 7, and then into 8 if it is pressed down again, and 9 again, 0 again, and 1 again, so the attribute of "Add" is similar to the "Looping" attribute. But, the "Add" or "Subtract" attribute of the "Set up Figures by Bit" function is only valid for one digit, and other digits are not changed.

For example, if "Digit bit" is 3, "Mode" is "Add", and the current register value is 18668, the value will change into 18768 when the component is pressed down, 18868 when it is pressed down again, 18968 again, 18068 again, 18168 again. The maximum value of a single word is 65535. If the "Digit bit" is 5, the ten thousands digit will change in 0~5.

#### Logic Operation

This function has four modes, "And", "Or", "Exclusive-or" and "Not". The default mode is "Add".



witch Indicator Light L	🕼 Words Setting Property	
Switch Function Action Press	Action: Press   Execute Settings: Logic O  Mode:  And Or Exclusive-or Not  Operation Value: Constant  FFFF  (Hex)	FFFF
	Address Use Address Tag Deivce: LOCAL:[Local Register]  Address Type: LW Address: 0  System Register	
Move Up	Format(Range) DDDDDD(0~799999)Occupy: 1 • Word Data Type: 16-bit Unsigned •	Modify
Bit	Help(H) OK Cancel	sfer Recipe Transfer

In the figure above, when the component is operated, the value in register LWO will has a logic operation "And" with 0×FFFF. The logic result will be written to register LWO. The operations of other three modes are similar to "And" mode but the logic operation.

The attribute "Operation Value" can be "Constant" or "Variables". The default is "Constant" and the data format is hexadecimal. It can be a variable, but the data type must comply with the register data type.

The attribute "Data Type" for logic operation can be "16-bit Unsigned", "32-bit Unsigned", "16-bit BCD" and "32-bit BCD".

#### Special notice:

In all these functions for "Word Set", the "Action" is "Press" in default. That means the operation will be executed correspondingly when the component is pressed down. The "Action" can also be "Release" but not for the function "Increase" and "Decrease". That means the operation will be executed correspondingly when the component is released.

When use "Variables" for the "Word Set" function, the data type of "Variables" must comply with the data type of word register used. If not, the result may be incorrect.

#### 4.6.1.3Window Operation

Action



The attribute "Action" of "Window Operation" can be "Press" or "Release".

ction:	Press	•			
	Press				
Set Up:	Release	1	Window No.:	B_1:Basic Window	-
	✓ Automatic po Help	o <mark>p-up p</mark> as	_	w. OK Cancel	

#### Press

The corresponding keyboard function will be given out when the component is pressed down, and the macro instructions or system operation instructions will be executed.

#### ➢ Release

The corresponding keyboard function will be given out when the component is released, and the macro instructions or system operation instructions will be executed.

• Set Up

The attribute "Set Up" of "Window operation" can be "Switch Window", "Close Pop-up Window", "Pop-up", "Return To Previous Window", "Window Control Bar" or "Return to the main window (HOME)".

Fs Window	w Operation Property	<b></b>
Action:	Press •	
Set Up:	Switch Window Vindow No	B_1:Basic Window 🔻
	Close Pop-up Window Pop-up	wok
	Return To Previous Window Window Control Bar Return to the main window(HOME)	OK Cancel

### Switch Window

Close the current window and switch to a designated window.

Close Pop-up Window

Put the button on the pop-up window, click to close it.



Pop-up

Pop up a designated window.

Return To Previous Window

Close the current window and open the window opened last time.

Window Control Bar

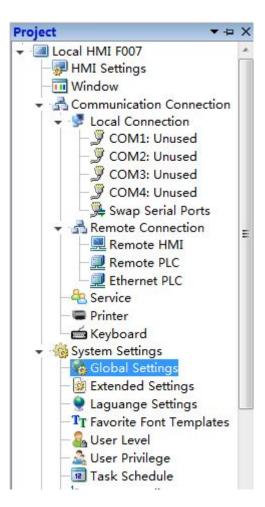
Put the component on the pop-up window, press, hold and drag to modify the pop-up window position.

Return to the main window (HOME)

Close the current window and open the preset main window. The main window can be set by the menu command "Setup -> System Setting -> General Setting".

Action:	Press	•	J	
Set Up:	Return to the main	•	Window No.:	B_1:Basic Window(1)
	Automatic pop-up	o p	assword windo	w.







User Privilege	Task Schedule	Data Sampling	PLC Control	Alarm And Event
Global Settings	Extended Settings	Laguange Setting	s Favorite Font Ter	mplates User Level
Project Properties  Upload  Decompilation			zation I Window: B_1:Basic Wi tial Macro	indow(1 🔹
Backlight And Scr Dim the brigh Turn off Backl	tness: Lowest 🔻 🕄	(min)	Window(HOME) Window(HOME) : B_1	l:Basic Window(1 🔹
Dim down and wait for 10 🖨 (min) Turn on backlight upon Alarm/Events Screensaver:		nts 🔽 🕻	down window Jse the drop-down wind e: Only for capacitive sc	
		Se	e: HMI Internal Clock t up the time souce of e storical data etc. SRW0~7: Year/Mon Minute/Second/Mill	events, hth/Day/Hour/
Local Register En	dian Order	Touch	Audio	
16-bit Integer: 32-bit Integer: 32-bit Float:	2-bit Integer:		zzer Is Enabled Buzz Enable Control: uch Audio Enabled.	zer Time: 50mS 🔹
Scrollbar Scrollbar Width	20 🚖		Enable Control:	

### Automatic pop-up password window

If "Automatic pop-up password window" is checked and when the window operation is switched to a window in a higher password or authority level, the window to enter password will pop up automatically.

#### 4.6.1.4Function Key

The "Function Key" component provides component executing action, keyboard function, executing macro instructions, and system operation functions.

#### Action

The attribute "Action" of "Function Key" can be "Press" or "Release".



Action:	Press 🔹
Function Setting:	Press. Release
Keyboard Function	
Execute Macro	Macro Code Edit
Sysem Operation	Touch Panel Calibration
	O Import/Export Import Project to *
	O Save Screenshort to Extended Memory USB1
	O Clear Event
	🔘 Clear All Formula
	Clear RW
	Clear All History Data
) Print	Horizontal Print     O Print Vertically

#### > Press

The corresponding keyboard function will be given out when the element is pressed down, and the macro instructions or system operation instructions will be executed.

#### ➢ Release

The corresponding keyboard function will be given out when the component is released, and the macro instructions or system operation instructions will be executed.

### • Function Setting

The attribute "Function Setting" of the "Function Key" includes "Keyboard Function", "Execute Macro" and "System Operation".

Keyboard Function



🖥 Function Key Attribute	:5	
Action:	Press	•
Function Setting:		
Keyboard Function	Return 🔹	
<ul> <li>Execute Macro</li> <li>Sysem Operation</li> </ul>	Return Backspace Clear Cancel UNICODE Move the Cursor Select the Text Text Operation Mapping Keyboard	Code Edit ation nport Project to T to Extended Memory USB1 T
	Clear All History D	
O Print	Horizontal Print	O Print Vertically
Help		OK Cancel

"Return"

It is the same to the "Enter" key on the keyboard.

"Backspace"

It is the same to the "Backspace" key on the keyboard.

#### "Clear"

Delete the current content which has been inputted for the component "Numeric Value Input" and "Character Input".

"Cancel

Cancel the component operation of "Numeric Value Input" and "Character Input".

"UNICODE"

Set the type of characters which inputted to the component "Character Input". The characters can be number keys (0, 1, 2...), letters of an alphabet (a, b, c...), ASCII code or Unicode characters.



"Move the Cursor"

Move the cursor according to the set modes including up, down, left, right, row beginning, row end, first bit and last bit. This function is effective only for the input component.

"Select the Text"

Set the operation for the selected text content, including "Selection Begin" and "Selection End". This function is effective only for the input component.

"Text Operation"

Set the operation for the text content, including "Copy", "Cut" and "Paste". This function is effective only for the input component.

"Mapping Keyboard"

When this function is activated, corresponding functions can be mapped to F1~F8 of HMI, including forward, backward, Esc, Enter, and so on. This function is effective only for some specified HMI.

Action:	Press •
Function Setting:	
Keyboard Function	Text Operation * Copy *
Execute Macro	macro_1 🔹 Macro Code Edit
Sysem Operation	Touch Panel Calibration
	O Import/Export Import Project to *
	○ Save Screenshort to Extended Memory USB1 ·
	O Clear Event
	🔘 Clear All Formula
	Clear RW
	🔘 Clear All History Data
) Print	Horizontal Print     O Print Vertically



If this function is selected, the selected macro will be executed when the component is pressed down or released. The "Macro Instruction" dialog will pop up if you click the button "Macro Code" or "Edit". You can select or create a macro here, or edit the current macro.

System Operation"Touch Panel Calibration"

By using this function, the user can enter the touch control calibrating window. Screen touch control calibration for HMI can be realized in this window.

"Import/Export"

When this function is selected, the project or prescription data can be imported or exported. This function must be used together with the file view box, and it only supports the HMI with USB HOST or SD card slot.

Action:	Press	•
Function Setting:		
Keyboard Function	Return *	
Execute Macro	macro_1 * Mad	ro Code Edit
Sysem Operation	Touch Panel Cal	ibration
	Import/Export	Import Project to 💌
	Save Screensho	
	Clear Event	Export Project from HMI Import Recipe to HMI
	Clear All Formul	Export Recipe from HMI
	Clear RW	
	Clear All History	Data
) Print	lorizontal Print	O Print Vertically

"Save Screenshot to Extended Memory"

When this function is selected, the touch screen picture can be captured and saved into an external memory device in the bmp format for printing or viewing HMI picture. And this function only supports the HMI with USB HOST or SD card slot.



Action:	Press 🔹
Function Setting:	
Keyboard Function	Return 👻
C Execute Macro	macro_1 🔹 Macro Code Edit
Sysem Operation	Touch Panel Calibration
	Import/Export Import Project to
	Save Screenshort to Extended Memory USB1
	Clear Event
	Clear All Formula
	◯ Clear RW
	Clear All History Data
D Print	Horizontal Print      O Print Vertically
Help	OK Cancel

"Clear Event"

This function can be used to clear warning events in groups.



witch	Indicator Light	Lable	Graphics	Dynamic Graphi	s Contro	l Setting	s Display		
Swite	h Function								
Action		Fs Fur	nction Key A	Attributes				×	
Press		© F	ction Settin	unction Return cro macro_1 ration © Touch © Import © Save S © Clear E	Panel Calib /Export I creenshort ventFrom II Formula W	mport Pr to Exten 1[0] T 1[0] A 2[0] 3[0]	ded Memor	y USB1 +	
N Add Fu	Nove Up	0 P	rint Help	© Clear A	ntal Print	5[0]	t Vertically	Cancel	Modify Recipe Transfer
Help	Description					11[0] 12[0] 13[0] 14[0]			OK Cance

"Clear All Formula"

This function can be used to clear all prescription data.

"Clear RW"

This function can be used to clear all RW data saved in power failure.

"Clear All History"

This function can be used to clear all history data. It can be used together with other switch components.

### 4.6.1.5Data Transferring

The "Data Transferring" component can be used to transmit the data saved in one or more continuous addresses to another one or other more continuous addresses.



# HCTDesigner SOFTWARE MANUAL

🖥 Data Transfer	
Action: Press   Twoway Tran	nsfer (If Conflicted, Source Address First)
Data Transfer	
Data Type: 💿 Word 🔘 Bit Transmissi	ion words Constant
Source Address:	Destination Address:
Use Address Tag	🔲 Use Address Tag
Deivce: LOCAL:[Local Register]	Deivce: LOCAL:[Local Register]
Address Type: LW  Address: 0 System Register Format(Range) DDDDDD(0	Address Type: LW  Address: 0  System Register Format(Range) DDDDDD(0
🔲 Address Index	Address Index
Help(H)	OK Cancel

### Action

The attribute "Action" can be "Press" or "Release". When "Press" is selected, data transmission will be started when the component is pressed down. When "Release" is selected, data transmission will be executed when the component is released.

#### Data Type

The "Data Type" means the type of data to be transmitted. It can be "Bit" or "Word".

### Transmission words

It means the number of data transmitted at one time. It can be set "Constant" or "Variable". If set "Variable", the register address must be designated. The maximum number of words transmitted in this software is 8192.

#### Source Address

The "Source Address" means the first address of the data to be transmitted. The detailed can be seen in the <u>Detailed manual/General functions/Address editor/Standard Bit Address Input</u> or <u>Detailed manual/General functions/Address editor/Standard Byte Address Input</u>.

### Destination address

The "Destination address" means the first address of data transmission target. The detailed can be seen in the <u>Detailed manual/General functions/Address editor/Standard Bit Address</u> Inputor Detailed manual/General functions/Address editor/Standard Byte Address Input.

#### 4.6.1.6Recipe Transmission



The "Recipe Transmission" component includes two transmission directions: "Download recipe to PLC" and "Upload recipe from PLC". "Download recipe to PLC" means transmitting the content of the recipe file to the address of PLC. "Upload recipe from PLC" means transmitting data from the address of PLC to the recipe file.

Fs Recipe Transfer		uro naar			×
Action:	Press	•			
Transmission Direction	Download recipe t	to PLC	Number of words		
E	Recipe source addres	is:	• 0	Open the I	Recipe Settings
	PLC Addres	is.			
	OUpload Recipe fro	om PLC			
🔲 Notice Bit Addre	ess				
Help(H)				ОК	Cancel

# • Download recipe to PLC

It is the default for the "Transmission Direction".

### Recipe source address

When no recipe file is created, the "Recipe source address" will be blank with a red exclamatory mark. You can click the button "Open the Recipe Settings" to create recipe. After the recipe is created, you can select it in "Recipe source address" to download.



# HCTDesigner SOFTWARE MANUAL

Recipe Transfer	
Action: Press	•
Transmission Direction  Open Download recipe to	PLC Number of words 4
Recipe source address:	RP_A
PLC Address.	MW100
🔘 Upload Recipe from	PLC
▼ Notice Bit Address LB10	
Note:During the recipe downloading or u	
After the transfer is finished, "Notice	Bit" will be OFF.
Help(H)	OK Cancel

Notice:

The "Number of words" is determined by the recipe itself, and it always displays automatically.

### PLC Address

"PLC Address" means the target address for recipe file data transmission. It can be the address of PLC connected to HMI or an internal address of HMI. The detailed address editing method can be seen in: <u>Detailed manual/General functions/Address editor/ Standard Byte Address Input</u>.

### Notice Bit Address

A bit address can be set here to monitor the recipe downloading state. The address editing method can be seen in: <u>Detailed manual/General functions/Address editor/Standard Bit Address</u> <u>Input</u>. This bit address will be kept on during the recipe downloading or uploading, and it will be set to OFF after transmission.

### • Upload Recipe from PLC

If the "Upload Recipe from PLC" is selected, the recipe uploading function will be activated.



Es Recipe Transfer					<b>×</b>
Action: Pres	s	•			
Transmission Direction 🔘 D	ownload recipe to	PLC			
	pload Recipe from	PLC.	Number	f words 4	
0	pload Recipe from	PLC	Number o	words 4	
PL	C Source Address:	MW200	)		~
	Recipe address:	RP_A		•	Open the Recipe Settings
Votice Bit Address	LB10				
Note:During the recipe After the transfer	downloading or u is finished, "Notice			Bit" will alwa	ays be <mark>ON.</mark>
Help(H)				(	OK Cancel

The detailed operation of the recipe uploading can refer to the recipe downloading.

# 4.6.2 Indicator Light

# 4.6.2.1Bit Indicator Light



🕞 Switch/Indicator Light		8 X
Switch Indicator Light Lable Grap	hics Dynamic Graphics Display	
Display Mode: Register Control		
Address: LB0 Status No.: 2 + When more than one state condition	ms are met, the	Condition:
minimum entry valid state.           Status         Condition         Tag Content           0         LB0 OFF	Blink Frequency(0	PositiveLogic
1 LBO ON	None	Flash Mode: None
Help Description:		OK Cancel

### • Display Mode

The "Display Mode" can be "Register Control" or "Automatic looping". The details are referred to: <u>Detailed manual/General functions/Drawing/Display Mode</u>.

Bit Register

The component is a bit indicator when "Bit Register" is selected. The method to input bit address can be seen in: <u>Detailed manual/General functions/Address editor/Standard Bit Address</u> <u>Input</u>.

• Status No.

The status of a bit address can be ON or OFF. So it is 2 here in default and can not be modified.

- Condition
- Positive Logic

State 0 is OFF and state 1 is ON.

Negative LogicState 0 is ON and state 1 is OFF.

• Flash Mode



It includes three modes: "None", "Blink Text" and "Blink Picture". You can select each status in left table and then set the flash mode for the status selected.

NoneIt means no flashing.

Blink TextText can flash in a frequency.

Blink PicturePicture can flash in a frequency.

• Flash Freq.

Picture or text will flash in a designated frequency. The frequency can be a multiple of 0.1 second.

Detailed attribute information of the current bit indicator light can be seen in the table at the left bottom.

	icator Light	Lable Graphics	Dynami	c Graphics	Display	
Use India	ator					
		jister Control ▼		1.5%		
© 1	Bit Register	Word Register	Combine	ed Bits		
Ad	ldress: L	WO	6			
	25555	state conditions ar	e met, th	e		Condition:  Range Bit     Read Value   ==   A(0)
Status	- 7000000	Tag Content	Blink	Frequency	a	
0	LW0 == 0		None			A Constant • 0
1	LW0 == 1		None			
2(Error)	Other		None			
						Flash Mode: None 🔻
						Flash Freq.: 5 🚖 x0.1S
					_	
Illegal Inp	ut: @ Show	Error Status 🔘 Kee	ep Currer	nt Status		
-	ut:		ep Currer	nt Status		

### 4.6.2.2Word Indicator Light

Display Mode





The "Display Mode" can be "Register Control" or "Automatic looping".

• Word Register

The component is a word indicator when "Word Register" is selected. The method to input bit address can be seen in: <u>Detailed manual/General functions/Address editor/Standard Byte</u> <u>Address Input</u>.

• Status No.

The range of the status number is 1~256. Each status corresponds to the value of the word address. When many statuses satisfy the condition at the same time, only the status with the minimum value will be effective.

- Condition
- Range

The status content (value) will be determined according to the comparison and logic operation result of the word address value. The comparison operation includes ">", "<", ">=", "<=", "==" and "!=". The logic operation can be "AND", "OR" or "None".

Condition:	Range	🔘 Bit
Read Value ==	• A(0)	AND •
Read Value <	• B(1)	
A Constant •		0
B Constant •		1 💌

### ≻ Bit

Text or picture can be displayed according to the state of one bit of the word address, e.g.: bit LW0.1 of address LW0.

"Positive Logic" means that State 0 is OFF and state 1 is ON.

"Negative Logic" means that State 0 is ON and state 1 is OFF.

• Flash Mode

It includes three modes: "None", "Blink Text" and "Blink Picture". You can select each status in left table and then set the flash mode for the status selected.

NoneIt means no flashing.





Blink Text

Text can flash in a frequency.

Blink PicturePicture can flash in a frequency.

• Flash Freq.

Picture or text will flash in a designated frequency. The frequency can be a multiple of 0.1 second.

Detailed attribute information of the current word indicator light can be seen in the table at the left bottom.

0	LW0 Bit0 OFF	:		Text	5
1	LW0 == 1			Picture	5
2(Error)	Other			None	
llegal Inp	ut: 💿 Show Er	ror Statu	s 🔘 Keep (	Current S	itatus

# Illegal Input

The value of word address doesn't satisfy the condition preset.

### Show Error Status

The indicator displays the "Error" status when illegal input happened. That is the last status displayed in the table.

### Keep Current status

The indicator keeps the current status when illegal input happened.

# • Error Notification

You can select a bit address here. It will be set to ON if the word address value doesn't satisfy with the condition. It will be set to OFF when the condition is satisfied.

### 4.6.2.3Multi Bit Combination Indicator Light



Fs Switch/Indi	cator Light			8 <b>x</b>
Switch Ind	icator Light Lable Graphics I	Dynamic Graphic	s Display	
Use India	ator			
Display N	Node: Register Control 💌			
© 6	Bit Register 🔘 Word Register 🖲 C	ombined Bits	Bit No.:	2 ▲ Data Type: Unsigned ▼
Starting	Address: LB0			
27.25	o.: 3 ♥ ore than one state conditions are entry valid state.	met, the		Condition: <ul> <li>Range</li> <li>Read Value</li> <li>A(1) None</li> </ul>
Status	Condition	Tag (Blink	Fre	
0	Multi Bit Combination Value > 1	None		A Constant • 1
1	Multi Bit Combination Value > 1	None		
2	Multi Bit Combination Value > 1	None		
3(Error)	Other	None		
				Flash Mode: None 🔻
				Flash Freq.: 5 x0.1S
				nasii rieq.
Illegal Inp	out: 💿 Show Error Status 🔘 Keep	Current Status		
	N C C			
Error	Notification LB0			
Help	Description:			OK Cancel
пер	Description:			

Display Mode

The "Display Mode" can be "Register Control" or "Automatic looping".

• Combined Bits

The status displayed is determined by a multi bit combination condition.

• Bit No.

The condition can be a combination of 2~32 bits. The "Bit No." means the number of bits.

- Data Type
- Unsigned

If the number of bits is n, the combination value will be 0~2n-1.

- Signed
- If the number of bit is n, the combination value will be -2n-1~2n-1-1.
- Starting Address

The starting address is closely associated to the number of bits. For example, if the starting address is LB0 and the number of bits is 2, a combination will be formed. LB1 will be the high bit and LB0 will be the low bit. The range of 2 bits combination value will be 0~3 if the data type is unsigned. The range of 2 bits combination value will be -2~1 if the data type is signed.



Status No.

The range of the status number is 1~256. Each status corresponds to the value of the word address. When many statuses satisfy the condition at the same time, only the status with the minimum value will be effective.

- Condition
- Range

The status content (value) will be determined according to the value of the combined bits. The comparison operation includes ">", "<", ">=", "<=", "==" and "!=". The logic operation can be "AND", "OR" or "None".

Cond	dition:		0	Range			
Read	l Value	==	•	A(0)	AND	•	
Read	l Value	<	•	B(1)			
A	Constant	•				0	v.
в	Constant	•				1	*

• Flash Mode

It includes three modes: "None", "Blink Text" and "Blink Picture". You can select each status in left table and then set the flash mode for the status selected.

NoneIt means no flashing.

Blink TextText can flash in a frequency.

Blink PicturePicture can flash in a frequency.

• Flash Freq.

Picture or text will flash in a designated frequency. The frequency can be a multiple of 0.1 second.

Detailed attribute information of the current component can be seen in the table at the left bottom.



Status	Condition	Tag	Blink	Free
0	Multi Bit Combination Value == 1		None	
1	Multi Bit Combination Value == 2	į, l	None	ĺ.
2	Multi Bit Combination Value == 3		None	
3(Error)	Other	1 1	None	
3(21101)	Jother			

## Illegal Input

The multi bit combination value doesn't satisfy the condition preset.

### Show Error Status

The indicator displays the "Error" status when illegal input happened. That is the last status displayed in the table.

### Keep Current status

The indicator keeps the current status when illegal input happened.

### • Error Notification

You can select a bit address here. It will be set to ON if the multi bit combination value doesn't satisfy the condition. It will be set to OFF when the condition is satisfied.

### 4.6.2.4Display Mode

You can find the "Display Mode" if you check the "Use Indicator" in the property TAB of "Indicator Light". The display modes include "Register Control" and "Automatic looping".

### 4.6.2.4.1 Register mode

The "Register Control" mode can be Bit Registers, Word Registers or Combined Bits.



Switch/Ind	licator Light						? <mark>-</mark> ×
Switch Inc	dicator Ligh	t Lable Graph	nics Dynan	nic Graphics	Display		
Use Indi	icator						
Display	Mode: Re	egister Control 🔻	-				
		Ow 15 1.	- 	L p's			
	Bit Kegister	r  Wor <mark>d R</mark> egist					
A	ddress:	LBO					
						Condition:	
Status N	lo.: 2	A V				condition.	
	ore than on	ne state condition	ns are met, t	he		PositiveLog	jic 💿 NegativeLogic
	n entry valid				7	0.11.1113	
		Tag Content	Blink	Frequency(0			
0	LB0 OFF LB0 ON		None None		-		
1	LBUON		INone				
							]
						Flash Mode: No	one 🔻
						Flash Freq.:	5 🔶 x0.1S
Help	Descriptio	on:					OK Cancel

# 4.6.2.4.2 Automaticlooping

All the status will be cycled to display according to the specified frequency if the display mode is "Automaticlooping". The unit of frequency is 100 milliseconds. The setting is shown as below.



🕞 Switch/Indicator Light	? 🔀
Switch Indicator Light Lable Graphics Dynamic Graphics Display	
✓ Use Indicator	
Display Mode: Automatic loopir 🔻 Frequency: 1 🔦 x100ms	
Status No.: 2	
Help Description:	OK Cancel

# 4.6.3 Numeric Value and Character Display

# 4.6.3.1Numeric Value Display

### 4.6.3.1.1General

• Operation Attribute

The "Operation Attribute" includes four operation types: "Numeric Display"," Numeric Input"," Character Display" and "Character Input". The operation type of this current component can be modified here. It is highly efficient for the project modifying and maintaining.



General Number Format Font Graphics Dynamic Graphics Display Operation Attribute:  Numeric Display  Numeric Input  Characters Display  Characters Input	
Operation Attribute: 💿 Numeric Display 💿 Numeric Input 💿 Characters Display 💿 Characters Input	
☐ Password Read Address: ☐ Use Address Tag Deivce: LOCAL:[Local Register]	
Address Type: LW  Address: 0  System Register Format(Range) DDDDDD(0 Occupy: 1  Word Address Index	
Help Description: OK	Cancel

• Password

When the "Password" is checked, "\*" will be displayed in the component (See the figure below). It is always used for the numeric value input component. The numeric value display component is not used generally.

•		•	•	•	•		•	•	•		•	•	•		•	•	•		•	•	•	•	•	•	•		•	•	•	
•	•	•	•	•	•		•		•			•		•		•	•			•	•		•	•	•		•	•	•	
•	'n	÷			-	-	-		-	-				-		ir i														
•	ł	•	•	•	÷.	•	. •			٠.	•		÷.	•	•	Ŀ.	22		•	•	22	•	•	•	2	•	•		2	
•	ł	•	•	•	*	• •	*	7	ŧ٠	*					•	ł	•	•	•	•	•	•	•	•	•	•	•	•	•	
•	t	•	•	•	•	•	•	•	•	•	•	•		•			•		•		•	•		•	•			•		
•	Ł		•		•	÷	•	•	•		•	•	•	1		÷.														
•	÷	•	•	•		•	•	•		•	•	•	1		ः	٠.	22				22	•			22	•			2	
•			•	•	•		•	•	•		•	•	•		•	•			•	•	•		•	•	•		•	•	•	
•	•		•		•	•		•	•	•	•	•	•				•				•			•	•				•	
•									۰.				с.				۰.				۰.									
•	5	•	•		22	•			22		•		22		85		22		•		22	•			22				22	
•			•				•	•	•		•	•							•				•	•			•	•		
•																					•									
•									۰.				٥.																	
•		•	•	•	22	•	•	•	22		•	•	22	52	•		22		•		22	•	•		22	•	•	•	22	
		2			۰.				۰.	- 22			۰.		1.		۰.	- 22	÷.		۰.	- 22			۰.	- 22				

- Read Address
- Use Address Tag



	c Display			-?
General	Number Format	Font Graph	nics Dynamic Graphics Display	
Operati	on Attribute: 💿	Numeric Displa	ay 🔘 Numeric Input 🔘 Characters Display 🔘 Characters Input	
			Password	
Read A	Address:			
🚺 Use	Address Tag Ru	inning Time		
Deivce:	LOCAL:[Local Ru	inning Time otor Speed		
		oner op oor		
Addres	s Type: LW			
Addres		Sve	item Register	
	(Range) DDDDDD			
- Crimat	(Range) DDDDDD	(o occup).		
M Add	ress Index			
Aud	ress maex			
	Description:		OK	Cancel

When this function is checked, variables in the address tag library can be directly linked by the component (See address tag library details in:<u>Detailed manual/Library/Address Tag Library</u>). The address tag library can be used to improve the project maintaining efficiency. If many components in the project are linked to a same variable in the address tag library and this address need to be modified, it is only necessary to modify the variable address linked in the tag library without modifying each component.

Address setting



eneral	Number Format	Font	Graphics	Dynamic Graphics	Display	
Operatio	on Attribute: 💿 N	lumerio	: Display (		) Characters Display 🔘 Characters Input	
				Passwor	rd	
Read A	ddress:					
Use	Address Tag					
Deivce:	Device1:[Ethernet	PLC:SI	EMENS S7-	1200 1 -		
Station	No.: 1 🚔 🔲 I	ndex				
	-					
	s Type: MW		•			
Addres				Register + Word		
-	(Range) DDDD(0~2	2000	cupy:	+ Word		
	Normal					
	ligh Speed					
	ow Speed					

The address setting includes the attributes : "Device", "Address Type", "Address", "Format (Range)", "Address Index", and so on. Please see: <u>Detailed manual/ General functions/ Address</u> editor/ Standard Byte Address Input.

## 4.6.3.1.2Number Format

• Data Type

The "Data Type" can be "16-bit Signed", "16-bit Unsigned", "32-bit Signed", "32-bit Unsigned", "16-bit BCD", "32-bit BCD", "16-bit Hexadecimal", "32-bit Hexadecimal", "16-bit Binary", "32-bit Binary" or "Single precision floating point number".



Fs Numeric Displa	у	? <mark>-</mark> ×
General Numb	er Format Font Graphics Dynami	c Graphics Display
Data Type:	16-bit Unsigned 🔻	
Integer digi	16-bit Signed 16-bit Unsigned	0 🚔 🔲 Display Positive Sign 🔲 Zero Padding Left
Upper/Lowe	32-bit Signed 32-bit Unsigned	
Minumum:	16-bit BCD 32-bit BCD	Below Lower:
Maximum:	16-bit Hexadecimal 32-bit Hexadecimal	Over Upper
- 🔲 Enable Nu	16-bit Binary 32-bit Binary Single precison floating point number	
Help De	scription:	OK Cancel

• Data setting

The "Data setting" includes "Integer digits", "Decimal Point", "Display Positive Sign" and "Zero Padding Left".



🕫 Numeric Display	? 🔀
General Number Format Font Graphics Dynamic Graphics Display	
Data Type: Single precison floating point number 🔻	
Integer digits 4 🗙 Decimal Point: 2 🗙 🖉 Display Positive Sign 🖉 Zero Padding Left	
Upper/Lower Limit of Number	
Minumum: Constar -9999.99	
Maximum: Constar 🔻 9999.99 🚖 🔲 Over Upper	
Help Description:	OK Cancel

The "Integer digits" means the integer digit number of the data. The "Decimal Point" means the decimal digit number of the data.

Note: when the data type is an integer and the decimal bit is not zero, the value displayed will reduce to satisfy the decimal digit number. For example, if the data is an integer "55" and two decimal bits are set, the value displayed will be "0.55". In fact, only the value and the type of the data displayed can be modified by this function. The actual value and the actual type are not modified. It is still the integer "55".

• Upper/Lower Limit of Number



Numeric Displa	у				?
General Numb	er Format Font	Graphics Dynamic	Graphics Display	9	
Data Type:	Single precison fl	oating point number	•		
Integer digit	ts 4 🗘 [	Decimal Point:	2 🔹 📝 Display I	Positive Sign 📝 Zero Padding	Left
	r Limit of Number		-		
				<u></u>	
Minumum:	Constar 🔻	-9999.99 👻	Below Lower:	Color for exceedin 👻 🧷	🛛 🗹 Flicker
Maximum:	Constar 👻	9999.99 🚖	Ver Upper	Color for exceeding 💌 🍠	🛛 🔽 Flicker
Help Des	scription:				OK Cancel

You can set the data upper limit in "Minimum" and the data lower limit in "Maximum". And you can set the font color of the data beyond the limit. When the "Flicker" is checked, the text will flash when the data is less than the lower limit or greater than the upper limit.

- Enable Number Operation
- Proportion convert



s Numeric Display	? ×
General Number Format Font Graphics Dynamic Graphics Display	
Data Type: Single precison floating point number 👻	
Integer digits 4 🔦 Decimal Point: 2 🔦 🖉 Display Positive Sign 🖉 Zero Padding Left	
Upper/Lower Limit of Number	
Minumum: Constar 🔹 500.00 🗢 🕼 Below Lower: Color for exceedin 👻 🖉 Flicker	
Maximum: Constar  1000.00 V Vover Upper Color for exceeding V Flicker	
Enable Number Operation	
Proportion Convert     Explain	
Minimum Constant   0  Maximum Constant   100	
	_
© Zoom Explain	
Gains: Constant * 1 A Offset: Constant * 0 A	
O Logic Operation Result = Source AND + Constant + 0	
O Shift Result = Source Turn Left → 0 → Bit	
Help Description: OK	Cancel

When the function of "Proportion Convert" is activated, the value displayed will be the result after proportional conversion. The proportional conversion formula is displayed when you click the button "Explain".

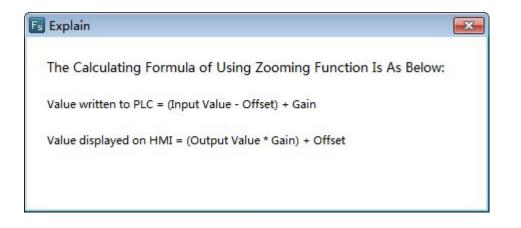
Fs Explain	X
The Calculating Formula of Using Proportional Conversion Function is As Below	N:
Write PLC Value =Minimum Input Value+ (Output Value-Minimum Ratio Value)*(Maximum Output Value-Minimum Input Value)/(Maximum Ratio Value-Minimum Ratio Value)	
HMI Indicating Value= Minimum Ratio Value+ (Output Value-Minimum Input Value)* (Maximum Ratio Value-Minimum Ratio Value)/(Maximum Input Value-Minimum Input Valu	e)

➤ Zoom



F Numeric Display	? ×
General Number Format Font Graphics Dynamic Graphics Display	
Data Type: Single precison floating point number 🔹	
Integer digits 4 🖕 Decimal Point: 2 🚔 🖉 Display Positive Sign 🖉 Zero Padding Left	
Upper/Lower Limit of Number	
Minumum: Constar 🔹 500.00 🚔 🖉 Below Lower: Color for exceedin 👻 🍠 Flicker	
Maximum: Constar 🔹 1000.00 😴 🖉 Over Upper 🚺 Color for exceeding 👻 📝 Flicker	
☑ Enable Number Operation	
Proportion Convert     Explain     Minimum     Constant      Or     Maximum     Constant      100     T	
© Zoom Explain     Gains: Constant ▼ 1 ↓ Offset: Constant ▼ 0 ↓	
Constant • Constant • O	
◯ Shift Result = Source Turn Left → 0 ♣ Bit	
Help Description: OK	Cancel

When the function of "Zoom" is selected, the value displayed will be the result after zooming conversion. The zooming conversion formula is displayed when you click the button "Explain".



Logic Operation



Numeric Display	X
General Number Format Font Graphics Dynamic Graphics Display	
Data Type: 32-bit Signed 💌	
Integer digits 🛛 4 😴 Decimal Point: 0 👻 🗹 Display Positive Sign 📝 Zero Padding Left	
Upper/Lower Limit of Number	
Minumum: Constar 🔹 _9999 🌨 🕼 Below Lower: 🚺 Color for exceedin 👻 📝 Flicker	
Maximum: Constar 🔹 9999 🚖 🗹 Over Upper 📕 Color for exceeding 👻 🖉 Flicker	
Inable Number Operation	
Proportion Convert Explain      Minimum Constant * 0      Maximum Constant * 100	
© Zoom Explain Gains: Constant ▼ 1 ☆ Offset: Constant ▼ 0 ☆	
© Logic Operation Result = Source AND ▼ Constant ▼ 0	
Shift Result = Source Turn Left ≠ 0 ♣ Bit	
Help Description: OK Can	icel

The data can be logically operated by the component which the logic operation can be "And", "Or" or "Exclusive or". And the result of logic operation will be displayed.

➤ Shift



Numeric Display	?
General Number Format Font Graphics Dynamic Graphics Display	
Data Type: 32-bit Signed 💌	
Integer digits 4 🗘 Decimal Point: 0 🐥 🗹 Display Positive Sign 🗹 Zero Padding Left	
Upper/Lower Limit of Number	
Minumum: Constar 🔹 _9999 🚔 🕼 Below Lower: Color for exceedin 👻 🖉 Flicker	
Maximum: Constar 🔻 9999 🚖 🕼 Over Upper 🚺 Color for exceeding 👻 🖉 Flicker	
Enable Number Operation	
Proportion Convert     Explain	
Minimum Constant v 0 A Maximum Constant v 100 A	
© Zoom Explain	
Gains: Constant v 1 ^ Offset: Constant v 0 ^	
© Logic Operation Result = Source AND → Constant → 0 → (Hex)	1
Shift Result = Source Turn Left ▼ 3 ♣ Bit	
Help Description: OK	Cancel

The data can be shifted left or right by the component. And the result of shifting operation will be displayed.

### 4.6.3.1.3Font

The detailed font setting can be seen: <u>Detailed manual/ General functions/ Drawing/</u> <u>Font Settings</u>.

#### 4.6.3.1.4Graphics

The detailed graphics setting can be seen: <u>Detailed manual/ General functions/</u> <u>Drawing/ Graphic edit</u>.

### 4.6.3.1.5Dynamic Graphics

The detailed graphics setting can be seen: <u>Detailed manual/ General functions/</u> <u>Drawing/ Dynamic Graphics</u>.

## 4.6.3.1.6Display

The detailed display setting can be seen: <u>Detailed manual/ General functions/</u> <u>Drawing/ Display</u>.



#### 4.6.3.2Numeric Value Input

The attributes setting of the "Numeric Value Input" component is generally same to the "Numeric Value Display" component. The differences are detailed as below.

### 4.6.3.2.1General

Password

Numeric	: Input							?
eneral	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
	on Attribute: 🛛 N ling And Writing Ac		Numer	ic Input ©	Characters Display	Characters Inp	ut	
Read A	ddress:							
🗸 Use	Address Tag Rur	ning Time	• ]	>				
Deivce:	LOCAL:[Local Reg	ister]		-				
	s: 0	System R 0 Occupy: 1	egister <mark>Wor</mark>					
Help	Description:						OK	Cancel

When the "Password" is checked, "\*" will be displayed in the component (See the figure below). It can be checked if the current component is used to input the password.

•	•	2		•	•			•	•	2	•	•	•	2	13	•	•		•	•	•		•	•	•		•	•	•	2	
		8.		•		۶.		•		۶.		•		۶.		•		े.		•		۰.				۰.		•		8.	
	e.	22	6.5			22	5		e.	22	40	e.	e.	22	40	e.	e.	2	60		e.	2	63		e.	2	63		e.	22	
•		1					÷	•						ir.	•		•		•		•			•	•			•	•		
•		•		•	•	۰.		•	•		•	•	•	8			•	•				•		•		•				•	
		•	•	•	*	+	ę.	*		<del>k</del>	*	•	•	ŀ		÷.		8.		۰.		а.		•		े.		•		8.	
	10	: I	•		•		•	•			•	•		ł.	40	1.5	10	1	41	1.5	10	1	2,5		10	1	0.5		10	22	
•	•	•	•	•	•		•	•	•	•	•	•	•	ł.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
•	•		•	•	•		•	•	•			•	•	۰.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
•		۰.		•		۶.		•		۶.		•		۶.		•		۶.		•		۰.		•		۰.		•		8.	
	100	22	2.5	1.5	10	22	20	1.5	10	22	4.5	100	6	22	4.5	120	100	22	6.5	1.5	100	22	6.5		10	22	6.5		10	22	
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
•		•		•		•		•	•	•		•	•	•		•	•	•		•	•	•		•	•	•		•	•	•	
						۰.		•		۰.		•		۶.		•		े.		•		े.				۰.				έ.	

• Reading Address" and "Writing Address



eneral	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display
Ope <mark>rati</mark>	on Attribute: 🛛 N	Numeric Display 🌘	Numer	ic Input ©	Characters Display	○ Characters Inp	ut
Read	ling And Writing Ad	ddress Is Different		Passwo	rd		
Read A	ddress:			Writ	e Address:		
Use	Address Tag			🔲 U	se Address Tag		
Deivce:	LOCAL:[Local Reg	gister]		Deiv	ce: LOCAL:[Local Re	gister]	•
Addres	s Type: LW s: 0	System R 0 Occupy: 1	egister Wor	Add	ress Type: LW ress: 0		Word
Add	ress Index				ddress Index		

The numeric value input component is integrated with functions of reading data from an address and writing data to an address. When the "Reading And Writing Address Is Different" is not checked, the using method is same to the "Numeric Value Display" component. When the "Reading And Writing Address Is Different" is checked, different address can be set in the "Read Address" and in the "Write Address".

### 4.6.3.2.2Keyboard Setting

See detailed functions in: <u>Detailed manual/ General functions/ Drawing/ Keyboard setting</u>.

### 4.6.3.3Character Display

# 4.6.3.3.1General

• Operating Attribute



# HCTDesigner SOFTWARE MANUAL

eneral Characters Setting	Font Graphics Dynamic Graphics Display	
Operation Attribute: 🔘 N	umeric Display 🔘 Numeric Input 🔘 Characters Display 🔘 Characters Input	
	Browse Method: 🕼 Scrollbar 🕼 Screen Scrollbar Width 20 ਵ	
	✔ ASCII  Password  Unicode  Swap the High byte and the Low byte	
Read Address:		
Read Address:		
Deivce: LOCAL:[Local Regi	ster] 👻	
Address Type: LW		
Address: 0	System Register	
Address Index		

The "Operation Attribute" includes four operation types: "Numeric Display"," Numeric Input", "Character Display" and "Character Input". If you want the current Character Display component change to the Character Input component or Numeric component, you can modify it here. It is highly efficient for the project modifying and maintaining.

Browse Method

The "Browse Method" includes "Scrollbar" and "Screen". You can select the "Scrollbar" or the "Screen" or both ways to browse the content of the current character component. The scrollbar width can be freely set. The "Screen" browse method is only effective for a capacitive screen.

Display Mode



	rs Display	8
General	Characters Setting Font Graphics Dynamic Graphics Display	
Operati	n Attribute: 🔘 Numeric Display 🔘 Numeric Input 💿 Characters Display Browse Method: 🗹 Scrollbar 📝 Screen Scro 🔽 ASCII Password Unicode Swaj	ollbar Width 20 💌
Read A	ddress:	
🔲 Use	Address Tag	
Deivce:	LOCAL:[Local Register]	
Addres Format	Type: LW  System Register Range) DDDDDD(0 Occupy: 1  Word ess Index	

# > ASCII

If it is checked, characters will be displayed in ASCII format. In this format, only ASCII characters will be displayed, including numbers, symbols and English letters. Chinese characters are not supported to display.

### Password

If it is checked, characters will be displayed in "\*" mode.

### Unicode

If it is checked, characters will be displayed in UNICODE. In the UNICODE mode, each Chinese character or English letter will occupy one character (two bytes).

### Swap the High byte and the Low byte

After the "ASCII" is checked, you can select the function "Swap the High byte and the Low byte".

- Read Address
- Use Address Tag



# HCTDesigner SOFTWARE MANUAL

Characters Display	? <mark>-</mark> X
General Characters Setting Font Graphics Dynamic Graphics Display	
Operation Attribute: <ul> <li>Numeric Display</li> <li>Numeric Input</li> <li>Characters Display</li> <li>Characters Input</li> <li>Browse Method:</li> <li>Scrollbar</li> <li>Screen Scrollbar Width</li> <li>20</li> <li>ASCII</li> <li>Password</li> <li>Unicode</li> <li>Swap the High byte and the Low byte</li> </ul>	
Read Address:          Image: Constraint of the second se	
Address Type: LW  Address: 0  System Register Format(Range) DDDDDD(0 Occupy: 1  Word Address Index	
Help Description: OK	Cancel

When this function is checked, variables in the address tag library can be directly linked by the component (See address tag library details in: <u>Detailed manual/Library/Address Tag Library</u>). The address tag library can be used to improve the project maintaining efficiency. If many components in the project are linked to a same variable in the address tag library and this address need to be modified, it is only necessary to modify the variable address linked in the tag library without modifying each component.

The address setting includes the attributes : "Device", "Address Type", "Address", "Format (Range)", "Address Index", and so on. Please see: <u>Detailed manual/ General functions/ Address</u> editor/ Standard Byte Address Input.

### 4.6.3.3.2Characters setting

Row Settings



Characte	rs Display				? 🗙
General	Characters Setting	Font	Graphics	Dynamic Graphics Display	
Row Set		per 1 per 1 ne 2 E" is no aracter er use E" is se acter o	ot selected, or each one word	Row Space Settings	
Help	Description:			OK	Cancel

The "Row Settings" includes "Total Row number", "Show Row number" and "Number of Characters per line". The "Total Row number" means the number of the rows which the current character component contains. The "Show Row number" sets the number of rows displayed in the current character component. If the number of rows displayed is smaller than the number of total rows, a scrollbar will appear automatically.

• Row Space settings



Row Settings Total Row number 1 Show Row number 1 Number of Characters per line 2
Notes: 1, If "Use UNICODE" is a each 2 ASCII character Chinese character use register. 2. If "Use UNICODE" is s each ASCII character of Chinese character use Shadow Effects Color: Shadow Deviation: X: 0 V:

A dialog will pop up when you click the "Row Space Settings" button. You can set the attributes such as "Horizontal scaling", "Line space", "Words space", "shadow Effects", and so on.

### 4.6.3.3.3Font

See detailed font setting in: <u>Detailed manual/ General functions/ Drawing/ Font</u> <u>settings</u>.

### 4.6.3.3.4Graphics

See detailed Graphics setting in: <u>Detailed manual/General functions/Drawing/Graphic</u> edit.

### 4.6.3.3.5Dynamic Graphics

See detailed Dynamic Graphics setting in: <u>Detailed manual/ General functions/</u> <u>Drawing/ Dynamic Graphics</u>.

### 4.6.3.3.6Display

See detailed display setting in: Detailed manual/General functions/Drawing/Display.



### 4.6.3.4Character Input

### 4.6.3.4.1General

• Operation Attribute

General Characters Setting Keyboard Setting Font Graphics Dynamic Graphics Control Settings Display   Operation Attribute:   Numeric Display Numeric Input Characters Display Characters Input   Browse Method: I Scrollbar Screen Scrollbar Width 20   Reading And Writing Address Is Different ASCII Password Unicode Swap the High byte and the Low byte   Read Address:   Use Address Tag   Deivce: LOCAL:[Local Register]	
Browse Method: Scrollbar Screen Scrollbar Width 20 Reading And Writing Address Is Different ASCII Password Unicode Swap the High byte and the Low byte Read Address: Use Address Tag Deivce: LOCAL:[Local Register]	
Reading And Writing Address Is Different ASCII Password Unicode Swap the High byte and the Low byte Read Address: Use Address Tag Deivce: LOCAL:[Local Register]	
Reading And Writing Address Is Different ASCII Password Unicode Swap the High byte and the Low byte Read Address: Use Address Tag Deivce: LOCAL:[Local Register]	
Read Address: Use Address Tag Deivce: LOCAL:[Local Register]	
Use Address Tag Deivce: LOCAL:[Local Register]	
Use Address Tag Deivce: LOCAL:[Local Register]	
Deivce: LOCAL:[Local Register]	
Address Type: LW 👻	
Address: 0 System Register	
Format(Range) DDDDDD(0 Occupy: 1 🚽 Word	
Address Index	

The "Operation Attribute" includes four operation types: "Numeric Display"," Numeric Input"," Character Display" and "Character Input". If you want the current Character Input component change to the Character Display component or Numeric component, you can modify it here. It is highly efficient for the project modifying and maintaining.

Browse Method

The "Browse Method" includes "Scrollbar" and "Screen". You can select the "Scrollbar" or the "Screen" or both ways to browse the content of the current character component. The scrollbar width can be freely set. The "Screen" browse method is only effective for a capacitive screen.

• Display Mode



Characte	ers Input						?
eneral	Characters Setting	Keyboard Setting Font	Graphics	Dynamic Graphics	Control Settings	Display	
Operatio	on Attribute: 🔘 Nur	meric Display 🔘 Numeric	Input O	haracters Display 🧕	Characters Input		
		Browse Method:	Scrollba			*	
		browse method.	Sci Oliba			•	_
Read	ing And Writing Add	ress Is Differen <mark>t 🗹</mark> ASCII	Password	🔲 Unicode 🔲 Swap	the High byte and	the Low byte	
Read A	ddress:						
🔲 Use	Address Tag						
Deivce:	LOCAL:[Local Regist	ter] 🔹 🔻					
	Turner	]					
Addres	s Type: LW s: 0	System Register					
	Range) DDDDDD(0						
🔲 Addı	ress Index						
Help	Description:					OK	Cance

## > ASCII

If it is checked, characters will be displayed in ASCII format. In this format, only ASCII characters will be displayed, including numbers, symbols and English letters. Chinese characters are not supported to display.

## Password

If it is checked, characters will be displayed in "\*" mode.

> Unicode

If it is checked, characters will be displayed in UNICODE. In the UNICODE mode, each Chinese character or English letter will occupy one character (two bytes).

Swap the High byte and the Low byte

After the "ASCII" is checked, you can select the function "Swap the High byte and the Low byte".

Read Address





Reading And Writing Address Is Different

The character input component is integrated with functions of reading data from an address and writing data to an address. When the "Reading And Writing Address Is Different" is not checked, the using method is same to the "Character Display" component. When the "Reading And Writing Address Is Different" is checked, different address can be set in the "Read Address" and in the "Write Address".

General Characters Setting Keybo	oard Setting Font Graphics Dynamic Graphics Control Settings Display
В	Display ONumeric Input Characters Display OCharacters Input Browse Method: Scrollbar Screen Scrollbar Width 20 - Different ASCII Password Unicode Swap the High byte and the Low byte
Read Address: Use Address Tag Deivce: LOCAL:[Local Register]	Write Address:         □ Use Address Tag         ▼         Deivce:         LOCAL:[Local Register]
Address Type: LW Address: 0 () Format(Range) DDDDDD(0 Occu	▼     Address Type: LW       System Register     Address: 0       py: 1     ▼       System Register     Format(Range) DDDDDD(0 Occupy: 1
Address Index	Address Index
Help Description:	ОК Саг

Use Address Tag



eneral 😡	Characters Setting	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settin	gs Display	
-	-							
peration	Attribute: 🔘 Nume	eric Display 🔘 Num	eric Inp	out 🔘 Char	racters Display 🧕 C	haracters Input		
		Browse Method:	1	Scrollbar	Screen Scrollba	r Width 20	*	
							•	
Reading	And Writing Addre	ss Is Different 🔽 ASC	II 📃 Pa	assword 📃	Unicode 🔲 Swap the	High byte and	the Low byte	
Read Add				7				
17.7	ress: dress Tag	-	20					
	CAL:[Local Running	Time						
eivce:	Motor S	Speed	*					
			0	J				
	(							
ddress T	•	*	_					
ddress:	0	System Regist						
ormat(Ra	nge) DDDDDD(0	Occupy: 1 - Wo	ord					
Addres	s Index							

When this function is checked, variables in the address tag library can be directly linked by the component (See address tag library details in:<u>Detailed manual/Library/Address Tag Library</u>). The address tag library can be used to improve the project maintaining efficiency. If many components in the project are linked to a same variable in the address tag library and this address need to be modified, it is only necessary to modify the variable address linked in the tag library without modifying each component.

The character address setting includes the attributes : "Device", "Address Type", "Adress", "Format (Range)", "Address Index", and so on. Please see: <u>Detailed manual/ General functions/</u> <u>Address editor/Standard Byte Address Input</u>.

### 4.6.3.4.2Characters Setting

• Row Settings



Characte	ers Input							-?
eneral	Characters Setting	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
Row Set	ttings			D	· C-#'			
	Total Row numb	er 1		Row Space	e Settings			
	Show Row numb	er 1						
lumber	of Characters per lir	e 2 🗘						
Notes:	<ol> <li>If "Use UNICODI each 2 ASCII cha Chinese characte register.</li> <li>If "Use UNICODI</li> </ol>	racters or each r use one word " is selected,						
	each ASCII chara Chinese characte		5 () 					
Help	Description:						OK	Cance

The "Row Settings" includes "Total Row number", "Show Row number" and "Number of Characters per line". The "Total Row number" means the number of the rows which the current character component contains. The "Show Row number" sets the number of rows displayed in the current character component. If the number of rows displayed is smaller than the number of total rows, a scrollbar will appear automatically.

### Note:

If "Unicode" is not checked, each two ASCII characters or each one Chinese character occupies one word register.

If "Unicode" is checked, each ASCII character or each Chinese Character occupies one word register.

• Row Space settings



A dialog will pop up when you click the "Row Space Settings" button. You can set the attributes such as "Horizontal scaling", "Line space", "Words space", shadow color and shadow deviation.

### 4.6.3.4.3Keyboard Setting

See detailed setting in: Detailed manual/General functions/Drawing/Keyboard setting.

### 4.6.3.4.4Data font

See detailed font setting in: Detailed manual/General functions/Drawing/Font settings.

### 4.6.3.4.5Control Settings

See detailed control setting in: <u>Detailed manual/ General functions/ Drawing/ Control</u> <u>settings</u>.

#### 4.6.3.4.6Display

See detailed display setting in: Detailed manual/General functions/Drawing/Display.

### 4.6.4 Toggle Switch and menu



#### 4.6.4.1Bit Switch

The "Bit Switch" is used to set the action, switch type and text display of the bit switch which is used to change the bit state.

🖪 Toggle Switch	? <mark>X</mark>
General Toggle Switch Graphics Dynamic Graphics Control Settings Display	
Type:         Bit toggle switch	
Reading Address and Writing Address Are Different	
Read and Write Address	
🔲 Use Address Tag	
Deivce: LOCAL:[Local Register]	
Bit-index within a Byte Register	
Address Type: LB	
Address: 0 🔄 System Register	
Format(Range) DDDDDD(0	
Address Index	
Help Description: OK	Cancel

The "Bit Switch" component can be found on the tool bar or from the menu of Components.



ile View Edit V	Vindow Drawing Component Library N 🗈 🗐 📇 🗙 🖾 Undo 🕶 🍽 Redo 🕶 🔩	Macro Ro
S <sub>0</sub> S <sub>1</sub> S <sub>2</sub> S <sub>3</sub> Stat	us0 🔹 🛄 🗳 🖾 🖂 1-English (United	Sti 🕶 🎈
1123 - 💡 - 123 -	≝ - ⊘ - ≣ - ⋈ - ┉ - ☴ ቀ	· • 💂 i I
No. of the second se	Bit Switch	
	123 Word Switch	
	Check list and selection boxes	11111
Contraction accession of the second sec	📑 The Drop-down List	
	File Browser Box	
	🔮 User Privilege	
		」::::::
a and a second and a second		

	Com	ponent Library Macro Recipe Setup	Т	ools	Help
1		Switch	۲	1 1	F & #   🕾 AL 🕄 🤫   🐂 🖷 🖷 🖕
	9	Indicator Light	۲	B	1:Basic Window(1) 🔹 💽 🛅 🕫
0	123	Numeric Value and Character Display	٠	6	
	ню	Toggle Switch and menu	۲	НЮ	Bit Switch
	0	Timer and Data Transmission	٠	123	Word Switch
:		Bar And Meter	۲		Check list and selection boxes
	100	Curve Graphs	۲		The Drop-down List
	haal	Scale	۲	٩	File Browser Box
•		Table	۲	3	User Privilege
	-0-	Slider	٠	1.	
:	\$	Moving Component	۲	11	
	tan Kan	Window	٠		
	<b>6</b>	List	٠		
	1	Tools	۲	: : : :	
	4	Pipeline	٠		54 1.154 1.154 1.154 1.156 1.156 1.156
12					

### 4.6.4.1.1 General

See details for bit address setting in: <u>Detailed manual/ General functions/ Address editor/</u> <u>Standard Bit Address Input</u>.

### 4.6.4.1.2 Toggle Switch

On the page of "Toggle Switch", you can set "Press" or "Release" for the action. And the switch type can be "On", "Off", "Inverse" or "Reset".



Fs Toggle Switch	?
General Toggle Switch Graphics Dynamic Graphics Control S	ettings Display
Action: Press SwitchType: On Characteristic Con Off Language Independent Off Language: 1-English (United S Characteristic Con Off Inverse Reset Text Library Vise Text Library Text Library Vise Label Adaptive label size Tag Contents Save Contents To Text Library	Import from Favorite Font Templates.(I) Vector Font  Graphic Font Font: Microsoft Sans Serif  Size: 16  B Z  Multi-line Alignment: TT Advanced Microsoft Sans Serif
Copy Text to: All Status All Languanges All Set label position by language state separately. Pos.: Left Right: AA Top Bottom: AA Marquee	Copy Attr. to: All Status All Languanges All          Index       Correspond       Tag Contents         0       0         1       1
Help Description:	OK Cancel

Details for "Language" selection can be seen in:<u>Detailed manual/Setup/System Settings/</u> Language Settings.

Details for "Import Favorite Font Template" can be seen in: <u>Detailed manual/Setup/System</u> <u>Settings/Favorite Font Template</u>.

Details for "Text Library" can be seen in: Detailed manual/Library/Text Library.

Details for "Marquee" setting can be seen in: <u>Detailed manual/ General functions/ Drawing/</u> <u>Marquee</u>.

### 4.6.4.1.3 Graphics

Details for Graphics can be seen in: <u>Detailed manual/ General functions/ Drawing/ Graphic</u> <u>edit</u>.

### 4.6.4.1.4 Control Settings



Details for control settings can be seen in: <u>Detailed manual/ General functions/ Drawing</u> <u>/Control settings</u>.

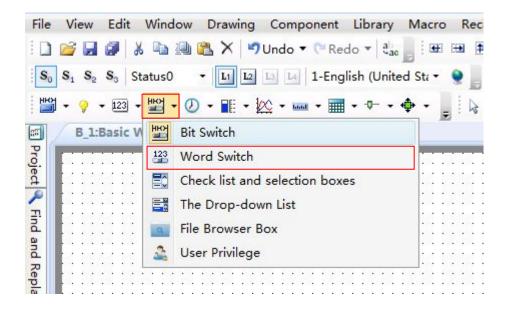
### 4.6.4.1.5 Display

Details for display setting can be seen in: <u>Detailed manual/ General functions/ Drawing</u> /<u>Display</u>.

### 4.6.4.2Word Switch

The word switch is used to set the action and text display for word address states.

The "Word Switch" component can be found on the tool bar or from the menu of Components.





	Switch		1 11	t 🐠 😐 🛛 🔛 💷 🧐 🔛 🥦 🖷 🖷		
9	Indicator Light	۲	B	1:Basic Window(1) 🔹 💽 🛅 🕫		
123	Numeric Value and Character Display	٠,	0			
ню	Toggle Switch and menu	۲	НЮ	Bit Switch		
Ø	Timer and Data Transmission	• 123		3 Word Switch		
	Bar And Meter	•		Check list and selection boxes		
100	Curve Graphs	•		The Drop-down List		
haad	Scale		٩	File Browser Box		
	Table	•	3	User Privilege		
-0-	Slider	•				
\$	Moving Component	۲	111			
E C	Window	۲	11			
	List	٠				
-	Tools	٠	::			
	Pipeline	3	1.1	ana kanana kanan kanan kanan kanan kanan k		

## 4.6.4.2.1 General



🕫 Toggle Switch	? <mark>×</mark>
General Toggle Switch Graphics Dynamic Graphics Control Settings Display	
General       Toggle Switch       Graphics       Dynamic Graphics       Control Settings       Display         Type:       Bit toggle switch       Image: Word toggle switch       Image: Word toggle switch         Reading Address and Writing Address Are Different       Read and Write Address       Image: Word toggle switch         Read and Write Address       Image: Word toggle switch       Image: Word toggle switch       Image: Word toggle switch         Deivce:       LOCAL:[Local Register]       Image: Word toggle switch       Image: Word toggle switch         Address       Image: System Register       Image: System Register       Image: System Register         Format(Range)       DDDDDDDD(0 Occupy: Image:	
Help Description: OK	Cancel

See details for word address setting in: <u>Detailed manual/General functions/Address</u> <u>editor/Standard Byte Address Input</u>.

### 4.6.4.2.2 Toggle Switch

On the page of "Toggle Switch", the action can be set "Press" or "Release". The switch type can be set to "Add" or "Subtract". if "Non-cyclic" is checked and the switch type is "And", it will stop adding when the result exceeds the maximum value. If "Non-cyclic" is not checked for the "Add" switch type, it will start to shift again from the minimum value when the result reaches the maximum value. The "Status" can be set directly or by the Up or Down arrows.



ggle Switch neral Toggle Switch Graphics Dynamic Graphics Contro	l Settings Display
Action: Press SwitchType: Add Non-cyclic Status: 2 Language: 1-English United S Language Independent Use Text Library Use Label Adaptive label size Tag Contents Save Contents To Text Library	Import from Favorite Font Templates.(I) Vector Font  Graphic Font Font: Microsoft Sans Serif • Size: 16 • B I • I Multi-line Alignment: III T Advanced Microsoft Sans Serif
Copy Text to: All Status All Languanges All	Copy Attr. to: All Status All Languanges All
Set label position by language state separately. Pos.: Left Right: AAA Top Bottom: AAA	Index Correspond Tag Contents 0 0
	1 1 v 2(Error) Other
Marquee	<ul> <li>Display error status</li> <li>Preserve current state</li> </ul>

Details for "Language" selection can be seen in:<u>Detailed manual/Setup/System Settings/</u> Language Settings.

Details for "Import Favorite Font Template" can be seen in: <u>Detailed manual/Setup/System</u> <u>Settings/Favorite Font Template</u>.

Details for "Text Library" can be seen in: <u>Detailed manual/Library/Text Library</u>.

Details for "Marquee" setting can be seen in: <u>Detailed manual/ General functions/ Drawing/</u> <u>Marquee</u>.

### 4.6.4.2.3 Graphics

Details for Graphics can be seen in: <u>Detailed manual/General functions/Drawing/Graphic</u> <u>edit</u>.

### 4.6.4.2.4 Control Settings



Details for control settings can be seen in: <u>Detailed manual/ General functions/ Drawing</u> <u>/Control settings</u>.

### 4.6.4.2.5 Display

Details for display setting can be seen in: <u>Detailed manual/ General functions/ Drawing</u> /<u>Display</u>.

### 4.6.4.3Check list and selection boxes

The component of "Check list and selection boxes" is used to operate "Word register". The preset value is written into the register and the preset text is displayed when the current component is operated. The preset text corresponding to the status value which is equal to the word register will display automatically. See the following description for details.

Click the menu command of the "Check list and selection boxes" component and open the property TAB of this component.

### 4.6.4.3.1 General

/enu	3
Selector Setting   Graphics   Control Settings   Displa	У
Type: 💿 List and Check-Box 🔘 Drop-down List	Browse Method: Scrollbar Scrollbar Width 20 Screen Note: Only for capacitive screen.
Data Source Component settings	
Reading And Writing Address Is Different	
Read Address:	
🔲 Use Address Tag	
Deivce: LOCAL:[Local Register]	
Address Type: LW	
Address: 0 System Register	
Format(Range) DDDDDD(0~7999 Occupy: 1 - Word	
Data Type: 16-bit Unsigned 🔻	
Address Index	
Help Description:	OK Cance





Browse Method

The "Browse Method" includes "Scrollbar" and "Screen". You can select the "Scrollbar" or the "Screen" or both ways to browse the content of the current component. The scrollbar width can be freely set and the default width is 20. The "Screen" browse method is only effective for a capacitive screen.

Data Source

The default is "Component settings". That means the data source is the word register.

• Reading And Writing Address Is Different

The default is not checked. That means the read address and the write address are same. When it is checked, the "Read" register and the "Write" register can be set separately. The value of the "Read" register will be compared with the preset value to determine the corresponding text display. The preset value corresponding to the status selected will be written into the "Write" register when the component is operated.

### 4.6.4.3.2 Selector Setting

On the page of "Selector Setting", the attributes such as the number of items ("Item Count"), the preset value of each item and the content to be displayed can be set.



Menu				2
ieneral Se	elector Set	ting (	Graphics Control Settings	Display
Item Cou	unt:	6 \$	Selected Color	Language: 1-English (United S 🔹 🍥
Line Spa	cing:	5 🗘	Background Color	📝 🔲 Language Independent
			Border Color	Use Text Library Text Library
				<ul><li>Use Tag</li><li>Adaptive label size.</li></ul>
Index	Correspo	nd	Tag Content	Tag Content Save Tag Content To Text Library
0	0	•	0	^ 0 *
1	1	*	1	Copy Text To: All Status All Languages All
2	2	*	2	= Import from Favorite Font Templates.(I)
3	3	*	3	Vector Font  Graphic Font
4	4	*	4	Font: Microsoft Sans Serif -
5	5	*	5	Size: 16 - B I I I Advanced
6(Error)			or status 🔘 Keep Current Stat	
Error	Notification e Control	'n		Microsoft Sans Serif
				Copy Attr. To: All Status All Languages All
Help	Descripti	on:		OK Cancel

• Item Count

The default is 6. The range is 1~255. That means there are 255 items at most.

• Line Spacing

The default is 5. That means the space between rows.

• Selected Color

You can modify the color of the item selected in operation. The default is blue.

Background Color

It is the background color of the component excluding the scrollbar. The default is grey.

Border Color

It is the frame color of the selecting list components excluding the rolling bar, and the default is white.



"Index", "Correspond" and "Tag Content"

There is a table for the list components. It includes three columns: "Index", "Correspond" and "Tag Content".

vlenu									-?-
eneral Se	elector Sett	ting	Graphics	Control Settings	5 Display				
Item Cou		5	<ul> <li>Selected</li> <li>Backgro</li> <li>Border</li> </ul>	ound Color	• 🖉 • 🖉 • 🍠	Language: <u>1-Eng</u> Language Ind Use Text Libra Use Tag Zdaptive	lependent ary		xt Library
Index	Correspo	nd		Tag Content		Tag Content	Sa	ave Tag Content	To Text Library
0	0	*		0					÷
1	1	*		1		Copy Text To:	All Status	All Language	All
2	2	*		2		Import from	n Favorite Fo	nt Templates.(I)	
3	3	*		3		O Vector Font	14 (1997) • C	<u></u>	
4	4	*		4			oft Sans Serif		
5(Error)	Other					Size: 16 ▼ I Multi-line Alignr		TT Advance	ed
Error	put	'n		Ckeep Current S	Status			ns Serif	
Help	Descriptio	on:				Copy Attr. To:	All Status	All Language	

For example, the "Item Count" is set 5. The value of the "Index" is  $0^{5}$ . Index  $0^{4}$  are corresponding to effective items and item 5 is corresponding to the "Error" one.

The default value of the column "correspond" is equal to the value of the "Index" for the effective items. When the number of items is set to 5, the content of the "correspond" for the index 5 is "Other". The "Other" means any value except "0~4". The "correspond" value can be modified. For example, the "correspond" value of index 0 is modified 100. That means the text of index 0 in the "Tag Content" will be displayed if the value of the word register is equal to 100. And meanwhile, if item 0 is selected, the value 100 will be written into the word register.

The default value of the column "Tag Content" is equal to the value of the "Index" for the effective items. When any item is selected, the text required can be input to the corresponding "Tag Content".

• Illegal input



The "Illegal input" means that the value of word address doesn't equal to any value of the "correspond" for the effective items. The default is "Show Error Status".

- Show Error Status
- The component displays the "correspond" content of the "Error" item when illegal input happened.
- Keep Current status
- The component keeps the last correct status when illegal input happened.
- Error Notification

When it is checked, a "Bit register" can be set. The "Bit register" will be set to ON if any error status appears.

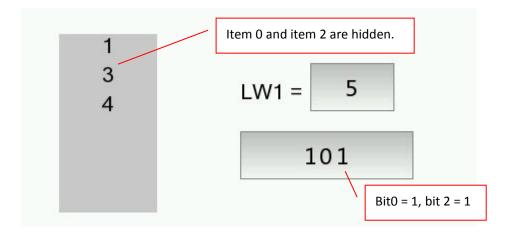
• Enable Control Address

If it is checked, a "Word register" can be set. Each bit of the word register is corresponding to an index. That is, bit 0 is corresponding to index 0, and bit 1 is corresponding to index 1, and so on. When there are more than 16 items, the next word register will be occupied automatically. When the corresponded bit of the word register is ON, the item of the corresponding index in the list will be hidden. For example, when the word register value of the "Enable Control Address" is set to 5, the bit 0 and bit 2 of this word register are both ON and the items of the index 0 and the index 2 will be hidden.



eneral	Selector Setting	g Graphics Control Settings Display	<i>(</i>
Item ( Line S	Count: pacing:	5 \$ Selected Color ▼ 5 \$ Background Color ▼ Border Color ▼	Language: 1-English (United S ▼) 💽 □ Language Independent ○ Use Text Library Text Library
			● Use Tag ✓ Adaptive label size.
Inde	x Correspond	Tag Content	Tag Content Save Tag Content To Text Library
0	0	0	\$
1	1	- 1	Copy Text To: All Status All Languages All
2	2		Import from Favorite Font Templates.(I)
3	3	3	◎ Vector Font
4	4	4	Font: Microsoft Sans Serif -
5(Erro	or) Other		Size: 16 • B I • V Multi-line Alignment: I advanced
Err	or Notification able Control Ad LW1 : Bit5Corr		Microsoft Sans Serif
	Disabled		Copy Attr. To: All Status All Languages All

In the figure above, when there is any wrong status, LBO will be set to ON. When LW1=5, index 0 and index 2 will be hidden.



#### 4.6.4.4The Drop-down List

The attributes of "The Drop-down list" are almost same to the attributes of "Check list and selection box". The main difference is that "The Drop-down list" is withdrawn when it is not



operated or after it is operated. The "Drop-down list" will be unfolded when it is clicked, and then it can be viewed and operated by the scrollbar or by screen method.

#### 4.6.4.4.1 General

The property TAB of "The Drop-down list" can be opened by clicking the command "Component/ Toggle Switch and menu/ The Drop-down List" in the menu, see the figure below.

Menu	? 🗙
General Selector Setting Graphics Control Settings Display	
Type: O List and Check-Box O Drop-down List Orop-down List Scrollbar Scrollbar Width 20	
Data Source Component settings 🔻	
Reading And Writing Address Is Different	
Read Address:	
Deivce: LOCAL:[Local Register]	
Address Type: LW	
Address: 0 System Register	
Format(Range) DDDDDD(0~7999 Occupy: 1	
Data Type: 16-bit Unsigned ▼	
Address Index	
Help Description: OK	Cancel

The figure above shows that the "General" property TAB is same to the "Check list and selection boxes", it is not introduced here, and details can be seen in <u>Detailed</u> <u>manual/Commponent/Toggle Switch and menu/Check list and selection boxes</u>.

### 4.6.4.4.2 Selector Setting

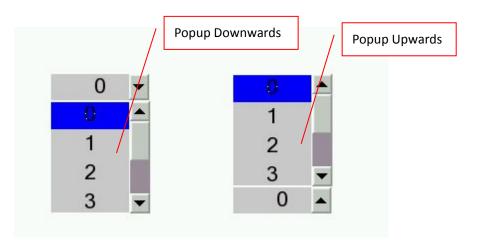
Click the "Selector Setting" property TAB, it can be opened, see the figure below.



neral S	elector Setting	Graphics Control Settings	Display
Item Co Line Spa Pop-up	icing: 5		<ul> <li>Language: 1-English (United S •)</li> <li>Language Independent</li> <li>Use Text Library</li> <li>Use Tag</li> <li>Adaptive label size.</li> </ul>
Index	Correspond	Tag Content	Tag Content Save Tag Content To Text Library
0	0	0	<u> </u>
1	1 🔺	1	Copy Text To: All Status All Languages All
2	2	2	Import from Favorite Font Templates.(I)
3	3 🗘	3	O Vector Font O Graphic Font
4	4	4	Font: Microsoft Sans Serif 🔻
5	5 🔷	5	Size: 16 B I D Advanced
Error		rror status 🔘 Keep Current Stat ess:	
			Copy Attr. To: All Status All Languages All

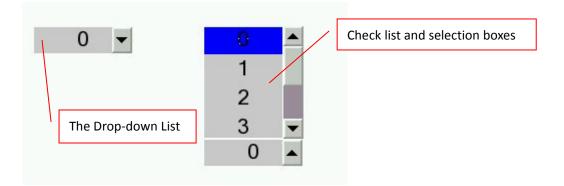
For "The Drop-down List" component, the most settings of the "Selector Setting" property TAB are same to the "Check list and selection boxes". The difference is that there is an additional item of "Pop-up style" for the "The Drop-down List".

The default is "Popup Downwards". The "Pop-up upwards" is optional. And it can be set according to the actual requirement. See the figure below.





The figure below shows the situation when "The Drop-down List" and "Check list and selection boxes" appear on the picture at the same time.



The figure above shows that when the "The Drop-down List" completes operation or has no operation, it is "withdrawn". It will be unfolded only when it is operated, while the "Check list and selection boxes" is always unfolded no matter it is in operation or not, and it can be directly viewed and operated.

The other details can be seen in <u>Detailed manual/Commponent/Toggle Switch and</u> <u>menu/Check list and selection boxes</u>.

### 4.6.4.5File BrowserBox

File BrowserBox is used to display the file information of the internal and external storage devices.



			h Designated Suffi	х.	
Font Size: 24	Suff	x Name			
Colors:			Add Items Delete		
Date Format:		2			
Date Format: DD*MM*YY	▼ Separato	r: /	-		
		-			
Notes:		fan fila sins			
SRW300~349: the absolute SRW350~389 : File Name C		for file view.	ŝ		
SRW390: execute file brows	a de la companya de l				
0-Cancel or No Oper		3-Import t	he Formula to HMI	I	
1-Import the Project			ecipe to SD Card c		
2-Export to SD Card			es Operation		

### 4.6.4.5.1 General

- Font Type
- ➢ Font Size

Select the appropriate font size here.

> Colors

Select the font color by the tool "<sup>J</sup>" or the color palette. When it is selected on the touch screen, the background color of the font is in the inverse tone.

• Date Format

There are three optional date formats.



Date Format:	
Date Format:	DD*MM*YY 🔹
	DD*MM*YY
	MM*DD*YY
	YY*MM*DD

There are three optional separators provided among the day, the month and the year.

Separator:	/ •	
	-	

• Only Show the File with Designated Suffix.

Suffix Name		
fpg	Add Items	
	Delete	

The suffix is blank by default. It represents to display all. You can set the file type you want.

As shown as above, if you add the "fpg" suffix by clicking the button "Add Items", only files with fpg suffix will be displayed in the browser box for easy filtering and viewing. If you want to display all, click the button "Delete" and keep the browser box blank.

### 4.6.4.5.2 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

4.6.4.6User Privilege

4.6.4.6.1 General



Beneral Browse	thorization Overview Table Search Display e Method: Scrollbar Scrollbar Widt Screen Note: Only for ca	(1) (1)		8
Lang		☑ Display the Title Bar Title Bar for table contents and title.	r Font Setting	
Use	Display The Project	Title Bar Description		
	Serial No.	Serial No.		
7	User Name	User Name		
	User Privilege	User Privilege		
	Automatic Log-out Time	Automatic Log-out Time	Move Up	
	Spacing: 5 ♣ Co etailed Info:	lumn Spacing : 5 🛋	Down Restore to default	
Help	Description:		ОК	Cancel

Browse Method

You can view by scroll bar or screen sliding, and screen sliding is only effective for capacitive screen.

- Display The Table
- > Language

You can switch between Chinese and English here, and then you can edit the text in the below table in Chinese and in Englishseparately.



Lang	uage: 1-English (U 🔻 🔍	Display the Title Bar	Title Bar Font Setting
🗸 U:	se Label 📝 Use same font	for table contents and tit	le.
Use	Display The Project	Title Bar Description	
1	Serial No.	Serial No.	
J	User Name	User Name	
J	User Privilege	User Privilege	
1	Automatic Log-out Time	Automatic Log-out Time	

> Display the Title Bar

Check this option "Display the Title Bar", you can set the font of the title bar and the list, see details in<u>Detailed manual/General functions/Drawing/Font settings</u>.

In	port from Favorite Font Templates.(I)
O Vec	tor Font   Graphic Font
Font:	Microsoft Sans Serif 🔻
Size:	16 • B I 🔳 • 🗨
Multi-l	ine Alignment:
	Microsoft Sans Serif

Use Lable

Check this option, you can edit the "Title Bar Description" in the below table.Uncheck it, you can edit the "Title Bar Description" by using text library.



Use	Display The Project	Title Bar Descri	ption		
	Serial No.		<u></u>		
1	User Name				
1	User Privilege	Text Library	×		
1	Automatic Log-out Ti			Search	Language Dis
		Name	Status Number	Reference Number	
		Name + Ack	Status Number	Reference Number 0	

> Use same font for table contents and title

This option will be displayed only when you check the option "Display the Title Bar". After checking this option, thefont of the list will be consistent with the font of the title bar. If you do not check it, you can edit the font of the list separately.

➢ Move UP and Down

You can adjust the arrangement of the displayed itemsby clicking the button "Move Up" or "Down".

Restore to default

Restore the items to the initial arrangement.

Use	Display The Project	Title Bar Description	
1	Serial No.	Serial No.	
1	User Name	User Name	
V	User Privilege	User Privilege	
1	Automatic Log-out Time	Automatic Log-out Time	Move Up
			Down
			Restore to default

RowSpacing and Column Spacing



Adjust the row spacing by modifying the value of the edit box of "Row Spacing". And adjust the column spacing by modifying the value of the edit box of "Column Spacing".

Detailed Info				
Detailed Info:	Single Click	•	Popup Window:	B_29001:User privilege( 🔻

After check the option "Detailed Info", you can select a trigger mode to pop up the window such as "User privilege" for editing. The trigger mode can be set "Single Click" or "Double Click".

### 4.6.4.6.2 Table

You can set the appearance of the "User Privilege" component in the "Table" property TAB. The appearance of this component is show as below.

	Title	e Bar Background (	Color	
Serial No.	User Name	User Privilege	Automatic Log-out	Time 🔺
0	Admin	16	10	
			X	
	1	/	/	_
•				•
	/			
Table Back	ground Color	Row Split Line	Column Split Line	Outline

The "Table" property TAB of the "User Privilege" component is shown as below.



🕞 User Authorization Overview	? <mark>- x -</mark>
General Table Search Display	
Table Background Color: Background 🕶 🧭	
Title Bar Background Color : 📃 Background 💌 🍠	
Outline Style: Line Width: Outline Boar V	
Split Line Style: 📃 🔻 Line Width: 🔤 🔻 Split Line Co 🕶 🏹	
Display Grid Line: 🔽 Row Split Line 🛛 🔽 Column Split Line	
Help Description: OK	Cancel

• Table Background Color and Title Bar Background Color

You can change the background color of the "User Privilege" component. And you can change the title bar background color, too.

Table Background Color:	Background 💌 🍠
Title Bar Background Colo	r : 📃 Background 💌 📝

• Outline Style, Split Line Style, Line Width and Line Color

You can change the type of the out line and the split line, the line width and the line color.



Outline Style:	 Line Width:	🔳 Outline Boar 👻 🍠
Split Line Style:	 Line Width:	Split Line Co 👻 📝

• Display Grid Line

After you check the option "Row Split Line" and the option "Column Split Line", the appearance of the "User Privilege" component is shown as below.

Serial No.	User Name	User Privilege	Automatic Log-out Time	
0	Admin	16	10	
-				
	0			
				_
•				

If the option "Row Split Line" and the option "Column Split Line" are unchecked, the appearance is shown below.

Serial No	. User Name U	ser Privilege	Automatic Log-out Time	_
0	Admin	16	10	
				_
•			()	► É

### 4.6.4.6.3 Search

Check the option "Enable search", and you can query the corresponding user privilege.



<b>Is User Authorization Ove</b>	erview		? <mark>*</mark>
General Table Searc	h Display		
Enable search			
Search by User	r Name		
Search Trigge	r Bit LBO		
8		ill display the result after filtering by ran neans no filtration.	ge.
Search Registe	er LW0		
2	LW0~LW7 : Plea letters or 8 char	se input the username for search, maxin	num 16 ASCII
5	letters or o char	acters.	
N			
6			
0			
Help Descriptio	n:		OK Cancel

• Search Trigger Bit

A bit register needs to be set here. When the value of the bit register is "1", the result of filtering by a range is displayed. When the value of the bit register is "0", the displayed result is not filtered.

• Search Register

You need to specify a starting address of a set continuous 8 word registers here. You can input the corresponding user name to these registers to search. And the inputted user name should be no more than 16 ACSII letters or 8 ACSII characters.

### 4.6.4.6.4 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

### 4.6.5 Timer and Data Transmission



### 4.6.5.1Timer

You can use the timer component to accomplish the tasks that need to be periodically executed or triggered under specific conditions.

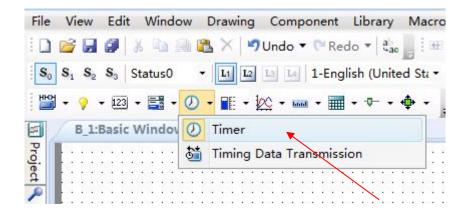
The timer must be established on a window. When this window is working, the timer will work in accordance with the rules set. If you don't want the timer to be affected by the window switching, you can establish a timer on the common window.

For adding a timer, there are three ways. The first way is clicking the timer command from the "Component" menu. The second way is opening the property TAB of the window, then click the "Timer" property TAB.And the third way is clicking the "Timer" command from the shortcut tool bar.

Con	ponent Library Macro Recipe Setup	Tools Help		
2	Switch Indicator Light			
123 HE	Numeric Value and Character Display Toggle Switch and menu			
0	Timer and Data Transmission	• 🕖 Timer		
E	Bar And Meter	🕨 🏙 Timing Data Transmission		
100	Curve Graphs	•		
had	Scale	•		
	Table	•		
-0-	Slider	•		
\$	Moving Component	•		
	Window	•		
	List	<ul> <li>Date base base base base base base</li> </ul>		
R	Tools	•		
÷	Pipeline	•		



asic Background ar	nd Border Action and Funct	on Timer Timing Data Transmission
Vindow Description:	Basic Window	Print Page
Vindow No. (By Type	e):	1 Window number (used for window switching)1
Vidth: 1024 🗘	Height: 600 🗘	Window Type: Base Window
Window Orientation:	Horizontal Overtical	
Popup Window		Safety
		User Level: 0:
		Switch to user level when window closed:
Overlapped Windo	w	Window Effect
Bottom Layer:	None	T Fade in
Middle Layer	None	▼ Fade out
Top Layer:	None	



In the "Timer" property TAB, click the button "Add", you can open the detailed settings of the timer.



Fs Modify	Window					
					1	
Basic	Background and Border	Action and Fun	ction limer	Timing Data Transmission		
Serial	No. Trigger Condition	Stop Condition	Timing Cycle	Timing Fu	inction	
						Add
						Delete
						Clear
						Clear
						Edit
Help						OK Cancel

# 4.6.5.1.1 Trigger and Stop

s Timer	8
Trigger and Stop () Timer Function () Timing and Execution Execution Period: 10 🗘 x 0.1S Delay	
Trigger Condition: Bit Word Condition Trigger when the window is open Trigger when the window is closed Trigger Address: Trigger Mode: OFF -> ON  Auto Reset	Condition for stop Timer will stop when the window closed. If need to end, please choose the end condition. Stop when specified count value reached Condition Judgement
Help	OK Cancel

## • Timing and Execution

Set the operation mode of the timer in Timing and Execution.



Timing and Execution	n
Execution Period:	10 🗢 x 0.1S
<b>V</b> Delay	1 📥 Execution Period

### Execution Period

Set the execution cycle of the timer, in 0.1 S (seconds). If you want to set the execution cycle in 10 seconds, you can set to  $100 \times 0.1$ S.

Delay

In the case of unchecked "Delay" by default, when the trigger condition of the timeris met, the timer will execute immediately for the first time. After an interval of the setting execution cycle, the timer will execute for the second time until the end condition is met. If you want the timer to delay execution for a period of time when the trigger condition is met, you can check the "Delay" option, then delay time can be set to an integer times, such as three execution cycles.

• Trigger conditions

Trigger conditions is used to trigger the execution of the timer. There are many ways to trigger the timer in this software. You can choose according to your actual needs. It is important to note that the timer trigger mode should be edge trigger. After the trigger condition is met, the timer will continue working until the end condition is met.

$\triangleright$	Bit
-	Dit

In Bit ○ Word	Condition	
e bit e tiold	o condition	
Trigger when	the window is open	
O Trigger when	the window is closed	Ľ.
Trigger Address	s: LBO	
Trigger Mode:	OFF -> ON	<ul> <li>Auto Reset</li> </ul>
ingget mean	2	
	OFF -> ON	
	OFF -> ON ON -> OFF	

After select the "Bit" option, you can specify a bit register in the "Trigger Address" to control the timer trigger. The "Trigger Mode" can be set "OFF $\rightarrow$ ON", "ON $\rightarrow$ OFF", or "ON $\leftarrow \rightarrow$ OFF". For example, if you set "OFF $\rightarrow$ ON", that means the timer is triggered when the register value changes from 0 to 1.

The "Auto Reset" refers to that the register value is automatically changed to OFF after the timer is triggered (for the "OFF $\rightarrow$ ON" trigger mode). The "ON  $\leftarrow \rightarrow$  OFF" trigger mode does not have the "AutoReset" option.



Word		
Trigger Condition:	) Condition	
© Trigger when th	e window is open	
Trigger when the	e window is closed	
Trigger Address:	LW0	

After selecting the "Word" option, you can specify a word register to control the timer trigger. When the value of the specified register is changed, the timer execution will be triggered.

rigger Cond	ition:		
🗇 Bit 🔘 Wo	ord 🧿 Conditio	n	
🛛 Trigger w	hen the window	is open	
	hen the window		
1. S.			
Condition			
Condition			
Condition			0
Condition			

If you select "Condition" option, you can use a set of conditions to control the timer trigger. For the logical condition editing, see: <u>Detailed manual/General</u> <u>functions/Drawing/Logic Control</u>.

Triggerwhen the window is ope	n
-------------------------------	---

Trigger	Condition:	

ondition

۲	Trigger	when	the	window	v is	open
-						

Trigger when the window is closed

When the window in which the timer is located is opened, the timer execution will be directly triggered. Note that if the timer is located in the Public Window, only trigger once when the user project is executed after powering on the HMI, and it will not be triggered when switching to another window.

Trigger when the window is closed



Trigger Condition: Bit
Word
Condition
Trigger when the window is open
Trigger when the window is closed

When the window in which the timer is located is closed and the other window is opened, the timer execution is triggered.

• Condition for stop

The condition for stop refers to the condition under which the timer stops execution. It is same to the "Trigger Condition". The condition for stop is also edge-triggered.

Timer will sto	p when	the	window	closed
	P			0.0000

Cond	lition	for	stor	
COllia	nuon	101	3101	۲

O Timer will stop when the window closed.

If need to end, please choose the end condition.

Stop when specified count value reached

Condition Judgement

The "Condition for stop" of the timer is "Timer will stop when the window closed" by default. If you want to end the timer execution in advance, select the other condition for stop:

### Stop when specified count value reached

Condition for st	top	
O Timer will sto	p when the window o	closed.
If need to end,	please choose the en	id con <mark>dition</mark> .
Stop when sp Condition June	pecifie <mark>d</mark> count value r dgement	eached
Repeat Times:	Constant 🔻	1
	Variable	
	Constant	

You can use the condition for stopto make the timer end automatically after repeating the specified number of times. Wherein, for the specified number of times, you can directly enter it by Constant, or you can specify a word register to control the timer execution times by Variable.

Note: When the trigger condition is "Trigger when the window is closed," the condition for stop will be directly selected as the "Stop when specified count value



reached" and the number of times is set to 1 and not editable. This kind of timercan only be executed once.

	Condition Judgment	
- (	Condition for stop	
0	Timer will stop when the window closed.	
I	f need to end, please choose the end condition.	
	<ul> <li>Stop when specified count value reached</li> <li>Condition Judgement</li> </ul>	
	Condition	
		0
	Add Modify Delete	

You can control the timer to end by using a set of conditions. When the conditionsaresatisfied, the timer execution ends. For the logical condition editing, see: Detailed manual/General functions/Drawing/Logic Control.

Timer	? <mark>×</mark>
Trigger and Stop Timer Function 🤪	
Run Macro	
Status Setting	
Audio Play	
Help	OK Cancel

### 4.6.5.1.2 Timer Function



Click the "Timer Function" tab and open the "Timer Function" propertyTAB.

• Run Macro		
<b>I</b> Run Macro	<ul> <li>Macro Code</li> </ul>	Edit 🔒

You can use the timer to trigger the execution of macro instructions. If the macro instruction hasn't been established in the project, you can't check this box. You need to click the "Macro Code" to open the Macro Code Editor Window and add the macro code. If the macro instructionis already exist, you can select the established macro from the drop-down list. Click the "Edit" button, you can directly open the Macro Code Editor Window to edit the currently selected macro instruction.

✓ Run Macro	Drawingl 🔻	Macro Code	Edit
	DrawingPic	1	
	InitialSys		
	Includys		

• StatusSetting

The "StatusSetting" function is used to set a bit register or set the value of a word register.

Whether setting the bit register status or setting the word register value, you first need to set the target address. For the address setting, refer to: <u>Detailed manual/General</u><u>functions/Address editor</u>.



rigger and § ▼ Run Macr		Edit
✓ Status Set	Bit Setting	□ Use Address Tag Deivce: LOCAL:[Local Register]
Mode:	<ul> <li>Set ON</li> <li>Set OFF</li> <li>Perodic Inverse</li> </ul>	<ul> <li>Bit-index within a Byte Register</li> <li>Address Type: LB </li> <li>Address: 0 </li> <li>System Register</li> <li>Format(Range) DDDDDD(0~799</li> <li>Address Index</li> </ul>
Microinstruct		taneously, and the precedence is not sure

s Timer	
Trigger and Stop Timer Function	
Run Macro Drawingl 🔻 Macro Code	dit
○ Bit Setting If Status Setting	Use Address Tag
Word Setting	Deivce: LOCAL:[Local Register]
Mode: Add 🔻	Address Type: LW
Loop Reverse on reaching the end	Address: 0 System Register Format(Range) DDDDDD(0~799999) Occupy: 1 v Word
Add/Substract: Constant 🔹 1 💌	Data Type: 16-bit Unsigned
Lower Limit: Constant 🔹 0 👗	
Upper Limit: Constant 🔹 100 🛓	
Microinstruction and Status Setting Run Simultan	eously, and the precedence is not sure
🔲 Audio Play	
Help	OK Cancel

➢ Bit Setting



Mode:	Set ON
	Set OFF
	Perodic Inverse

The mode of the Bit Setting includes "Set ON", "Set OFF" and "Periodic Inverse". The "Set ON" means that the bit is set ON when the timer is triggered and the bit remains ON in each execution period. The rules of "Set OFF" are same to the "Set ON". The "Periodic Inverse" refers that when the timer is triggered, the bit is inverted and continues to invert in each execution cycle.For example, the timer executed once per second switchesthe LB0 bit. LB0 will change the state once per second, 1 second is ON and 1 second is OFF.

Word Settir	ng	
Mode:	Add	•
	Add	
Loop Re	Subtract Constant	end
Add/Substract:		*
Lower Limit:	Constant •	0
Upper Limit:	Constant 🔹	L00 🝷

Word setting refers to periodic setting of a word register by timer. The setting modes include "Add", "Subtract" and "Constant".

<ul> <li>Audio Play</li> </ul>		
<b>V</b> Audio Play	Audio Library	Sleep Away 🕟

For the HMI device with an audio output function, you can use the timer to play sound.Click the "Audio Library", and select the audio file to be played from the "Audio Library". This software supports audio files in MP3 and WAV format. Foraddingaudio files, please refer to:<u>Detailed manual/Library/Audio Library</u>. Click the triangle play button

at the back of audiofile, you can hear the audio file.
Note:

The "Run Macro", "StatusSetting" and "Audio Play" optionscan be checked at the same time. The timer can simultaneously control the execution of the three. However the execution order is uncertain.



#### 4.6.5.2Timing Data Transmission

A single or batch data can be transmitted by timing. The action can be triggered or executes periodically. This component is similar to the timer. You need to add it to a specified window. If you want a global execution, you can add it to the public window.

Trigger Condition: Trigger Condition: Trigger when the window is open Trigger Address: Trigger Mode: OFF -> ON  Auto Reset	rigger and Stop 🧿 🛛 Data Transmissi	on Notification		
<ul> <li>Delay</li> <li>Trigger Condition:</li> <li>Bit Word Condition</li> <li>Trigger when the window is open</li> <li>Trigger when the window is closed</li> <li>Trigger Address:</li> </ul>	Timing and Execution			
Trigger Condition:       Condition for stop         Image: Bit Oword Ocondition       Trigger when the window is open         Trigger when the window is open       Trigger when the window is closed         Trigger Address:       Image: Condition for stop	Execution Period: 10 🗢	x 0.1S		
<ul> <li>Bit Word Condition</li> <li>Trigger when the window is open</li> <li>Trigger when the window is closed</li> <li>Trigger Address:</li> </ul>	Delay			
<ul> <li>Trigger when the window is open</li> <li>Trigger when the window is closed</li> <li>Trigger Address:</li> </ul>	Trigger Condition:		Condition for stop	
<ul> <li>Trigger when the window is open</li> <li>Trigger when the window is closed</li> <li>Stop when specified count value reached</li> <li>Condition Judgement</li> </ul>	Bit Word Condition		Timer will stop when the window closed.	
<ul> <li>Trigger when the window is closed</li> <li>Stop when specified count value reached</li> <li>Condition Judgement</li> </ul>	Trigger when the window is open		If need to end, please choose the end condition.	
Trigger Address:				
			Condition Judgement	
Trigger Mode: OFF -> ON • Auto Reset				
	Trigger Mode: OFF -> ON	<ul> <li>Auto Reset</li> </ul>		

#### 4.6.5.2.1 Trigger and Stop

The "Trigger and Stop" is used to control the execution modes of components. The modes of "Trigger and Stop" include "Execution Period", "Trigger Condition" and "Condition for stop". The details can be refers to: <u>Detailed manual/Component/Timer and</u> Data Transmissionn/Timer.

#### 4.6.5.2.2 Data Transmission

Data transmission can set the data to be transmitted, including the type and the length of the data to be transmitted, source address and target, and so on.

#### 4.6.5.2.3 Notification

Notification function is similar to the notification function in the "Control Setting" property TABofsome components. It is used for before-writing notification and after-writing





notification.For the detailed settings, refer to: <u>Detailed manual/General</u> <u>functions/Drawing/Control settings</u>.

# 4.6.6 Barand Meter

#### 4.6.6.1Bar Chart

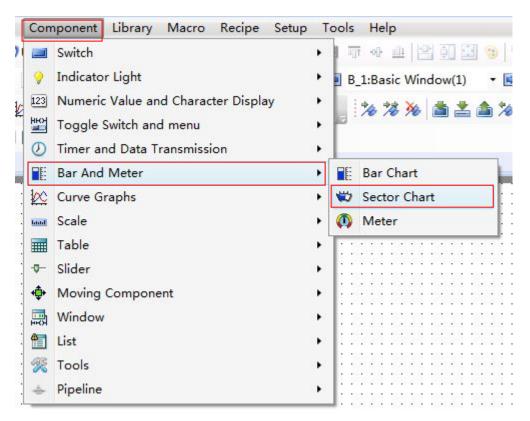
Apart from the slight difference of "Direction" as shown in the figure below, the other functions of the bar graph are the same as the Sector Chart. The detailed description is referred to: <u>Detailed manual/Component/Bar and Meter/Sector Chart</u>.

Bar Graph and Sector Graph				? <b>-</b> 2
General Extended Scale and Mark Dyr	namic Graphics Dis	play		
Shape:      Bar Graph      Fan-shaped Graph     Type:      Standard      Deviation Type	<mark>Displa</mark> Displa Displa	y upward y upward y downward y leftward y rightward		
Minimum Value: Constant   Maximum Value: Constant	0	Upper and I	lower thresholds of Alarm	
Read Address: Use Address Tag Deivce: [LOCAL:[Local Register]	_			
Address Type: LW				
Address: 0 Source Contract (Range) DDDDDD(0~799999)Occupy Data Type: 16-k				
Address Index				
Help Description:				OK Cancel

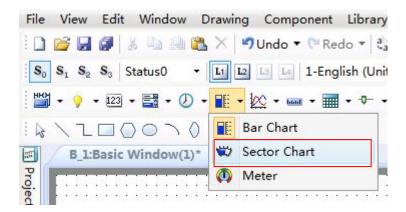
#### 4.6.6.2SectorChart

Add a Sector Chart component by clicking the menu command "Component/Bar and Meter". It is shown as below.





You can add the Sector Chart by clicking the correspondingshortcut button. It is shown as below.



4.6.6.2.1 General



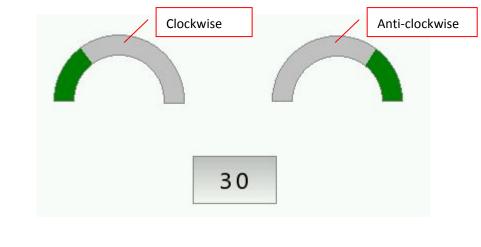
Bar Graph and Sector Graph	? 🗙
General Extended Scale and Mark Dynamic Graphics I	Display
Shape: O Bar Graph O Fan-shaped Graph Direction:	Angle: Inside and outside ring ratio(%) 70 ↓ Start Angle 180 ↓ End Angle 360 ↓
Minimum Value: Constant   O  Maximum Value: Constant   100	Upper and lower thresholds of Alarm
Read Address:	
Deivce: LOCAL:[Local Register]	
Address Type: LW	
Address: 0 System Register	
Format(Range) DDDDDD(0~799999) Occupy: 1 v Word Data Type: 16-bit Unsigned v	
Address Index	
Help Description:	OK Cancel
	Caliter

#### • Direction

The option "Direction" is used to set the starting point direction which refers to the fill direction of the sector chart.



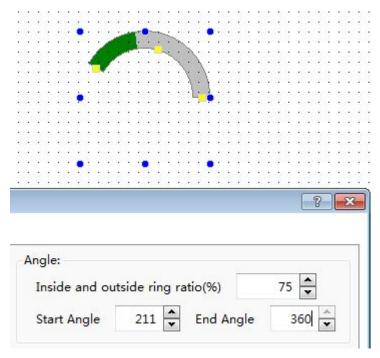
As shown below, the left Sector Chart is filled by Clockwise, and the right Sector Chart is filled by Anti-clockwise.



Angle



The "Inside and outside ring ratio (%)" is set to a percentage of the inner ring radius to the outer ring raduis. The "Start Angle" of the sector chart can be set at will. The effect is shown as below.



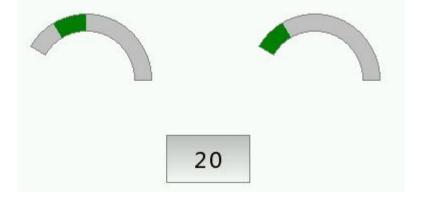
# • Туре

The types of the sector chart include "Standard" and "DeviationType". The filling origin position of the standard sector chart is not adjustable. The origin position of the deviation type is adjustable. Here introduces the usage of biastype pie chart.

As shown as below, after selecting the Deviation Type, the "OriginPos." can be freely set.

Type:	Standard	Deviation Type	Origin Pos.:	39
				-

The running effects of the "Deviation Type" and the "Standard"are contrasted as shown as below (the left is deviation type, the right is standard type).





Read Address

The detailed information is referred to: <u>Detailed manual/General functions/Address</u> <u>editor/Standard Byte Address Input</u>.

#### 4.6.6.2.2 Extended

#### • Border Color and Background Color

As shown as below, the border color and the background color of the sector chart can be set freely. If the "Border Color" and "Background Color" are not checked, the border and the background color are not visible. The sector chart has three Fill Types: "Solid Color", "Pattern" and "Gradient". The Bar Color can be set freely.

Border Color Bord	ler Color 👻 📝 🗷 Bac	kground Color Backgr	round Color 💌 📝	
Background Color	▼	SolidColor SolidColor Pattern Gradient		
Alarm Limit:			🔲 Mark Target Area	

#### • Alarm Limit

As shown as below, you can set the upper and lower limit for alarm. Except for the "Blink" function, other functions are same to the "Meter". The detailed settings are referred to: Detailed manual/Component/Bar and Meter/Meter.



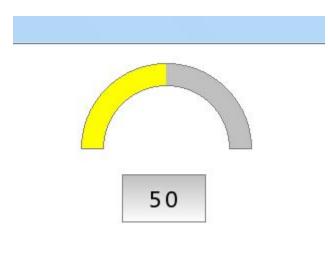
Lower Limit:	Constant 💌	10	*	
Upper Limit:	Constant 💌	90	<b>•</b>	
Over Top Limi	t: Background	• 🗷		🔲 Blink
Over Lower Li	mit: 📘 Background	• 🗷		📃 Blink
	color is not pure colo d to be set separately		n <mark>d c</mark> olor and	d background

#### • Mark Target Area

When the value enters into the specified MarkTarget Area, the color of sector chart will be changed to the Target Area Color. The Target Value and Error Range can be set by Constant or byVariable.

arget Value:	Constant •	0	*
rror Range:	Constant 🔹	0	*
0.0000000000000000000000000000000000000	Variable		
	Constant		

The running results are as shown in the figure below. In thiscase, the Target Area Color is set yellow.



### 4.6.6.2.3 Scale and Mark

• Display the percentage



The function is used to display the total percentage of filling part to the entiresector chart. As shown as below, the display font size, font style and font color can be set freely.

	Bar Graph and Sector Graph
	General Extended Scale and Mark Dynamic Graphics Display
:	☑ Display the Percentage:
•	Display Fonts: Size: 8 🔹 Font: Arial 🔹 🖬 Font Color 👻 🍠
	Display Scale

• Display Scale

The "Display scale" usage of the Sector Chart is same tothe Meter but a slightly different, as shown as below. The detailed usage is referred to: <u>Detailed</u> <u>manual/Component/Bar and Meter/Meter</u>.

✓ Line	Scale Display Location
Line Color	● Inside
Line Type	Outside
Scale	
Main Scale Division Number	4 Main Scale Length: 12
Sub Scale Division Number	3 Sub Scale Length: 8
🔽 Axis	
Mark Integer: 3	Decimal: 0

### 4.6.6.2.4 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.



### 4.6.6.3Meter

As shown as below, the Meter component can be added by clicking the menu command "Component/Bar and Meter".

Con	nponent Library Macro Recipe Setup	o Tools Help
2 123 HEOM	Switch Indicator Light Numeric Value and Character Display Toggle Switch and menu	I III III III III III III III III
0	Timer and Data Transmission	•
	Bar And Meter	Bar Chart
100	Curve Graphs	🔸 🖏 Sector Chart
Intel	Scale	Meter
	Table	•
0-	Slider	<ul> <li>Inconstruction</li> </ul>
÷ 💠	Moving Component	<b>,</b>
	Window	•
	List	•
1	Tools	•
\$	Pipeline	• HELENER

You can add a Meter component by clicking the corresponding tool button in the shortcut tool bar. It is shown as below.







Fs Instrument Component	8
General Watch Hand and Scale Dynamic Graphics Display	
Meter Plate: Round (Hands Up) ▼	Maximum Minimum Value Minimum Value: Const. Maximum Value: Const. 100
Read Address: Use Address Tag Deivce: LOCAL:[Local Register] Address Type: LW Address: 0 Format(Range) DDDDDD(0~799999) Occupy: 1 Word Data Type: 16-bit Unsigned Address Index	Display Range Scale:
Help Description:	OK Cancel

### • Meter Plate

As shown as below, the Meter Plate includes five types: "Round (Hands Up)", "Round (Hands down)", "Upper Semi-Circle", "Lower Semi-circle" and "Arc (Set Automatically)".

General	Watch	Hand and Scale	Dynamic Graphics	Display
Meter Plate:		Round (Hands Round (Hands		
		Round (Hands Upper Semi-Cir Lower Semi-cire	rcle	
		Arc (Set Autom		

The attributes of the "Round (Hands Up)", "Round (Hands down)", "Upper Semi-Circle" and "Lower Semi-circle" are same. For the Arc Meter Plate, you can freely set the starting angle and ending angle, as shown as below.



•	Ţ.,	
40		
·····	1	
· · · · · · · · · · · · · · 40 · ·		
/ .	60/	
	80	NAME TO READE 1
	100	• • • • • • • • •
	our schoture schoture sch	and an and a second a
		• • • • • • • • •
nt Component		
Watch Hand and Scale	Dynamic Graphics	Display
Plate: Arc (Set Automa	atically) 🔻	
		Watch Hand and Scale Dynamic Graphics

#### Read Address

Delvce:	LOCAL	.:[Loca	l Regi	ster]			_			•
Address	Type:	LW				•				
Address	: 0		*				Sy	stem	n Re	gister
Format(	Range)	DDDD	DDD(0	~7999	999) (	Decup	py:	1	Ŧ	Word
Format(	Range)	DDDD	DDD(0		99) ( Type:		py:	1	Ŧ	

For details of Read Address, see: <u>Detailed manual/General functions/Address</u> <u>editor/Standard Byte Address Input</u>.

#### • Maximum Minimum Value

The Maximum Value and the Minimum Value of the Meter can be set by Constant or by Variable.

If you select by Constant, a fixed constant can be set in the position shown in the figure below.



Maximum Minimum Value	
Minimum Value: Const; 💌	0
Maximum Value: Const: •	100

If you select by Variable, you can specify a word register and enter a value to the word register to change meter during running your project, as shown in the figure below.

Maximum Minimum Value	
Minimum Value: Variat 🔻	LW2
Maximum Value: Variak 🔹	LW3
40 . 6	0
20	80
0	100

### • Display Range Scale

Set the upper and lower limit for alarm on the position shown in the figure below. The limit value can be set by Constant or by Variable. After setting the upper and lower limit value, you can also set the colors for value within limit, below lowerlimit and above upper limit, as shown below.



<b>I</b> Display Ra	nge Scale:	
Lower Limit:	Const: 🔻	20 🗢
Upper Limit:	Const: 🔻	80 🜩
Sector Ring V	Constant Variables	10 🜩
🔲 User-defin	ed Outer Rad	lius
Sector Ring C	Outer Radius:	48 💌
Color fo	r value <mark>withi</mark> n	limit 💌 📝
Color fo	r <mark>v</mark> alue <mark>belo</mark> w	low 🕶 📝
Color fo	r value above	upt 🕶 🗾

### 4.6.6.3.2 Watch Hand and Scale

#### • Color and Size

As shown in the figure below, the color of the Watch Handand Watch Hand Axis, the length and width of the Watch Hand, and the radius of the Watch Hand Axis can be set.

Instrument Component	? ×
General Watch Hand and Scale Dynamic Graphics Display	
Watch Hand Color:       Watch Hi       Watch Hand Axis Color:       Axis Colc       Image: Color matrix Color:         Watch Hand Length:       48       Watch Hand Axis Radius:       8       Image: Color matrix Color:       8         Watch Hand Width:       4       Image: Color matrix Color:       1mage: Color:	
<ul> <li>Display Scale</li> <li>Line Color</li> <li>Line Color</li> <li>Line Width</li> <li>Line Type</li> <li>Watch Hand Style</li> </ul> Scale Main Scale Division Number 5   Main Scale Length: 12   Location: Inside Scale Sub Scale Division Number 2   Sub Scale Length: 8   Location: Inside Axis Axis Mark Integer: 3   Decimal: 0   Font: Size: 8   Font: Arial   Font: Color   Y Reverse scale order	
Help Description: OK	Cancel

• Display Scale



As shown as the figure below, you can modify the color, the width and type of the meter scale line after the "Display Scale" is checked.

➢ Line

Display Sca	le
Line	
Line Co	lor 👻 📝
Line Width	· · · ·
Line Type	

#### Scale

Main Scale Division Number	5	Main Scale Length:	12	Location:	Incida –
🔽 Sub Scale Division Number	2	Sub Scale Length:	8	Location:	Inside 🔻
🗸 Axis					
Mark Integer: 3	De	ecimal: 0			
	Font: Ari	al 🔹 F	ont Color 👻		

You can set the "Main Scale Division Number", the "Main Scale Length" and the "Sub Scale Length" here. The Location of the scale can be set "Inside", "Outside" and "Center", as shown as below. The "Sub Scale Division Number" and the "Axis" are checked by default. The default sub scale division number is 2. If the "Sub Scale Division Number" and the "Axis" are unchecked, that means the sub scale and axis are not displayed.

Scale					
Main Scale Division Number	5	Main Scale Length:	12	Location:	Instals
☑ Sub Scale Division Number	2	Sub Scale Length:	8	Location:	Inside •
V Axis					Outside Center

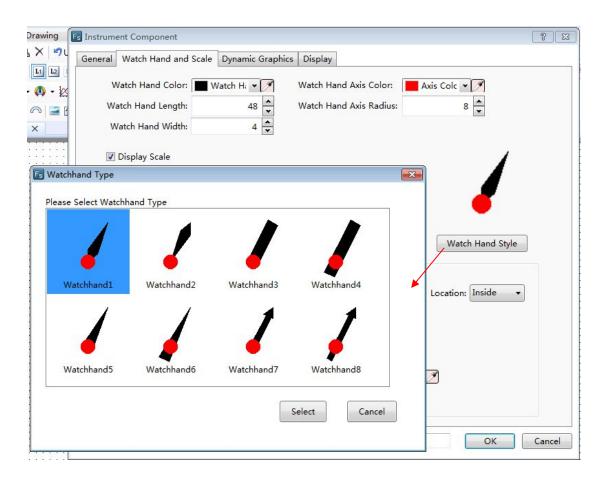
If the "Mark" is not checked, the meter will not display the scale value. After the "Mark" is checked, you can set the number of the integer digits and the decimal digits of the scale value and also can set the font styles of scale value. If you select the "Reverse scale order", then the maximum value and the minimum value will switch their positions.



🔽 Mark	Integer:	3	▲ ▼	Decimal:	0	×
Font:	Size: 8	•	Font:	Arial	•	Font Color 👻 🍠
🔽 Re	verse scale	e order				

### • Watch Hand Style

Click the button "Watch Hand Style", you can select a style of watch hand for the meter.



### 4.6.6.3.3 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

# 4.6.7Curve Graphs

### 4.6.7.1Trend Curve

The "Trend Graph" component is a curve formed by the sampling data.



## 4.6.7.1.1 General

Trend C	hart				8
General	Channel 🕕	Search	Scale	Display	
Display	Points of Ear	rection: ( Pause: [	Horizon LB0	tal •	Browse Method: Scrollbar Scrollbar Width 20 Slide Note: Only for capacitive screen.
				he refreshing.	
🔽 Us	e Cursor				
Di	splay/Hide th		LB1=1: 9 LB1=0: H	how the Cursc lide the Cursc	-
	Cursor D				
			Hou	7 registers to r, Minute, Seco	o define the time represented by the cursor position (Year, Month, Day, ond and mili-second) a Format Stores the Current Value of the Curve from Channel 1.
Zo	om				
	Two-point			only for multi-to	ouch hardware)
Help	Descripti	on:			OK Cancel

• Display Points of EachHMI

This option means the number of the displayed sampling data points on the screen. The default is 10.The max number of points can notmore than the width of the used HMI resolution. For example, the 7-inch HMI device with the resolution 800\*480 is used.Then the max number of points is 799.

• Direction

The option "Direction" is used to set the display direction of the trend curve. It is set "Horizontal" by default. It can be set "Vertical", too.

• Pause



Abit registeraddress can be set here. When the bit register is ON, the trend curve is not refreshed (butthe sampling is not paused). When it is OFF, the trend curve is refreshed in real time.

BrowseMethod

The methods of "Scrollbar" and "Slide" are all supported to view the trend curve. You can check anyone or two. But the "Slide" is only valid for the capacitive HMI device.

• Use Cursor

You can check the option "Use Cursor". This option is used to view the trend data crossed by the cursor and the data sampling time. The settings are shown as below.

Display/Hide the Cursor:	LB1 Gursor Color:
	.B1=1: Show the Cursor
L	.B1=0: Hide the Cursor
V	When the cursor is visible, enable moving cursor by click or slide actions.
Cursor Data Area:	LWO
L	.W0 Use 7 registers to define the time represented by the cursor position (Year, Month, Da Hour, Minute, Second and mili-second)
L	W7 The Pressing Data Format Stores the Current Value of the Curve from Channel 1.
-	

Display/Hide the Cursor

Here you can set a bit register. If the bit register is ON, the cursor is displayed. If it is OFF, the cursor is hidden. When the cursor is visible, you can click or slide to move the cursor.

Cursor Color

The default color of the cursor is red. You can modify it according to the actual needs.

Cursor Data Area

You need to set a starting address of a continuous word registersarea here to save the information of the cursor data. The first 7 word registers save the sampling time of the trend data which is crossed by the cursor. They are year, month, day, hour, minute, second and millisecond. From the eighth register, the sampling data crossed by the cursor is saved. The data format should be consistent with which defined in "Data Sampling".

For example, the starting address of the cursor data area is set LW100. Then the registers from LW100 to LW106 save the sampling time information of year, month, day,



hour, minute, second and millisecond. If the "Data Sampling" that you use only defines a data in "16-bit Unsigned" data type and the channel number is 1, then the LW107 register savesthe sampled data at this time. If the "Data Sampling" that you use has the data sampled from two channels, the data type of the first channel is "Single precision floatingpoint number" and the second channel is "16-bit Unsigned", then LW107 (Single precisionfloatingpoint number) saves the data of the first channel and LW109 (16-bit Unsigned) saves the data of the second channel. Other data formats can be done in the same matter.

### Use Zoom

This option is optional. After it is checked, the option "Two-point Touch Zooming (only for multi-touch hardware)" can be check. This option is only valid for the capacitive HMI device. After you enable this function, the curve will be zoomed out when two fingers slide outward in the curve zone and the curve will be zoomed in when two fingers slide inward in the curve zone.

The option "Register Control Zooming" is used to zoom by using a word register. After check it, a word register needs to be given here. The value of this word register is the percentage of zooming. For example, the value of the word register is 50. It means that only 50% is displayed and the curve is scaled a half. If the value of the word register is 200, it means 200% is displayed and the curve is zoomed to 2 times. The settings are shown as below.

Zoom	
🔽 Т	wo-point Touch Zooming(only for multi-touch hardware)
🔽 R	legister Control Zooming:
	LW200
	LW200 The zooming value represents the percentage coefficient of the number of points
	being displayed on the screen. For example, when the zooming value is 50 and data points are 20, 50% of the 20 data points will be displayed on the screen. Zoom value is 0 means
	there is no zoom-in or zoom-out.

### 4.6.7.1.2 Channel



🐻 Trend Chart		? 🔀
General Channel 🜒 Search Scale Display		
Data Source:		
Help Description:	OK	Cancel

In the "Channel" property TAB, you need select a sampling data as the "Data Source". There will be a red exclamation mark here if the "Data Sampling" is not set. You can open the "Data Sampling" settings page to set the required sampling data by click the button

". After the setting is complete, the "Channel" page is shown as below.



Hide Channel Register     Channel Use Address Type Word Count Notes   1 I LW0 precision Floating-point N 2   2 I LW2 16-bit Unsigned 1     1Channel Setting   Dot Mark:	ource: 1:Temperature_Humidity  Source Information  er Type: Cyclic1S Upper limits of sampling point quantity in each channel:1  e Controlling:No Use Clear Mode: No Use  rical Data: Don't save Maximum Item Quantity: 1000 Auto Stop  de Channel Register  el Setting  nannel Use Address Type Word Count Notes  1	anoral Chan					-?-
Data Source Information         Trigger Type:       Cyclic1S       Upper limits of sampling point quantity in each channel:1         Pause Controlling:No Use       Clear Mode:       No Use         Historical Data:       Don't save       Maximum Item Quantity:       1000       Auto Stop         Image: Hide Channel Register       Hide Channel Register       Channel Setting       Channel       Very Word Count       Notes         1       Image: LWO       precision Floating-point N       2       Image: LWO       16-bit Unsigned       1         2       Image: LW2       16-bit Unsigned       1       Image: LW2       16-bit Unsigned       1         1Channel Setting       Image: LW2       Image: LW2       Image: LW2       Image: LW2       Image: LW2       Image: LW2         1Channel Setting       Image: LW2       Image: LW2       Image: LW2       Image: LW2       Image: LW2         1Channel Setting       Image: LW2       Image: LW2       Image: LW2       Image: LW2       Image: LW2         1Channel Setting       Image: LW2       Image: LW2       Image: LW2       Image: LW2       Image: LW2         1Channel Setting       Image: LW2       Image: LW2       Image: LW2       Image: LW2       Image: LW2         1Channel Setting	Source Information er Type: Cyclic1S Upper limits of sampling point quantity in each channel:1 e Controlling:No Use Clear Mode: No Use vrical Data: Don't save Maximum Item Quantity: 1000 Auto Stop de Channel Register el Setting hannel Use Address Type Word Count Notes 1 V LWO precision Floating-point N 2 2 V LW2 16-bit Unsigned 1 nnel Setting t Mark: awing Connecting Line: Line Color V Line Width V Line Type V Line Type Projection along X-axis Direction	chan	nel Search	n Scale Display			
Pause Controlling:No Use       Clear Mode:       No Use         Historical Data:       Don't save       Maximum Item Quantity:       1000       Auto Stop         I Hide Channel Register       Item Precision Floating-point N       2       Item Precision Floating-point N       2         Image: Channel Setting       Image: Imag	e Controlling:No Use Clear Mode: No Use rrical Data: Don't save Maximum Item Quantity: 1000 Auto Stop de Channel Register al Setting nannel Use Address Type Word Count Notes 1 V UNO precision Floating-point N 2 2 V LW2 16-bit Unsigned 1 nnel Setting t Mark: awing Connecting Line: Line Color I Clear Line Width I Line Type I Clear Line Type I Cl				• <b>II</b>		
Historical Data: Don't save Maximum Item Quantity: 1000 Auto Stop Hide Channel Register  Channel Setting  Channel Use Address Type Word Count Notes  1 V LW0 precision Floating-point N 2  2 V LW2 16-bit Unsigned 1  IChannel Setting Dot Mark:	nrical Data: Don't save Maximum Item Quantity: 1000 Auto Stop de Channel Register  el Setting  nannel Use Address Type Word Count Notes  1 V LW0 precision Floating-point N 2 2 V LW2 16-bit Unsigned 1  nnel Setting t Mark: awing Connecting Line: Line Color Line Width Line Type Vine Type Projection along X-axis Direction	Trigger Typ	e: Cyclic	1S Upper lir	nits of sampling point quantity in ea	ch channel:1	
Hide Channel Register   Channel Setting   Channel Use   Address   Type   Word Count   Notes   1   V   LW0   precision Floating-point N   2     IChannel Setting     Dot Mark:	de Channel Register	Pause Cont	rolling:No U	lse <mark>Clear</mark> Mo	ode:	No L	lse
Channel     Use     Address     Type     Word Count     Notes       1     I     LW0     precision Floating-point N     2       2     I     LW2     16-bit Unsigned     1	nannel Use Address Type Word Count Notes          1       IW0       precision Floating-point N       2         2       IW2       16-bit Unsigned       1				n Item Quantity:	1000	🗌 Auto Stop
1     Image: Construction of the structure of th	1       Image: Construction of the second seco	Channel Se <mark>t</mark> tir	ng				
2     IW2     16-bit Unsigned     1       1Channel Setting       Dot Mark:	2     IW2     16-bit Unsigned     1   nnel Setting t Mark: awing Connecting Line: Line Color	Channel	Use	Address	Туре	Word Count	Notes
1Channel Setting	nnel Setting t Mark: awing Connecting Line: Line Color Line Width Line Width Line Type	1		LW0	precision Floating-point N	2	
Dot Mark:	t Mark: awing Connecting Line: Line Color Line Vidth Line Width Line Type	2		LW2	16-bit Unsigned	1	
Projection along X-axis Direction							

After you selecting sampling datafor the option "Data Source", all channels of this sampling data defined in the "Data Sampling" will be displayed in the "Channel Setting" property box.

For the above figure, the sampling data "Temperature Humidity" is selected as the data source. This sampling data has two channels. The data of channel 1 is from LW0 register and the data type is "Single precision floatingpoint number". The data of channel 2 is from LW2 register and the data type is "16-bit Unsigned".

• Data Source Information

In this area, you can see the various attributes of the selected sampling data defined in the "Data Sampling".

There is an option "Hide Channel Register" here. After it is checked, you need to specify a word register. When the bit0 of this word register is ON, hide the curve of Channel 1. When the bit1 is ON, hide the curve of Channel 2. Other channels can be done in the same matter. The setting is shown as below.



ieneral						-?- -
eneral	Channe	el Search	Scale Display			
	_	1:Temperat	ture_Humidity	- <b>I</b>		
	ource I er Type:			nits of sampling point quantity in ea	ach channel:1	
		lling:No U			No Use	
		ta: Don't		Item Quantity:	1000	Auto Stop
🔽 Hid	le Chan	inel Registe	0			
Channel	Setting	9				
Cha	annel	Use	Address	Туре	Word Count	Notes
	1	V	LW0	precision Floating-point N		
	2	1	LW2	16-bit Unsigned	1	
📄 Dot	-	ing onnecting l ue:Constar	Projection	Line Width along X-axis Direction	- ▼ Line Type	

For example, the option "Hide ChannelRegister" is set LW500. Then the curve of Channel 1 is hidden when the bit 0 of the LW500 is ON. The curve of Channel 2 is hidden when the bit1 of the LW500 is ON.

• Channel Setting

All channels of the data source are displayed here. They are all checked in the "Use" Column by default. It means they are all set to display on the trend curve.

#### Note:

If one channel is not checked in the "Use" column, that means the data of this channel will not be displayed on the trend curve. So the corresponding bit of the word register specified in the option "Hide Channel Register" cannotcontrol the curve of this channel to display or hide.

Click one channel in the "Channel Setting" area, the relevant attribute settings of this channel will be displayed below. It is shown as below.



rend Chart					-?
eneral Chanr	el Search	Scale Display			
Data Source: ( Data Source Trigger Type	Information Cyclic1S	Upper limits of	sampling point quantity in	each channel:1 No Use	
	olling:No Use ita: Don't sa		Quantity:	1000	Auto Stop
	nnel Register		Quantity	1000	
Channel Settin	-				
Channel		Address	Туре	Word Count	Notes
	Use			trora count	
1	Use V	LWO	precision Floating-point	N 2	
			and the second	2         1	
1	ting onnecting Lin	EW0 EW2 e: Line Color	precision Floating-point 16-bit Unsigned	Line Type	

#### > DotMark

This option is not checked by default. After it is checked, you can set the dot color, the dot size and the dot style for each point of the sampling data.

✓ Dot Mark:	Dot Color	<b>- -</b>	Dot Size	10 •	Dot Style	• •

# DrawingConnecting Line

This option is checked by default. If it is checked, you can set the line color, the line width and the line type for the connecting line of the sampling data points.

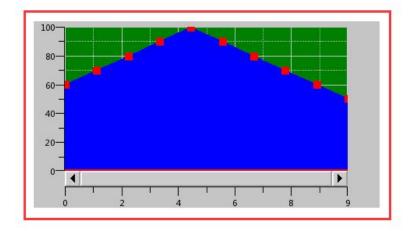
Drawing Connecting Line:	Line Color	<b>-</b> • <b>/</b>	Line Width		Line Type	
--------------------------	------------	---------------------	------------	--	-----------	--

Projection along X-axis Direction



This option is not checked by default. After it is checked, the trend curve from the first point to the current sampling point will project the X-axis to form a closed figure.

For example, the option "Dot Mark" and the option "Projectionalong X-axis Direction" are all checked, the display effect is shown as below.



Minimum Value

The minimum value of the trend curve can be set byConstant or by Variable. When set it by Variable, the data type of the specified word registershould be consistent with the data type of the selected sampling data channel.

# Maximum Value

The maximum value of the trend curve can be set byConstant or by Variable. When set it by Variable, the data type of the specified word registershould be consistent with the data type of the selected sampling data channel.

### 4.6.7.1.3 Search

The option "Enable Search Function" is not checked by default in the "Search" property TAB. After it is checked, the settings are shown as below.



🖪 Trend Chart	? 🔀
General Channel Search 🕖 Scale Display	10
Enable Search Function	
Search By Date Search By Time Range Search By Sequence	
© Register Query Mode	
Search Trigger Bit:	
Search Register:	
Export CSV	
Help Description:	OK Cancel

There arethree fixedsearch modes supported: "Search By Date", "Search By Time Range" and "Search By Sequence". The "Register Query Mode" is a dynamic search mode. The default search mode is "Search By Date".

# > Search By Date

The settings of "Search By Date" are shown as below.



-			
e	Tana	1 01	2112
rs i	Iren	aun	aπ

ral Channel Search	Scale Display	
Enable Search Functio	n —	
Search By Date	🛛 Search By Time Range 🛛 🔘 Search By Sequence	
Register Query Mod	le	
Search Trigger Bit:	LB20	
Search Trigger Bit:	LB20 1: show the results filtered by range.	
Search Trigger Bit:		
Search Trigger Bit: Search Register:	LB20 1: show the results filtered by range.	
-	LB20 1: show the results filtered by range. 2: no filtering	

#### "Search Trigger Bit"

The option "Search Trigger Bit" is used to specify a bit register to trigger the search function. When the trigger bit is ON, the filtered results are displayed. When the trigger bit is OFF, the result which is not filtered is displayed.

"Search Register"

The "Search Register" is used to specify word registers to save the information of the search function. The number of the word registers is depending on the search mode. You can get the information of the used word registers according to the text displayed under the specified address.

For example, select the "Search By Date" mode and specify LW300 for the option "Search Register". Then LW300 saves the search year, LW301 saves the search month and LW302 saves the search day. You can use three numeric value input components connected with the three word registers to give the search conditions in your project.

SearchBy Time Range  $\triangleright$ 

For the "Search By Time Range" mode, the function and the setting of the "Search Trigger Bit" are same to the "Search By Date" mode. The difference is the "SearchRegister."

When selecting the "Search By Time Range" mode, you should specify a start address of a continuous 12 word registers area for the option "Search Register". The first six word registers save the start date of search, including year, month, day, hour, minute and second. The last six word registers save the stop date of search. The setting is shown as below.



Trend Chart		8
General Channel Search	Scale Display	
I Enable Search Function	n	
Search By Date	Search By Time Range 🔘 Search By Sequence	
Register Query Mod	le	
Search Trigger Bit:	LB20	
	LB20 1: show the results filtered by range. 2: no filtering	
Search Register:	LW300	
100 C C C C C C C C C C C C C C C C C C	LW300 ~ LW305: It Shows The search Starting time, in the order of Year Month Day Hour Minute Second.	
	LW306 ~ LW311: It Shows The search Finishing time, in the order of Year Month Day Hour Minute Second.	

#### SearchBy Sequence

For the "Search By Sequence" mode, the function and the setting of the "Search Trigger Bit" are same to the "Search By Date" mode. The difference is the "SearchRegister."

For example, select the "Search By Sequence" mode and specify LW300 for the option "Search Register". The settings are shown as below. Then when LW300 is 0, the data of the current day is displayed on the curve. When LW300 is 1, the data of the yesterday is displayed on the curve.Other values can be done in the same matter.

eral Channel Search	Scale Display	le la
Enable Search Functio	n	
Search By Date	Search By Time Range 💿 Search By Sequence	
© Register Query Mod		
Chegister Query moo		
Search Trigger Bit:	LB20	
Search Trigger Bit:	LB20 I: show the results filtered by range.	
Search Trigger Bit:		
Search Trigger Bit: Search Register:	LB20 1: show the results filtered by range.	
	LB20 1: show the results filtered by range. 2: no filtering	

### Register Query Mode

The "Register Query Mode" is a dynamic search mode. When the "Register Query Mode" is selected, you can specify a word register to dynamically adjust the search mode. If the word register is 0, the "SearchByDate" mode will be used. If it is 1, the "Search By



Time Range" mode will be used. If it is 2, the "Search By Sequence" mode will be used. The settings are shown as below.

eral Channel Search S	cale Display	
Enable Search Function		
◎ Search By Date ◎ S	earch By Time Range 🛛 🔘 Search By Sequence	
Register Query Mode	LW350	
	LW350 0:Search by Date ,1:Search by Time Range, 2:Search	
Search Trigger Bit:	by Sequence	
	LB20 1: show the results filtered by range.	
Search Register:	2: no filtering	
Search Register.	LW300 ~ LW311: Depending on different search methods, take up	

## 4.6.7.1.4 Scale

• X-axis Scale

The source of X-axis value can be set "Use Point Scale Value" or "Use Time Scale Value". The default is "Use Point Scale Value". It is shown as below.

Trend Chart General Channel Search Scale Display				-¥-
🛿 Use Background Color 🛛 📕 Backgro 👻 🍠	🔽 Use Scale Aera	Color	Scale Aera ( 💌 📝	
▼ X-axis Scale				
Main Scale Division Number: 5	Main Scale Length:	12 👻	Axis/Scale Color	
Sub Scale Division Number: 2	Sub Scale Length:	8 🗘	Axis/Scale Color	•2
☑ Display Grid Line   Line Colc ▼ ☑				
🖉 Mark				
Font: Size: 8 🔻 Font: Arial	▼ Font Col	or 🕶 🍠		
Ose Point Scale Value Ose Tim	e Scale Value			

The option "Use Point Scale Value" means that the values of the sampling data points are used as the X-axis scale. The option "Use Time Scale Value" means that the time of the data sampling is used as the X-axis scale.

• X-axis Scale



The source of Y-axis value can be set "Use ... Channel Maximum Minimum Value" or "Self-setting". The default is "Use 1 Channel Maximum Minimum Value". It is shown as below.

Trend Chart	×
General Channel Search Scale Display	_
🕼 Use Background Color 🛛 📕 Backgro 👻 🍼 🕼 Use Scale Aera Color 📄 Scale Aera C 💌 🎽	
☑ X-axis Scale	_
Main Scale Division Number: 5 🔪 Main Scale Length: 12 👻	_
✓ Sub Scale Division Number: 2   Sub Scale Length: 8	2
🕼 Display Grid Line 📃 Line Cole 💌 🌌	
🖉 Mark	
Font: Size: 8  Font: Arial Font Color	
V-axis Scale	
Main Scale Division Number: 5 👻 Main Scale Length: 12 👻	
✓ Sub Scale Division Number:     2     ✓     Sub Scale Length:     8     ✓	
🕼 Display Grid Line 👘 Line Colc 🔻 🍠	
✓ Mark Interger: 3 → Decimal: 0 →	
Font: Size: 8 🔹 Font: Arial 🔹 Font Color 👻	
Ouse 1	
Self-setting:	

After you select the option "Use ... Channel Maximum Minimum Value", you can specify a channel number. And the minimum and the maximum values of this channel will be used as the minimum and the maximum values of the Y axis.

If the option "Self-setting" is selected, you can set the maximum and minimum values by yourself as the source of Y-axis. The minimum and maximum values can be set by Constant or by Variable. The settings are shown as below.



Trend Chart	? <mark>×</mark>
General Channel Search Scale Display	
✓ Use Background Color Backgro ▼ ✓ Use Scale Aera Color Scale Aera ( ▼	
√ ▼ X-axis Scale	
Main Scale Division Number: 5 🗙 Main Scale Length: 12 🗙 Axis/Scale Color	
▼ Sub Scale Division Number: 2 Sub Scale Length: 8 -	
🔽 Display Grid Line 📃 Line Colc 💌 🌌	
V Mark	
Font: Size: 8 🔻 Font: Arial 💌 🖬 Font Color 👻	
Use Point Scale Value     Use Time Scale Value	
Use Point Scale Value Use Time Scale Value	
V-axis Scale	
Main Scale Division Number: 5 A Main Scale Length: 12 Axis/Scale Color	
▼ Sub Scale Division Number: 2 Sub Scale Length: 8 ▼	
🗹 Display Grid Line 📃 Line Colc 👻 🍠	
Mark Interger: 3 🗙 Decimal: 0 🐳	
Font: Size: 8 - Font: Arial - Font Color -	
Self-setting: Min Value: Constant ▼     0 ▼     Max Value: Constant ▼     1 ▼	

For more details, please refer to: Detailed manual/Component/Scale.

### 4.6.7.1.5 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

#### 4.6.7.2XY Chart

The "XY Chart" refers to the curve formed by the corresponding data points which are comprised by a set of data registers or two different sets of data registers. All settings are described below.

# 4.6.7.2.1 General



	Display	
efresh Mode		Data Point
Ocyclic Ocyclic Ocyclic		
Sampling Cycle	L 🚔 X S 🕒	Constant 🔹 10 👗
		Control Setting
		Pause Control
		Clear Control
🛛 Use Cursor		
Display/Hide the Cursor:	LBO	Cursor Color: 🔳 Cursor Color: 👻 🍠
	LB0=1:Display the Cursor. LB0=0: Hide the Cursor.	e moving cursor by click or slide actions.
Cursor Data address:	LW0	
	LW0: Current Cursor Coordinate LW1: Current Cursor Coordinate	
Help Description:		OK Cano

### Refresh Mode

The "Refresh Mode" includes two types: "Cyclic" and "Triggered".

> Cyclic

The default refresh mode is "Cyclic". The default sampling cycle period is 1 second. That means the curve is refreshed every 1 second. The minimum sampling cycle period is 0.1 second.

> Triggered

After you select "Triggered" refresh mode, you need to specify a bit register and select the "Trigger Mode". The Trigger Mode can be set "Bit" or "Word".



For the "Bit" trigger mode, there are three "Trigger Condition": "OFF $\rightarrow$  ON", "ON $\rightarrow$ OFF" and "OFF $\leftrightarrow$ ON". You can choose one of them. The settings are shown as below.

XY Chart		?
General Channel Scale	Display	
Refresh Mode		Data Point
Cyclic Origgered		
Address: LB0		Constant 🔹 10 🔦
Trigger Mode: 🖲 Bit	O Word	
Trigger Condition: ON<->OFF ▼ ON<->OFF ON->OFF OFF->ON		Control Setting
		Clear Control
✓ Use Cursor		
Display/Hide the Cursor:	LBO	Cursor Color: Cursor Color: V
	LB0=1:Display the Cursor. LB0=0: Hide the Cursor.	
Cursor Data address:	LW0	Cursor Color: Cursor Color: V able moving cursor by click or slide actions.
	LW0: Current Cursor Coordinate 2 LW1: Current Cursor Coordinate 2	
Help Description:		OK Cancel

For example, if the trigger condition is set "OFF $\rightarrow$  ON", that means the XY curve will be refreshed when the specified bit register is changed from OFF to ON.

There is an option "Auto Reset" for the trigger condition "OFF $\rightarrow$  ON" and "ON $\rightarrow$ OFF". If you check it, the bit register state will be reset after it is changed.

For the "Word" trigger mode, the details are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Logical Control</u>.

• Data Point



The default value is 10. The range is from 2 to 4096. The option "Data Point" can be set byConstant or by Variable.

# • Control Setting

Pause control

If you check this option, a bit register needs to be specified to control the Pause function. When the bit register is ON, the XY chart is paused and not be refreshed.

Clear control

If you check this option, a bit register needs to be specified to control the Clear function. When the bit register is ON, the data of the current XY chart is cleared.

# • Use Cursor

After this option is checked, some parameters need to be set. The settings are shown as below.



rigger Mode:  Bit	◯ Word		▲ ▼
) Cyclic @ Triggered ddress: LB0 rigger Mode: @ Bit rigger Condition: ON<->C	© Word		•
rigger Mode:  Bit	© Word		×
		Control Setting	
rigger Condition: ON<->C	₩FF ▼	Control Setting	
		control setting	
		Pause Control	
		Clear Control	
Use Cursor			
Display/Hide the Cursor: L	BO	Control Setting Pause Control Clear Control Cursor Color: Cursor Color:	
	0=1:Display the Cursor.		
LB	0=0: Hide the Cursor.		
		moving cursor by click or slide actions.	
	wo	Cursor Color: Cursor Cursor Color: Cursor Cu	
	V0: Current Cursor Coordinate 2 V1: Current Cursor Coordinate 3		
LV	1: Current Cursor Coordinate	r value	_

Display/Hide the cursor

Same to the Trend Curve, a bit register needs to be specified to control the cursor display or hide.

Cursor Color

The cursor color is set here.

Cursor Data address

Similarly, you need to set a starting address of a continuous word registersarea here to save the coordinate data information of which the cursor is crossed with the XY chart. The data type is depended on the setting in the "Channel" property TAB. For example, the data type is set "16-bit Unsigned in the "Channel" property TAB and the first starting register address is set LW100, then the data of the cursor (X, Y) is (LW100, LW101). If the



data type is "Single-precision Floating-point Number", then the data of the cursor (X, Y) is (LW100, LW102). Other data types can be done in the same matter.

## 4.6.7.2.2 Channel

The "Channel" property TAB is shown as below.

eneral Channel Scal	e Display					
hannel Number:	1					
hannel Settings						
hannel X Address	,	/ Address		Туре	Remark	
LW0		LW1		16-bit Unsigne 🔻		
Channel Setting						
Use Dot Mark:						
🛽 Draw connecting line	e Line Color	Line Color	r 💌 🥭 Line Widt	h [ •	Line Style -	
Projection a	ong X-axile Dire	ection	Projection al	ong Y-axile Directi	ion	
in ojection u	ong A dane birt			ong i axie bireea	ion.	
(-axis:						
	tant 💌	0	Maximum Value	e: Constant ▼	100	
Minimum Value: Const	tant 🔻	0	Maximum Value	e: Constant 🔻	100	
Minimum Value: Const	tant 🔻		Maximum Value	e: Constant 🔻	100	
Minimum Value: Const /-axis:		0 👻	Maximum Value Maximum Value		100	_
Minimum Value: Const 7-axis: Minimum Value: Const	tant 🔻	0	Maximum Value	e: Constant 🔻	100	
Minimum Value: Const 7-axis: Minimum Value: Const	tant 🔻	0	Maximum Value		100	
Minimum Value: Const 4-axis: Minimum Value: Const Channel address occup	tant 🔹	0	Maximum Value XY address	e: Constant 🔹	100	
Vinimum Value: Const /-axis: Vinimum Value: Const Channel address occup XY Continuous Addre	tant 🔹	0	Maximum Value XY addres: X0 : LW0	e: Constant 🔹 s corresponding r Y0 : LW1	100	
Minimum Value: Const (-axis: Minimum Value: Const Channel address occup	tant 🔹	0	Maximum Value XY addres X0 : LW0 X1 : LW2	e: Constant • s corresponding r Y0 : LW1 Y1 : LW3	100	
Vinimum Value: Const /-axis: Vinimum Value: Const Channel address occup XY Continuous Addre	tant 🔹	0	Maximum Value XY address X0 : LW0 X1 : LW2 X2 : LW4	e: Constant 🔹 s corresponding r Y0 : LW1	100	
	tant 🔹	0	Maximum Value XY addres X0 : LW0 X1 : LW2	e: Constant • s corresponding r Y0 : LW1 Y1 : LW3	100	

# • Channel Number

The default value of the "Channel Number" is 1. The XY chart can display up to 16 channels simultaneously.

• Channel Settings



You can define the channel information in the "Channel Settings" table: the X address and the Y address are continuous by default. As shown as above, the default starting X address is LW0 and the default starting Y address is LW1. They are continuous. If you check the box in front of the Y address, the Y address can be not continuous with the X address. For example, you can set the starting Y address LW100.

➤ Type

Select the data type for the current channel according to the actual needs.

> Remark

You can note the name of the curve for the current channel in the "Remark" column. For example, channel 1 is noted as "Disc A track".

Same as the Trend Curve, selecta channel in the "Channel Settings" table, there are many parameters can be set for the selected channel in the following "Channel Setting". The most parameters are same to the settings of the Trend Curve. The option "Projection along Y-axis Direction" is added here. The meaning of this option is same to the "Projection along X-axis Direction" but the direction is different. The Minimum Value and the Maximum Value of the Y-axis can be set different with X-axis. They can be set by Constant or by Variable. The default range of the Minimum Value and the Maximum Valueis from 0 to 100. The detailed settings can be referred to the "Channel" property TABof the Trend Curve.

For the information of the occupied addresses by the current channel, it is depended on the data type of this channel. You can view the text which is noted below the "Channel Setting". It is shown as below.



eneral	Channel Scale Display					
hannel	Number: 1					
hannel	Settings					
	X Address	Y Address		Туре	Remark	
	LW0	ELW1		16-bit Unsigne		
	el Setting Dot Mark:					
Use	-	r 📕 Line Colo	r 🔻 🍠 Line Widt	th	▼ Line Style —	
🛛 Use 🗸 Drav	Dot Mark:	-		th v		
🛛 Use 🗸 Drav	Dot Mark: connecting line Line Colo	-				
Ū Use ☑ Drav X-axis:	Dot Mark: connecting line Line Colo	-		ong Y-axile Direc		<b></b>
Ū Use ☑ Drav X-axis:	Dot Mark: connecting line Line Colo	Direction	Projection al	ong Y-axile Direc	tion	
□ Use ☑ Drav X-axis: Minimu ⁄-axis:	Dot Mark: connecting line Line Colo	Direction	Projection al	ong Y-axile Direc	tion	
☐ Use ✓ Drav X-axis: Minimu Y-axis: Minimu	Dot Mark: connecting line Line Colo Projection along X-axile m Value: Constant •	Direction 0 -	Maximum Value	ong Y-axile Direc	tion 100 -	*
Use Draw X-axis: Minimu V-axis: Minimu Channe	Dot Mark: v connecting line Line Colo Projection along X-axile m Value: Constant m Value: Constant	Direction 0 -	Maximum Value Maximum Value Maximum Value	ong Y-axile Direc e: Constant ▼ e: Constant ▼	tion 100 -	*
Use Draw X-axis: Minimu Y-axis: Minimu Channe XY Co	Dot Mark: v connecting line Line Colo Projection along X-axile m Value: Constant • M Value: Constant •	Direction 0 -	Maximum Value Maximum Value Maximum Value XY addres X0 : LW0 X1 : LW2	ong Y-axile Direct c Constant c Constant s corresponding Y0 : LW1 Y1 : LW3	tion 100 -	*
Use Draw X-axis: Minimu Y-axis: Minimu Channe XY Co	Dot Mark: v connecting line Line Colo Projection along X-axile m Value: Constant • M Value: Constant • address occupation descri- ntinuous Address	Direction 0 -	Maximum Value Maximum Value Maximum Value XY addres X0 : LW0 X1 : LW2	ong Y-axile Direct c Constant c Constant s corresponding Y0 : LW1	tion 100 -	*



XY Char	t					? <mark>- x</mark>
General	Channel Scale Displa	ау				
Channel	Number: 1					
Channel	Settings					
C <mark>h</mark> annel	X Address	Y Address		Туре	Remark	
1	LW0	UW100		16-bit Unsigne	•	
	nel Setting					
	Dot Mark:					
🔽 Draw	v connecting line Line C	olor Line Color	💌 🗾 Line Wid	th	<ul> <li>Line Style</li> </ul>	•
	Projection along X-ax	ile Direction	Projection a	ong Y-axile Direc	tion	
X-axis:						
Minimu	m Value: Constant 🔻	0	Maximum Valu	e: Constant 🔹	100	
Y-axis:						
Minimu	m Value: Constant 💌	0	Maximum Valu	e: Constant 🔻	100	•
Channe	l address occupation de	scription:	XY addres	s corresponding	relation of coord	inates:
VV ad	dress are set, X occupy		×0.1W	Y0 : LW100		
	0~LW109.	Live Live, 1 occupy		Y1 : LW101		
			0.00760.0003	Y2 : LW102		
Help	Description:				ОК	Cancel
help	Description:				UN	Cancel

# 4.6.7.2.3 Scale

Refer to the "Scale" property TABof Trend Curve.

#### 4.6.7.2.4 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

#### 4.6.7.3Data Group ChartDisplay

The "Data Group Chart Display" component is a curve comprising of a set dataof specified continuous registers.

## 4.6.7.3.1 General



eneral Channel Sca	le Display			
Each screen sampling Din Browse Method: V Scrollbar Scrol V Slide Note: Only	rection: Le	10 ▼ eft To Right ▼ 20 ▼ ve screen.	Refresh Mode © Cyclic © Triggered Sampling Cycle 1 X S •	
Control Setting				
Stop Control				
Clear Control				
Display/Hide the Cu	LB0 =1: Sho LB0 =0: Hid	w the cursor le the cursor ursor is visible, enal	Cursor Color: 📕 🔹 📝	
Cursor Data Area:	LW0			
			oughfare data format:Storage the current h channel 1.	
Use Zoom		(only for multi-toucl	h hardware)	

## • Each screen sampling points

The default value of this option is 10. Theminimum value is 2 and the maximum value is less than the width of the used screen resolution. For example, the used screen resolution is 800\*480, and then the maximum value of samples per screen is 799.

#### • Direction

The "Direction" option is set "Left ToRight" by default. You can set it "Up To Down" too. They are corresponding to the "Horizontal" and "Vertical" display modes.

The settingsof these parameters such as the "Browse Method", the "Control Setting", the "Refresh Mode" and the "Use Zoom" are same to the "XY Chart". The details can be referred to the settings in the "General" property TAB of XY Chart.



### • Use Cursor

It is not checked by default. After check it, the parameters are shown as below.

Data Block Displaying		2
eneral Channel Sca	le Display	
	points: 10 🔹	Refresh Mode © Cyclic  © Triggered Sampling Cycle  1  X S
Browse Method: Scrollbar Scrol Slide Note: Only	lbar Width 20 💉 y for capacitive screen.	
Control Setting Stop Control		
Use Cursor		
Display/Hide the Cu	LB0 =1: Show the cursor LB0 =0: Hide the cursor	Cursor Color: 🗾 💌 🖍
Cursor Data Area:	LW0 III X-axis Points LW2Rise:use the sampling thor data value of the curve through	roughfare data format:Storage the current h channel 1.
	ich zooming (only for multi-toucl ol Zoom Function:	h hardware)
Help Description	n:	OK Cance

The settings of these options are same to the Trend Curve or the XY Chart, such as the "Display/Hide the Cursor" and the "Cursor Color".

## • Cursor Data Area

Similarly, you can set a "Word Register" as the starting address of the continuous registers here. The first two word registers areused to save the point number where the cursor stays. The registers from the specified register address + 2 are used to save the data of which the cursor is crossed with the XY chart.



As shown as above, the starting register is set LW0, and then LW0 and LW1 save the point number where the cursor stays. If there are three channels for the XY chart, the data type of the Channel 1 is "16-bit Unsigned", the second channel is "Single-precision Floating-point Number", the third channel is "32-bit Unsigned", then LW2 (16-bit Unsigned number) save the Channel 1 data, LW3 (Single-precision Floating-point Number) save the Channel 2 data, LW5 (32-bit Unsigned) save the Channel 3 data. Other channelscan be done in the same matter.

## 4.6.7.3.2 Channel

Channel Set	ting			From the Start	Address, the Sa	mpling A	ddress is Continu
Channe	Samplin			Start Address	Data Ty		Remark
1 LV	W100		LW101		16-bit Unsi	gne 🔻	
1 Channel							
🔲 Dot Ma		e Line Colo	r 🔳 🔻	Line Widt	h •	Line	Туре ———
🔲 Dot Ma	rk: onnecting line	e Line Colo jection in X-			h	· Line <sup>-</sup>	Type
🔲 Dot Ma 🔽 Draw co	rk: onnecting line	jection in X-				Line -	
🔲 Dot Ma 📝 Draw co	rk: onnecting line Proj	jection in X-	-axis Direct	tion			

## • Channel No.

There is 1 channel by default.A "Data Group ChartDisplay" component can display up to 16 channels.



## • From the Start Address, the Sampling Address is Continuous.

This option is checked by default. If the register of the "Sampling No." for channel 1 in the "Channel Setting" table is set "LW100" and the "Data Type" is "16-bit Unsigned", then LW101 is used to save the first sample data, LW102 is used to save the second, and so on. If the "Data Type" is set "32-bit Unsigned", then LW101 (32-bit Unsigned) saves the first sample data, LW103 (32-bit Unsigned) saves the second sample data. Other data types can be done in the same matter.

If you don't check the option "From the Start Address, the Sampling Address is Continuous.", it means the "Start Address" of the registers to save the sample data can be set independently. The settings are shown as below.

neral C	hannel	Scale	Display	1											
Channel	No.:		1												
Channel	Setting					From	the Sta	rt Add	ress, th	ie Sam	pling	Addre	ess is C	Contin	uous
Channe	S	Sampling No.				Start Ad	_	Data Type							
1	LW100	00 🔳			LW20	0			16-bit	Unsign	ie 🔻				
Dot	nnel Settir Mark: v connec lue:	ting lin	e Line C ection i	NX-axi	s Dire	ction	Line W Value: (	(	nt v	-•]	Line 100	• Type			- •



The below parameters setting for the selected channel is same to the Trend Curve or the XY Chart. Please refer to the settings in the "Channel" property TAB of the Trend Graph or XY Curve.

## 4.6.7.3.3 Scale

Refer to the settings in the "Scale" property TAB of the Trend Curve.

## 4.6.7.3.4 Display

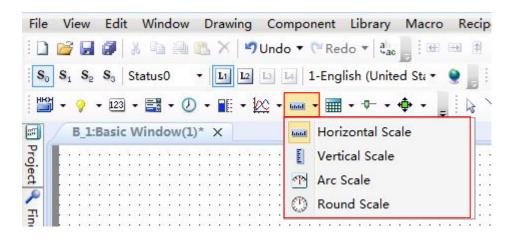
The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

# 4.6.8 Scale

The "Scale" includes four types: "Horizontal Scale", "Vertical Scale", "ArcScale" and "RoundScale". You can add a Scale component by clicking the menu command or by using the shortcut tools bar.

Con	nponent Library Macro Recipe Setup	Tools Help
	Switch	• ) ㅠ ㅠ 프   알 쥐 돼 🤫   👊
9	Indicator Light	▶ 🛛 B_1:Basic Window(1) 🛛 🕶 💽
123	Numeric Value and Character Display	· 0700 = 1 2 1
ню	Toggle Switch and menu	
0	Timer and Data Transmission	•
	Bar And Meter	• • • • • • • • • • • • • • • • • • • •
100	Curve Graphs	•
had	Scale	Horizontal Scale
	Table	Vertical Scale
-0-	Slider	Arc Scale
	Moving Component	Round Scale
	Window	•
1	List	•
R	Tools	•
÷	Pipeline	•





The "Horizontal Scale" is mainly used to display a progress bar. The "Vertical Scale" can be used to display the current liquidlevel of a tank orthe charge state of a battery. The "Arc Scale" can display the value of a fuel meter, a speed meter, and other display devices. The "Round Scale" can display the revolutionspeed, the angle and other parameters.

#### 4.6.8.1General

### 4.6.8.1.1 Horizontal Scale

	1	•	•			•	•			•				•				•	•			•	•			•	•			•	•	•		•	•	1	1	•	•		1	•
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	0			S	3			1	1			S.,	- 23			S.,	- 23				1			Ξ.	2			÷.	1			1	1			S	- 23			8.	- 22	
	2		0		-83			0			0	÷.	-83		2		2			5	0		2		-83		9		- 22		8	1	00	)	2		- 80		1	ä.	-80	
							÷																										[									
	33	8	8		8	2			3	2	1	8	- 83	1	8	Ξ.	8					8	3	9	3	2	8	Ξ.	8	2	8		1	2	8	с.	- 23	8		Ξ.	- 33	1
	1	1			1	•		1	1			1	1	۰.	1	1	1		•	÷.	1	1	1	1	1		1	1	1		1	1	1						•			1
	1			2		•		-											1								1				1		-			2			•	2		
•					•	•						•			1	•				•				•	•			•	•			•	•			•				•		
8	1			8	•	•	1	2				1		•		2		•	•	2	1		٠.	8	•	•	•	÷.		•	•	ं				87		•	•	27	10	•
•		•			•	•	•	•	1	•	•	•		•	•	•		•	•	•		•	•	•	•	•	•	•		•	•	•		•	•		1	•	•	•	1	•
•			•	•	•	•	•	•		•	•	•		•		•		•	•	•			•	•	•	•	•	•			•	•			•	÷.		•	•	•		
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82		85		22				22		-		82		85		22				12	$\sim$	85		12				12				1		85		22	10			22	10	e:
	9								4												2															÷.					- 63	
																				÷.				÷.				÷.				÷.				÷.				÷.		

First, the option "Horizontal" is selected. Then you can do other settings for the Horizontal Scale component.



Horizontal Vertical Arc Circle	Position			
7 Line	Position: X :	116 🗘	<b>Y</b> :	73 🗘
Line Color	Locked Width:	150 🗘	Height:	57 🗘
Line Width				
Line Type 📃 🔻				
Scale				
Main Scale Bisection: 2			Position: U	р 🔻
Sub Scale Division Number 2	Sub Scale Length	28 🗘		·
V Axis				
Mark Integer: 3 Cec	imal: 0 🛟			
Fonts: Font Size: 8 • Font	ts: 微软雅黑 ▼	Fo	nt 🕶 🍠	
Min Value: Constant 👻 0	\$			
Max Value: Constant 🔻 100				
Scale Is Reverse				

• Line

You can set the line color, the line width and the line type to meet the needs of your project.

- Scale
- > Main Scale Bisection

Subdivide the scale in the scale range.



Main Scale Bisection:	5 🗘			Position: Up -
Sub Scale Division Number	2 🗘	Sub Scale Length	6 🗘	Position: Up 🔻
✓ Axis				
Mark Integer: 3	Decim	al: 0 🌲		
Fonts: Font Size: 8	Fonts:	Arial	Fo	nt 🔻 📝
Min Value: Constant 🗸	0	\$		
Max Value: Constant 👻	100	\$		
Scale Is Reverse				

Sub Scale Division Number

The main scale is subdivided singly. The option "Sub Scale Length" can be set to make difference with the main scale.

Main Scale Bisection:	5 🗘		a 11
Sub Scale Division Number	2 🗘	Sub Scale Length 6	Position: Up ▼
Z Axis			
Mark Integer: 3	Decim	al: 0 🌲	
Fonts: Font Size: 8	<ul> <li>Fonts:</li> </ul>	Arial 🔹	Font 💌 📝
Min Value: Constant 👻	0	\$	
	100	\$	

Mark

The option "Mark is used to set the value of the main scale.

The option "Integer" refers to the number of the decimal integer digits. The option "Decimal" refers to the number of the decimal fraction digits.

You can set the font size, the font color and the font type for the main scale here.



The options "Min Value" and "Max Value" are used to set the range of the main scale.

Main Scale Bisection:	5 🗘				
Sub Scale Division Number	2 🗘	Sub Scale Length	6 🗘	Position: U	p •
Axis					
Mark Integer: 3	Decim	al: 0 🗘			
Fonts: Font Size: 8	Fonts:	Arial	Fo	nt 🕶 🍠	
Min Value: Constant 🔻	0	\$			
Max Value: Constant 🗸	100	\$			

The options "Min Value" and "Max Value" can be set by Constant or by Variable. If you set them by Variable and specify word registers for them, you can change the range of the main scale by modifying the value of the specified word registers.

Main Scale Bisection:	5 🗘				
] Sub Scale Division Number	2 🗘	Sub Scale Length	56 ÷	Position:	Up •
Axis					
Mark Integer: 3	Decim	al: 0 🌻			
Fonts: Font Size: 8	Fonts:	Arial 🗸	For	nt 💌 🍠	
Min Value: Variables 🗸	•				
Max Value: Variables 🔻	•				

Usually, the scale value is displayed increasing from left to right.Sometimes, it needs to be displayed increasing from right to left. To do that, you should check the option "Scale Is Reverse".



Main Scale Bisection:	5 🗘			Position: Up 🔹
Sub Scale Division Number	2 🗘	Sub Scale Length	56 🗘	Position: OP +
🗸 Axis				
Mark Integer: 3	Decim	al: 0		
Fonts: Font Size: 8	▼ Fonts:	Arial	Fo	nt 🕶 📝
Min Value: Constant 🗣	0	\$		
Max Value: Constant 🔹	100	\$		

> Axis

You can check the option "Axis" to display the axis of the scale. The position of the axis can be set "Up", "Down" or "Center". Of course, you can remove the check tohide the axis of the scale.

Main Scale Bisection:	5 🗘					
Sub Scale Division Number	2 🗘	Sub Scale Leng	th 56	÷	Position:	Up 🔹 Up
Axis						Down Center
Mark Integer: 3	Decim	al: 0 🗘				
Fonts: Font Size: 8	Fonts:	Arial	•	For	nt 🔹 🍠	
Min Value: Constant 🗸	0	÷				
Max Value: Constant 🗸	100	\$				

#### 4.6.8.1.2 Vertical Scale

For the "Vertical Scale", the only difference with the "Horizontal Scale" is the option "Position" in the "Scale" property box. It is shown as below.



General Display		
🔘 Horizontal 🔘 Vertica 🔘 Arc 🔘 Circle	Position	
	Position: X : 116 🗘	Y: 73 🗘
Line Color 👻 🍠	🔲 Locked Width: 150 🗘 Hei	ght: 30 🗘
Line Width 📃 🔻		
Line Type		
Scale		
	14	
Main Scale Bisection: 5	Positi	on: Inside 👻
☑ Sub Scale Division Number 2		Inside
🗸 Axis		Right Center
		center
Mark Integer: 3	mal: 0 🌲	
Fonts: Font Size: 8 - Font	s: Arial 🔹 🔽 Font 👻	×
Min Value: Constant 🔹 0	<b>*</b>	
Max Value: Constant 🔹 100	÷	
Scale Is Reverse		
Scale Is Reverse		

### 4.6.8.1.3 Arc Scale

For the "Arc Scale", there are three differences with the "Horizontal Scale". The options "Starting Angle" and "End Angle" are added in the "Angle" property box. The option "Main Scale Length" is added in the "Scale" property box. The option "Position" in the "Scale" property box is different.

The option "Main Scale Length" is shown as below.



Window Drawing Component Library Macro	Recipe Setup Tools Help
🐒 🗈 🚇 隆 🗙 🔊 Undo 🔻 🖓 Re 🖪 Scale	? 🔀
itatus0 - L1 L2 L3 L4 1-Eng General Displa	У
- ≝ - ② - ■ - ∞ - ■ - ■ ) ○ ` ○ ○ □ ■ ► ※ - ■ - ■	○ Vertical Arc Circle Position       Position:     X:     116 ♀     Y:     73 ♀
Window(1)* ×	
	□ Locked Width: 150 ↓ Height: 150 ↓
Line Width	Angle
Line Type	Starting Angle 0 Kind Angle 180 Kind
Scale Scale	
	Bisection: 5 C Main Scale Length: 30 C Position: In V
	e Division Number 2 🗘 Sub Scale Length 2 🗘
Axis	
Mark	Integer: 3 Cecimal: 0
Fonts:	Font Size: 8 - Fonts: Arial - Font -
Min Valu	e: Constant • 0 •
Max Val	ue: Constant • 100 +
Scale I	s Reverse
Help De	scription: OK Cancel

The start angle and the end angle can be set for the arc scale in the "Angle" property box. The settings and the effect are shown as below.

	🔁 Scale
AN 1944 1944 1944 1946 1944 1944 1944 1944	General Display
	○ Horizontal ○ Vertical ◎ Arc ○ Circle       Position       Y:       160 \$
an <mark> lang lang lang lang lang lang lang la</mark> ng	
•	Line Color Vidth: 250 CHeight: 250 C
40 60	Line Width Angle Angle Line Type Starting Angle 180 The End Angle 0
	Scale
ta <del>lana na na na na na na na na na</del> d	Main Scale Bisection: 5 Main Scale Length: 30 Position: In
	☑ Sub Scale Division Number 2 ♀ Sub Scale Length 15 ♀
	I Axis
	☑ Mark Integer: 3 ♀ Decimal: 0 ♀
250	Fonts: Font Size: 8 - Fonts: Arial - Font -
<u></u>	Min Value: Constant 🗸 0

For the option "Position" in the "Scale" property box, the axis position of the sacle can set "In", "Out" and "Center".



Main Scale Bisection:	5	\$	Main Scale Length:	30	\$		
						Position:	In 🔻
V Sub Scale Division Number	2	÷	Sub Scale Length	15	\$		In
🖉 Axis							Out Center
Mark Integer: 3	\$	Decim					
		Decim					
Fonts: Font Size: 8	_	Fonts:	- · ·		For	nt 💌 🍠	
Fonts: Font Size: 8 Min Value: Constant •			- · ·		For	nt 🔹 🍠	

# 4.6.8.1.4 Round Scale

For the "RoundScale", the only difference with the "Arc Scale" is that there is not "Angle" settings. It is shown as below.



Scale	? <b>×</b>
General Display	
🖤 Horizontal 🖤 Vertical 🖤 Arc 🔍 Circle	Position Position: X : 50 \$ Y : 160 \$
Line	□ Locked Width: 250 🗘 Height: 250 🌲
Line Width	
Scale	
Main Scale Bisection: 5	Main Scale Length: 30 Scale Length: 15 Position: In •
<ul> <li>Sub Scale Division Number 2</li> <li>Axis</li> </ul>	Sub Scale Length 15
Mark Integer: 3 Cecim	nal: 0 🗘
Fonts: Font Size: 8 • Fonts:	Arial 🔹 Font 🔹
Min Value: Constant 🔹 0	\$
Max Value: Constant ▼ 100	\$
Help Description:	OK Cancel

The settings of the "Position" for the Scale component are referred to: <u>Detailed</u> <u>manual/General functions/Drawing/Position</u>.

#### 4.6.8.2Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

## 4.6.9 Table

The "Table" component is used largely in the project. There are two types: "Fixed-width Table" and "Fixed-height Table". You can add a Table component by clicking the menu command "Component/Table/Fixed-width Table" or ""Component/ Table/ Fixed-height Table". Of course, you can add it by using the shortcut tools bar.



Con	ponent	Library	Macro	Recipe	Setup	Too	Is	Н	lelp	0									
	Switch		•			•	<b>U</b>	-0	ŀ	44			1	1		1	15	4	1
9	Indicator	Light				•	B_	1:8	as	ic \	Vin	do	w(	1)		•	4		C
123	Numeric	Value an	d Charac	ter Displa	ay .	•		*	4	2	×6.	6	5		4		~	1	
ню	Toggle S	witch and	d menu			۶. P		10	-								P		
0	Timer an	d Data T	ransmissi	on		•													
	Bar And	Meter				•		2550	2003				560	2003				2556	
100	Curve Gr	aphs				•	÷		123				3						
had	Scale					•	:	: :	: :	:	::	: :	:	: :	::	: :	:	:	ł
	Table					•	■	Fix	ed	-wi	dtł	n Ta	abl	e					Ì
-0-	Slider					•		Fix	ed	-he	eigl	nt T	ab	ole					ŀ
ф	Moving (	Compone	ent			۰T	•		•	•	• •	• •	··	•	• •	• •	•	·	ŗ.
E L	Window					•	:		123				3			3 1			
<b>6</b>	List					•	:	: :	: :	:	::	: :	:	: :	::	: :	:	•	:
R	Tools					•	÷	: :			: ;	: :				1		•	1
4	Pipeline					•	:	: :			::					 			
_							•	• •	• •	•		• •		•			•	•	

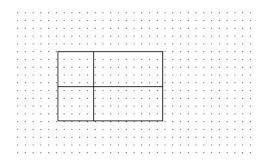


For the fixed-width table, the width of the cells is same and the height of the cells is equal. It is shown as below.

		•	1	•		•	1	•		•	1	•		•		•		•				•		•		•		•
		۶.				۶.		•		۰.		•		۰.				۰.		•		۰.				۰.		•
					14		44				44				44													
							1				1																	
		۶.				<u> </u>				· ·			_	· ·				· ·	_		_	۶.				۶.		
																					4							
		Ξ.				S.,	1			÷.				÷.				÷.			1	÷.				÷.		
0		2	- 2			2	- 2			2	- 2			2	2			2	2		1		2		1	2	2	
8		8	- 93				- 22	8		8	- 22	8		8	- 22	8		8.	9	8	- L	8	- 22	8		8.	- 22	83
					1								1								1							
8	1	9	- 83		1										1							1			1	4	- 80	
0		÷.	- 0				1			1	1				1	1		1	1					1		2	1	
		ं			1		0					:			0		•	۰.							•			1
		•						•		•			- 1			•								•				
	1	0	- 21	•	1	ľ.	- 20	•	1	1	- 21	•	1	1	1	•	1	1	1	1	1	1	1		1	1	1	1
	•			•	۰ <b>۲</b>	1															-	•	•	•	•	2	•	•
•	•	•		•	•	•	1	•	•	•		•	•	•		•	٠.	•	•	•	•	•	•	•	٠.	•	•	•
•	•			•		े.		•		۰.		•		•		•				•		۰.		•		•		•
1	10	10	21		10	1	21		100	1	21	1	1	1	21	1	100	1		12	1	1	21	13	1	1	2.5	15
•	•	•		•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•
•		•		•	•	•		•		•		•	•	•		•	•	•	÷	•	•	•	•	•	•	•	•	•
				•		2.		•				•								•		۰.		•				•
i.		22			e.	22		1	10	2		1	1	2		0	1	2		0	1	2		10	1	2		120

For the fixed-height table, the width and the height of the cells can be modified by mouse-dragging the split line. It is shown as below.





#### 4.6.9.1General

The "General" property TAB of the "Fixed-width Table" is shown as below.

Table	? <b>.</b> X
General Display Position	
Position: X: 57 \$ Y: 19 \$	
Locked Width: 274 C Height: 210 C	
Sheet Background Color: Backgroun	
Outline Type: Line Width: Outline Col *	
Row Count: 2 💭 🛛 Equal Height 📄 Hide Horizontal Split Line	
Column No.: 2 😴 Equal Width 🔲 Hide Vertical Split Line	
Select	
Select Mode: Select by Row 👻 Select Colc 👻 🎽	
Grid Position:	
Help Description: OK	Cancel

The "General" property TAB of the "Fixed-height Table" is shown as below.



Table	? <b>×</b>
General Display Position	
Position: X: 79 🗘 Y: 68 🗘	
□ Locked Width: 675 \$ Height: 318 \$	
Sheet Background Color: Outline Type: Split Line Type: Row Count: 2 Equal Height Hide Horizontal Split Line Column No.: 2 Equal Width Hide Vertical Split Line Select Select Select Mode: Select Dy Row Select Colc Select Colc	
Help Description: OK	Cancel

The difference with the "Fixed-width Table" is that the options "Equal Height" and "Equal Width" are not checked. Of course, you can check them and make the Fixed-height Table switch to the Fixed-width Table.

Position

The option "Position" in the "General" property TAB is referred to: <u>Detailed</u> <u>manual/General functions/Drawing/Position</u>.

• Appearance settings

The background color, the outline color, the split line color, the outline type, the split line type, the outline width and the split line width can be set for the table component appearance according to your needs and the project configuration.



General Display         Position         Position:       X:       258 \$ Y:       96 \$         Docked Width:       317 \$ Height:       161 \$         Sheet Background Color:       Backgroun \$ \$       Outline Type:       Outline Type:         Outline Type:       \$ Uine Width:       Outline Col \$ \$         Split Line Type:       \$ Uine Width:       \$ Split Line C \$ \$         Row Count:       2 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	
Sheet Background Color: Backgroun v   Outline Type: v   Split Line Type: v   Line Width: v   Split Line Type: v   Row Count: 2 v   Image: Column No.: <t< td=""><td></td></t<>	
Outline Type:   Split Line Type:   Line Width:   Split Line C   Row Count:   2   Image: Column No.:   2    3 <td></td>	
Column No.: 2 🗭 🗹 Equal Width 🗇 Hide Vertical Split Line Select Select Mode: Select by Row 🔹 Select Colc 👻	
Help Description: OK O	

The option "Row Count" and the option "Column No." are used to set the number of the rows and the columns of the table. The option "Equal Height" and the option "Equal Width" can be checked. If they are all checked, the table will be a fixed-width table.



Table	? <mark>-</mark> X-
General Display Position Position: X: 292 ↓ Y: 250 ↓ Locked Width: 160 ↓ Height: 100 ↓ Sheet Background Color: Backgroun ↓ ↓ Outline Type: ↓ Line Width: ↓ Outline Col ↓ ↓ Split Line Type: ↓ Line Width: ↓ ↓ Outline Col ↓ ↓ Row Count: 2 ↓ ↓ Equal Height Row Count: 2 ↓ ↓ Equal Height Gelumn No.: 2 ↓ ↓ Equal Width ↓ Hide Horizontal Split Line Select Select Select Mode: Select by Row ↓ Select Colc ↓ ↓ Grid Position: ↓ ↓	
Help Description:	

The option "Hide Horizontal Split Line" and the option "Hide Vertical Split Line" can be checked. You can check anyone or two to hide the split line of the table according to your needs

For example, only check the option "Hide Vertical Split Line". It is shown as below.

	Table
	General Display
	Position
	Position: X : 60 C Y : 100 C
	□ Locked Width: 160 ♀ Height: 100 ♀
	Sheet Background Color: Backgroun 🕶 🍠
· <mark>· · · · · · · · · · · · · · · · · · </mark>	Outline Type: Line Width: VIII Outline Col 🗸 📝
	Split Line Type: Line Width: Split Line C 🗸 📝
	Row Count: 3 💌 🛛 Equal Height 🖉 Hide Horizontal Split Line
	Column No.: 3 😴 🛛 Equal Width 🔲 Hide Vertical Split Line

Select

In the "General" property TAB, if you check the option "Select",the "Control Settings" property TAB will display.



Table	? 🗙
General O Control Settings Display	
Position: X: $60$ V: $100$	
Locked Width: 160 CHeight: 100 C	
Sheet Background Color: Backgroun V Outline Type: Vine Width: Outline Col V	
Split Line Type: Line Width:	
Row Count: 3 🛋 🗹 Equal Height 📝 Hide Horizontal Split Line	
Column No.: 3 💌 Equal Width 🔲 Hide Vertical Split Line	
V Select	
Select Mode: Select by Row 🔻 Select Colc 👻 🥂	
Grid Position:	
<u> </u>	
Help Description: OK	Cancel

# Select Mode and Select Color

After checking the option "Select", you can set the color of the row/column/cell which is selected during running the project. The option "Select Mode" can be set "Select by Row", "Select by Column" or "Select by Cell". It determines that the selected is a row, a column or a cell.

elect Mode:	Select by Row 🔹 Select Col	c 🕶 🍠
Grid Position:	Select by Row	
rid Position:	Select by Column	
	Select by Cell	

## ➢ Grid Position

For the option "Grid Position", you need to give a word register to record the selected row number if the select mode is "Select by Row". The first row number is 0.

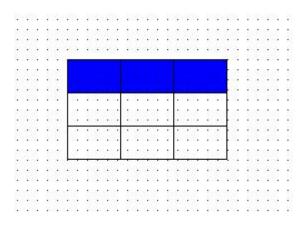


Select Mode	Select by Row	-	Select Colc 👻 🍠
Select Woode.	Sciece by now		
Grid Position:	LWO		

You need to give a word register to record the selected column number if the select mode is "Select by Column". The first column number is 0.

Select		
Select Mode:	Select by Column 🔻	Select Colc 👻 🍼
Grid Position:	1.WO	

The effect of the "Select by Row" mode is shown as below.



The effect of the "Select by Column" mode is shown as below.

	2	÷.	1	÷.	- 20	÷.	1	÷.	2	÷.	1	÷.		•	1	÷.	2	÷.	1	÷.	- 20	÷.	1	÷.	- 30
•	•	•	•		•	•	•		•	•	•		•	•	•		•	•	•	•	•	•	•		•
•	•	•	•	•	•	•	•	•		•	•	•			•	•	•	•	•	•	•	•	•	•	•
				÷.	_		_	_	-	_					<u> </u>				-	ή.				۰.	
2	6		e.							•	1	2			ŀ	2	6		e.	ł	6		e.	2	41
•	•	•	•							•	•	•	•		ŀ	•	•	•	:	Ł		•		•	•
•			• • •										1							ч.		•	•	•	
		•										े.			•			•		4		•		े.	
e.	4		e.								10	2	63		ŀ	22			e.	ł			e.	2	610
•	•	•	•								•	•		•	ŀ	•	•	•		Ł			•	•	•
•	•									•	•	•	•	•	ŀ	•	•	•					•	•	
		•										۰.		•				•		ł				۰.	
2	6.5		1								10	2	2.5		Ŀ	22	6.5		1	ł	6.5	:	e.	2	6.0
•	•	•	•	-						•	•						•	•	•	μ.	•	•	•	•	•
•	•	•	•	•		•		•		•	•	•						•	•	•		•	•	•	
		•		۰.		•		۰.		•		۰.		•				•		۰.				۰.	
1	40		e.	2	45	:	e.	2	4		10	2	$\delta_{1}$	:	e.	24	45		1	2	45	:	e.	2	4.5
	•	•		•		•		•		•	:	•		•		•		•		•		•	•	•	•
•	•	•	•	•		•	•	•		•		•			•	•		•	•	•		•	•	•	



When selecting the mode "Select by Cell", two continuous word registers are occupied. You need to give the first address of the two word registers here. The first word register records the selected rownumber and the second records the selected column number. The first row number and the first column number are 0.

Select			
Select Mode:	Select by Cell	•	Select Colc 👻 🍠
Grid Position:	LW0		
			d the up column is 0. d the left column is 0.

The effect of the "Select by Cell" mode is shown as below.

-	•	•	•	•	•	•	•	•	•	•		•2	•	•		12	•	•		12	•	•		•2		•
÷	•	•		•	:			•	•	•		•	•	•		•	•				•	• • •	•	•	•	
÷	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2						•		÷		•																
2	•	•	•	1		-					-				- 2	-					T)	•	•	1	•	•
÷	•	•		•								•	•	• • •		÷	•	•		1.1.1.1.	ł	•		•	•	•
÷	•	•		•							•	•	•	•	•	ŀ	•	•	•	•	Ł	•	•	•	•	•
2																					ł	•				
13	•	•	•	3	d.	•	•	10	•	• • •	•	10	•	• • •	•	ŀ	•	•	•		Ł	•		13	1	•
•	•	• • • •	•	•		•	•	•	•		•	•	•	•	•	ŀ	•	•	•	•	ł	•	•	•	•	•
÷	•	•	•		1.	•	•	•	•		•	•	•	•	•	•	•	•	•	•	Ł	•	•		•	
2					Г	•	•			•	•			•		·	•	•								
3	•	•		-3	1	•		-3	•	:	•	-3	•	•	•	:	•	•			Ł	•		-3	1	•
•	•	•	•	•		• •	•	•	•		•	•	•	•		ŀ	•	•	•	•	ł	•	•	•	•	•
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2													•			•					•					•
3	•	•	•	3	•	•	•	3	•	•		3	•	•		3	•	•	•	-3	•	•	•	3	1	•
ŝ	•	•	•	•	•	•	•			•		•	•	•	•	•	•	•	•	•	•	•		•	•	•

#### 4.6.9.2 Control Settings

The settings of the "Control Settings" property TAB are referred to: <u>Detailed</u> <u>manual/General functions/Drawing/Control settings</u>.

#### 4.6.9.3 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

## 4.6.10 Slider

The "Slider" component can change the value of the specified word register by pressing and moving the slider block.

#### 4.6.10.1 General



s Slider							? <b>×</b>
General	Scale	Background Graphics	Slider Graphics	Dynamic Graphics	Control Settings	Display	
				Direction:	Display Rightwa	ard 🔻	
Minimum	Value:	Constant 💌	0				
Maximum	Value:	Constant 🔹	100	Min Scale:	1	• •	
				Increas	e 1 🔺 mi	nimum scale per each clic	k
				🔲 Writing	value change sim	utaneously while sliding	
Read and	d Write	Address:					
Use A	128/04/2010/07/07						
Deivce:	LOCAL:[	[Local Register]		*			
Address	Type:	LW	•				
Address	6	*	System Regist	ter			
Format(F	Range) [	DDDDDD(0~799999) Oc		ord			
		the second se	16-bit Unsigned	•			
Addre	ess Inde	x					
2							
Help	Des	scription:				ОК	Cancel

• Minimum Value

The option "Minimum Value" refers to the minimum value of the slider. It can be set by a constant or by a variable. When use a variable to set, the details are referred to:<u>Detailed</u> <u>manual/General functions/Address editor/Standard Byte Address Input</u>.

Maximum Value

The option "Maximum Value" refers to the maximum value of the slider. It can be set by a constant or by a variable. When use a variable to set, the details are referred to:<u>Detailed manual/General functions/Address editor/Standard Byte Address Input</u>.



eneral 🧿 Scale 🛛 Backgro	und Graphics	Slider Graphics	Dynamic Graphics	Control Setting	s Display
			Direction:	Display Rightwar	rd 🔻
inimum Value: Variable 🔻	LW0				
aximum Value: Variable 🔻	🕞 Standard I	Byte Address Inp	out		23
	Use Add	dress Tag			le
		DCAL:[Local Regi	ster]		• V
1 1					
ead and Write Address:					
Use Address Tag	e Address Ty	ype: LW	•		
Use Address Tag	e Address Ty Address:	ype: LW	•	System Registe	er
Use Address Tag	Address:		-799999) Oc	System Registe	
Use Address Tag Deivce: LOCAL:[Local Regist	Address:	0	≁799999) Oc Data Type: 16-	cupy: 1 - Wo	
ead and Write Address: Use Address Tag Deivce: LOCAL:[Local Regist Address Type: LW Address: 0	Address:	0	former and the second se	cupy: 1 - Wo	
Use Address Tag Deivce: LOCAL:[Local Regist	Address: Format(Ra	0	former and the second se	cupy: 1 - Wo	
Use Address Tag Deivce: LOCAL:[Local Regist	Address: Format(Ra Address	0	former and the second se	cupy: 1 - Wo	

• Read and Write Address

You should specify a word register to change the value for the slider component. The word register input method is referred to:<u>Detailed manual/General functions/Address</u> editor/Standard Byte Address Input.

• Direction

The option "Direction" is used to set the display direction of the slider. It can be set "Display Upward", "Display Downward", "Display Leftward" and "Display Rightward",.

	<u> </u>				
General	Scale	Background Graphics	Slider Graphics	Dynamic Graphics	Control Settings Display
		Constant   Constant	0 🔶 100 🖍	Direction: Min Scale: — Increas	Display Rightward

• Min Scale

The "Min Scale" refers to the step of the slider block.





Increase

The option "Increase" is used to set the minimum increase or decrease per each click. It should set multiple of the "MinScale". If this option is not checked, it is set the value of the "Min Scale" by default.

• Writing value change simultaneously while sliding

After this option is checked, the word register which is set in the option "Read and Write Address" will change in realtime during sliding the slider component. If it is not checked, the value of the word register will change after the slider block is released.

### 4.6.10.2 Scale

The settings of the "Scale" property TAB are referred to: <u>Detailed manual/</u> <u>Component/ Scale</u>.

### 4.6.10.3 Background Graphics

The settings of the "Background Graphics" property TAB are referred to: <u>Detailed</u> <u>manual/General functions/Drawing/Graphic edit</u>.

## 4.6.10.4 SliderGraphics

The settings of the "Slider Graphics" property TAB are referred to: <u>Detailed</u> <u>manual/General functions/Drawing/Graphic edit</u>.

## 4.6.10.5 DynamicGraphics

The settings of the "Dynamic Graphics" property TAB are referred to: <u>Detailed</u> <u>manual/General functions/Drawing/Dynamic Graphics</u>.

## 4.6.10.6 Control Settings

The settings of the "Control Settings" property TAB are referred to: <u>Detailed</u> <u>manual/General functions/Drawing/Control settings</u>.

#### 4.6.10.7 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

## 4.6.11 Moving Component



You can click the menu command "Component/Moving Component/Moving Component" to add amoving component in your project.

### 4.6.11.1 General

eneral	Indicator Light 🥹	Lable	Graphics	Display			 
V Mo	ove in X-Axis Direction	1					
	Read Address	: LW	0				
S	creen Moving Range	: Axis	Upper Lim	it Constant	•	799 🗘	
		Axi	s Lower Lim	it Constant	•	0	
	Move Proportionally	/ Inpu	ut Lower <mark>Li</mark> m	nit Constant	•	0	
	Inversely Proportiona	l Inpu	it Upper Lin	nit Constant	•	799 🔦	
Mo	ove in Y-Axis Direction	n					
	Read Address	: Ľ	W10				
S	creen Moving Range	: Axi	s Lower Lim	it Constant	•	0	
		Axis	Upper Lim	it Constant	• •	479 👤	
	Move Proportionally	/ Inpu	ut Lower Lin	Constant	•	0	
	Inversely Proportiona	l Inpu	t Upper Lin	nit Constant	•	479	

The option "Move in X-Axis Direction" refers to moving along the horizontal direction. The option "Move in Y-Axis Direction" refers to moving along the vertical direction. These two options can be checked together. That means moving in an oblique line direction. The angle of the oblique line can be computed based on the moving distance along the x-axis and along the y-axis.

#### 4.6.11.1.1 Move in X-Axis Direction

Read Address

For this option, you should set a word register to specify the moving distance of the moving component along the x-axis. The standard word address input method is referred to:<u>Detailed manual/General functions/Address editor/Standard Byte Address Input</u>.

• Screen MovingRange





After check this option, you should set the upper limit and lower limit of the moving range on the screen.

# Axis Lower Limit

The option "Axis Lower Limit" refers to the minimum value of x-axis for the moving range. It can be a constant or a variable. When it is a variable, the details are referred to:Detailed manual/General functions/Address editor/Standard Byte Address Input.

# > Axis Upper Limit

The option "Axis Upper Limit" refers to the maximum value of x-axis for the moving range. It can be a constant or a variable. When it is a variable, the details are referred to:<u>Detailed manual/General functions/Address editor/Standard Byte Address Input</u>.

Move Proportionally

After check this option, the moving component will move according to the proportion that the "Input Lower Limit" is corresponding to the "Axis Lower Limit" and the "Input Upper Limit" is corresponding to the "Axis Upper Limit".

For example, the "AxisLower Limit" is 0, the "Axis Upper Limit" is 799, the "Input Lower Limit" is 0, and the "Input Upper Limit" is 7990. When the value of the specified word register is 0, the position is corresponding to the x coordinate: 0. When the value of the specified word register is 7990, it is corresponding to the x coordinate: 799.

InverselyProportional

This option can be checked when the option "Move Proportionally" is checked. After it is checked, the "Input Lower Limit" is corresponding to the "Axis Upper Limit" and the "Input Upper Limit" is corresponding to the "Axis Lower Limit". The moving component will move in ainverse proportion.

## 4.6.11.1.2 Move inY-Axis Direction

The settings of the "Move in Y-Axis Direction" are same to the "Move in X-Axis Direction".But the moving component is along the vertical direction.

# 4.6.11.2 Indicator Light

Display a picture or a text according to the status of the specified address.

The settings of the "Indicator Light" property TAB are referred to: <u>Detailed</u> <u>manual/Component/Indicator Light</u>.



### 4.6.11.3 Label

The settings of the "Label" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Label</u>.

### 4.6.11.4 Graphics

The settings of the "Graphics" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Graphic edit</u>.

### 4.6.11.5 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

### 4.6.12 Window

### 4.6.12.1 Bit Control Window

You can click the menu command "Component/Window/Bit Control Window" to add abit control window component in your project.

Con	nponent Library Macro Recipe Setup	Tools Help
	Switch	•
9	Indicator Light	▶ ■ B_1:Basic Window(1)    ►
123	Numeric Value and Character Display	* **** * **
ню	Toggle Switch and menu	
0	Timer and Data Transmission	•
	Bar And Meter	•
100	Curve Graphs	•
http://	Scale	•
	Table	• 1111111111111111111111111111111111111
-0-	Slider	•
	Moving Component	• 1111111111111111111111
- Hore	Window	Bit Control Window
-	List	Word Control Window
R	Tools	•
÷	Pipeline	•

4.6.12.1.1 General





The "Bit Control Window" component is similar to the "WordControl Window" component. The differences with the "WordControl Window" component are pointed out as below. The other details are referred to: <u>Detailed</u> <u>manual/Component/Window/Word Control Window</u>.

# • Bit register triggers thepop-up of window

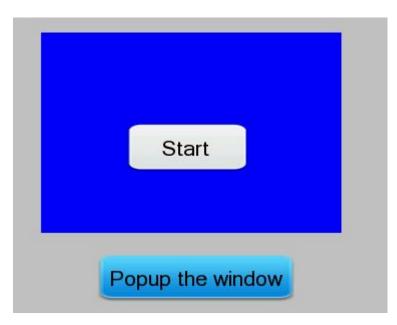
The option "Trigger Bit" is used to specify abit register to trigger a popup window. The popup window is determined by the option "Popup Window ID No.". If you select the option "Popup On", the window will popup when the bit register is ON.If you select the option "Popup Off", the window will popup when the bit register is OFF.

ral Display	fied window 🔘 V	Vord register cor	trol the popup w	vindow
register triggers the pop-up				
Trigger Bit: LB0		Popup On	Popup Off	
Popup Window ID No.: B_	2:Base Window(2)	•		
🔲 Use Variable Window ID	number:			
With Window Control Ba	r:			
Variable pop-up window	position			
🔲 Variable window size				

For example, a button named "Popup the window" is connected with LB0 and the trigger bit of the popup window component is set LB0. The simulation running result is shown as below. When press the button "Popup the window", the specified window will pop up.







# • Use Variable Window ID number

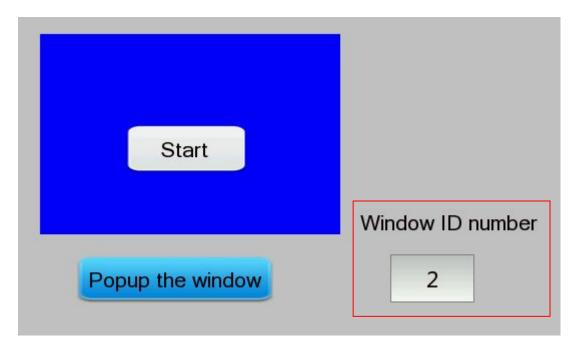
The function of "Use Variable Window ID number" is used to dynamically specify a pop-up window by using a word register.



🖪 Popup Window		? <b>×</b>
General Display		
Bit trigger pop-up the specified window O Word register contr Bit register triggers the pop-up of window	rol the popup	window
Trigger Bit: LBO	🛇 Popup Off	
☑ Use Variable Window ID number: LW0		
With Window Control Bar:		
Variable pop-up window position		
🔲 Variable window size		
Help Description:	ОК	Cancel

For the above example, the word register is specified LW0 and a numeric value input componentis connected with LW0. The simulation running result is shown as below. Enter the corresponding window ID number in the numeric value input component and then click the button"Popup the window", the designated window will pop up.





## 4.6.12.1.2 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

## 4.6.12.2 Word Control Window

You can click the menu command "Component/Window/Word Control Window" to add a word control window component in your project.



# HCTDesigner SOFTWARE MANUAL

Con	nponent Library Macro Recipe Setup	Tools Help
	Switch	🕨   市 & 些   😬 引 🔝 🤫   🥦 💀
9	Indicator Light	▶ B_1:Basic Window(1) - 💽 📑
123	Numeric Value and Character Display	· * ** ** * ** *
ню	Toggle Switch and menu	
0	Timer and Data Transmission	•
	Bar And Meter	•
100	Curve Graphs	•
had	Scale	•
	Table	•
-0-	Slider	•
\$	Moving Component	• 111111111111111111111
	Window	Bit Control Window
	List	Word Control Window
-	Tools	•
4	Pipeline	•
-		

# 4.6.12.2.1 General



# HCTDesigner SOFTWARE MANUAL

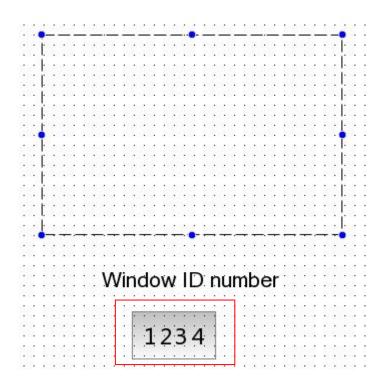
Fs Popup Window		an - College Cole and w		? <b>X</b>
General Display				
Bit trigger pop-up the	specified window	Word register cont	tro <mark>l the popup</mark>	window
Word register control the	pop-up of windov	v		
Popup Window ID:	LW0			
		sic Window of the com ne value is not 0.	responding Wir	ndow ID
🔲 With Window Contr	ol Bar:			
🔲 Variable pop-up wi	ndow position			
🔲 Variable window siz	e			
Help Description:			ОК	Cancel

## • Word register control the pop-up window

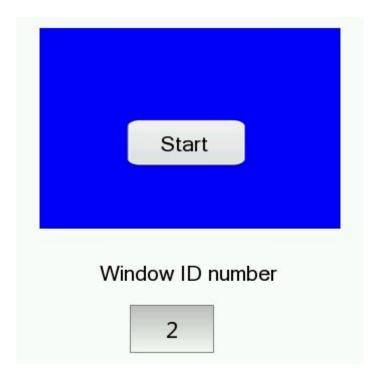
For the option "Popup Window ID", aword register needs to be given to specify the ID number of the popup window.

For example, add a word control window component and a numeric value input component in your project. The word register controlling the pop-up window is set LW0 and it is also connected with the numeric value input component. It is shown as below.





The simulation running result is shown as below. When input a positive integer value to the numeric value input component, the window which the ID number of it is equal to the inputted value will pop up.





## • WithWindow Control Bar

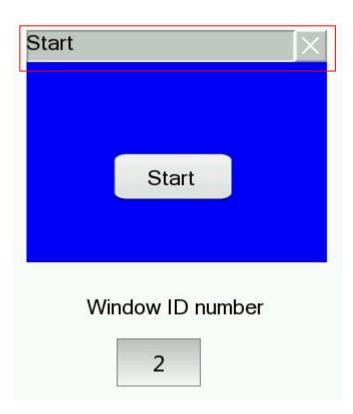
After checking the option "With Window Control Bar", you can add the window title by checking the option "Title" and add the window close button by checking the option "Close Button". The font of the window title can be set by clicking the button "Set Title". The details are referred to: <u>Detailed manual/General functions/Drawing/Font settings</u>.

With Window Control Bar:	Close Button 🔽 Title	Set Title
	Note: If window title is set in the pop-up window, other title settin	
Set Title		
Language: 1-English	(United S 👻 🍳	
OUse Text Library	Text Library	
Ose Labels		
Title Contents Save	Label Contents To Text Library	
Start		
Copy Current Text To	All Languages	
Import from Favori	te Font Templates.(I)	
Vector Font O Grap	hic Font	
Font: Microsoft Sans	0	K Canc
Size: 16 • B I		

After set the window control bar, the simulation running result is shown as below.







# • Variable pop-up window position

After check the option "Variable pop-up window position", a first address of continuous two word registers needs to be given to specify the X and Y coordinates of the pop-up window.

Variable pop-up window position	LW2	
	LW2: Initial X coordinates LW3: Initial Y coordinates	

For the above example, check the option "Variable pop-up window position" and the first word register address of the window position control is set LW2. Then add two numeric value input components in your project for inputting the X and Y coordinates of the pop-up window. They are connected with LW2 and LW3 separately.

The simulation running result is shown as below. When change the values of the numeric value input components, the position of the popup window will change.



# HCTDesigner SOFTWARE MANUAL

🙉 Emulator					
Start		X			
	Start				
		Window	ID number	X coordinate	Y coordinate
			2	0	0

Emulator			
	Start	X	
	Start		
	Window ID number	X coordinate	Y coordinate
	2	200	50

## • Variable window size

If you check the option "Variable window size", a first address of continuous two word registers needs to be given to specify the width and height of the popup window.



# HCTDesigner SOFTWARE MANUAL

Variable window size	LW4
	LW4: Window Width LW5: Window Height

For the above example, check the option "Variable window size" and the first word register address of the window size control is set LW4.Then add two numeric value input components in your project for inputting the width and height of the pop-up window.They are connected with LW4 and LW5 separately.

The simulation running result is shown as below. When change the values of the numeric value input components, the size of the popup window will change.

😫 Emulator	
Start	
Window ID number	Window Width Window Height
2	200 200





🔍 Emulator		
	Start	
	Start	
	Window ID number	Window Width Window Height
	2	300 250

## 4.6.12.2.2 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

4.6.13 List

### 4.6.13.1 Alarm and Event Display

## 4.6.13.1.1 Current Alarm and Event

The "Current Alarm and Event" function is to display the current triggered alarms and events in a tabular form.Only the trigger state is displayed.

## • General

The general properties of the "Current Alarm and Event" arebasically the same to the "Alarming and Event History". Please refer to: <u>Detailed manual/Component/List/Alarm and</u> <u>Event History</u>.



# HCTDesigner SOFTWARE MANUAL

	Table Display	
🔘 Al	: arm Bar(Marquee) armig and Event History urrent Alarming and Events	Show Group:       Browse Method:         From 1[0]       To 32[0]         Alarm and Events Login       Image: Stress
		Browser keg.
	splay Language: 1-English	▼ ♥ Show Title Title Font Setting Sorting Mode: By Date ▼ me font for Title and Table. List Font Setting © Ascending © Descending
Use	Display Item	Title Description
	Serial No.	
	Alarming Event Serial No	Confirm Mode: Single Click 🔻
	Alarming Event Group	11
	Alarming Event Emergen	Move Up
1	Date of Alarming Event	Date of Alarming Event Move Down
1	Time of Alarming Event	Time of Alarming Event
1	Count of Alarming Events	Counting
1	Alarming Event Contents	Content Restore Default
	Trigger Status	
Aları Date	ming Status Display:	le width:      Scroll ○ Interrupt Step: 5 → Pixel Speed: 10 → x 0.1s  Trigger: Trigger Trigger      Trigger      Recovery: Restore      Resume      Resume      Confirmed: Unconfirmed     Confirmed: Confirmed     Confirmed: Confirme      Time Format: HH:MM:SS      Column Spacing: 10 →

### Note:

The differences with the "Alarming and Event History" are shown as below.

Use	Display Item	Title Description	
V	Count of Alarming Events	Counting	
1	Alarming Event Contents	Content	
	Trigger Status		
	Confirm Status		
	Restore Date		
	Restore Time		
	Confirm Date		1
	Confirm Time		





> The "Current Alarm and Event" includes"Count of Alarming Events". But the "Alarming and Event History" does not include it.

> The "Current Alarm and Event" only displays the trigger status. It does not confirm and restore the status. So the gray color options in the tablecan not be checked.

# • Table

The settings of "Table" property TAB is referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Table drawing</u>.

# • Display

The settings of "Display" property TAB is referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

# 4.6.13.1.2 Alarming and Event History

The "Alarming and Event History" function is to display all alarms entries in tabular form, including the current and historical alarms and events.

<ul> <li>Current Alarming and Events</li> <li>Show List</li> <li>Display Language: 1-English ▼ ♥ ♥ Show Tit</li> <li>♥ Use Labels ■ Use same font for Title and Tabl</li> <li>Use Display Item Title Description</li> <li>Serial No.</li> <li>Alarming Event Serial No</li> <li>Alarming Event Group</li> </ul>	
<ul> <li>Alarm Bar(Marquee)</li> <li>Alarmig and Event History</li> <li>Current Alarming and Events</li> <li>Show List</li> <li>Display Language: 1-English ▼ ♥ ♥ Show Tit</li> <li>♥ Use Labels □ Use same font for Title and Tabl</li> <li>Use Display Item Title Description</li> <li>Serial No.</li> <li>Alarming Event Serial No</li> <li>Alarming Event Group</li> </ul>	To 32[0] • Events Login ScrollBar Scrollbar Width 20 ÷ Slide Note: Only for capacitive screen. Browser Reg. Browser Reg. He. List Font Setting Ascending Descending Select Color • • Confirm Mode: Single Click •
Display Language: 1-English  Show Tit Use Labels Use same font for Title and Tabl Use Display Item Serial No. Alarming Event Serial No Alarming Event Group	le. List Font Setting O Ascending O Descending
Use Labels       Use same font for Title and Table         Use       Display Item         Title Description         Serial No.         Alarming Event Serial No         Alarming Event Group	le. List Font Setting O Ascending O Descending
Serial No.       Alarming Event Serial No       Alarming Event Group	Confirm Mode: Single Click
Alarming Event Serial No     Alarming Event Group	
Image: Alarming Event Group	
	=
Alarming Event Emergen	Move Up
Date of Alarming Event Date of Alarming Event	Move Down
Time of Alarming Event Time of Alarming Event	
Count of Alarming Events	
Alarming Event Contents Content	Restore Default
Trigger Status	*
Display content beyond the table width:	errupt Step: 5 Pixel Speed: 10 x 0.1s Trigger ( ) Recovery: Restore Resume ) Confirmed: Confirmed Confirme ) Time Format: HH:MM:SS )



- General
- Show Group

You can select some groups of alarms and events to display in the alarm list.

### Note:

The alarms and events can be grouped when they are created. The range of groups is from 1 to 32. The alarm and event content can be set by clicking the button "Alarm and Events Login" or by double-clicking the "System Settings/Alarm and Event" in theproject tree. The details are referred to:<u>Detailed manual/Setup/System Settings/Alarm and Event</u>.

## Browse Method

Browse Method: ScrollBar Scrollbar Width 20	
Slide Note: Only for capacitive screen.	
▼ Browser Reg. LW0	

There are three browse methods: "Scroll Bar", "Slide" and "Browser".

The scroll bar will display in the alarm list if you check the option "Scroll Bar". You can view the alarms by using the scroll bar. The "Scrollbar Width" needs to be set. The unit of it is pixel.

You can check the option "Slide" in order to view the alarms by sliding the screen. This function is supported by the capacitive screen devices.

The option "Browser" can be checked when you need to view multiple pages. A word register needs to be specified to define the current page. The default isthat 0 represents the records on the current day, 1 represents the records on yesterday, 2 represents the records on the day before yesterday, and so on. The word register input is referred to: Detailed manual/General functions/Address editor/Standard Byer Address Input.

Show List



Use	Display Item	Title Description Select Color
	Serial No.	
	Alarming Event Serial No	Confirm Mode: Single Click
	Alarming Event Group	E
	Alarming Event Emergen	Move Up
1	Date of Alarming Event	Date of Alarming Event Move Down
1	Time of Alarming Event	Time of Alarming Event
	Count of Alarming Events	
1	Alarming Event Contents	Content Restore Default
	Trigger Status	· ·
Disp	lay content beyond the tabl	le width: 🖲 Scroll 🔘 Interrupt Step: 5 🖨 Pixel Speed: 10 🖨 x 0.1s
Alarr	ning Status Display:	Trigger: Trigger 🚺 Trigger ( 🗸 📝 Recovery: Restore 🛛 🔳 Resume 💌 🖉

"Display Language"

The "Display Language" is selected to switch the current display language for editing the Title Description. The details are referred to: <u>Detailed manual/Setup/System</u> <u>Settings/Language Settings</u>.

"Show Title"

The option "Show Title" is checked by default. If you do not want to display the title bar, you can cancel the check.

"Title Font Setting"

It is used to set the font of the title bar. The details are referred to: <u>Detailed</u> <u>manual/General functions/Drawing/Font settings</u>.

"Sorting Mode"

The "Sorting Mode" set the arrangement order of the alarms and events.

If you set "By Date" and select the option "Descending", the latest event will be displayed on the top.



If you set "By Level" and select the option "Descending", the higher level events are displayed on the top.

If you select the option "Ascending", the display order is inverse.

"Select Color"

The selected alarm entry will display in the color which is set by the option "Select Color".

# "Confirm Mode"

When the alarm is triggered, it is in the trigger status. If you want to confirm this alarm, you need to select the "Confirm Mode". It can be "Single Click", "Double Click" or "Press And Hold".

## "List settings"

The title bar contents of the alarm list are set in the below table. The contents of the title barcan be set to display by checking it. But the gray Display Items can not be checked.

Use	Display Item	Title Description		Select Color 🔹 🍼
	Serial No.		*	Confirm Mode: Single Click 🔻
	Alarming Event Serial No			Confirm Wode: Single Click •
	Alarming Event Group		E	
	Alarming Event Emergen			Move Up
V	Date of Alarming Event	Date of Alarming Event		Move Down
V	Time of Alarming Event	Time of Alarming Event		
	Count of Alarming Events			
V	Alarming Event Contents	Content		Restore Default
	Trigger Status		Ŧ	

For the order of the contents arrangement, you can use the button "Move Up" or "Move Down" to modify it. The content on the toprow will display on the left of the alarm list. You can restore the default arrangement by clicking the button "Restore Default ".

## "Display content beyond the table width"

There are two modes, "Scroll" and "Interrupt", to display the title contents when they are more than the alarm list width. You can select one mode to display.



The content will be displayed by scrolling if you select the "Scroll" mode. You need to set the step size (Step: 1 to 255 pixels), and the scrolling speed (Speed: 1 to 255\*0.1s).

Display content beyond the table width: <ul> <li>Scroll</li> <li>Interrupt</li> <li>Step:</li> <li>Pixel</li> <li>Speed:</li> <li>x 0.1s</li> </ul>
The excess contents will be truncated directly if you select the "Interrupt" mode.
"AlarmingStatus Display"
You can set the text color of the alarms and events in the different status here.

Alarming Status Display:	Trigger:	Trigger	📕 Trigger ( 👻 📝	Recovery:	Restore	📕 Resume ' 🕶 📝
	Unconfirmed:	Unconfirmed		Confirmed:	Confirmed	Confirme 👻 📝

# "Date and Time Format"

The "Date Format" is used to set the sort order of year (YY), month (MM) and day (DD). The "Date Separator" is used to set the separatoramongyear, month and day. The "Time Format" is used to set the time display format.

"Line Spacing and Column Spacing"

The "Line Spacing" and the "Column Spacing" are to set the ranks spacing of the alarm list. The unit is pixel and the range is 0-255.

# Table

The settings of the "Table" property page TAB are referred to: <u>Detailed manual/</u> <u>General functions/ Drawing/ Table Drawing</u>.

Search And Control

The "Search And Control" property TAB is shown as below.



eneral Table Search And Control Display	larm and Event Disp	ау	?
<ul> <li>Search By Date Search By Time Range Search By Sequence By Serial No. By Level Search by Group</li> <li>Register Query Mode W0 Enclose the part of the par</li></ul>	eneral Table Sear	ch And Control Display	
Register Query Mode LW0 Exact by Date 1:Search by Time Range, 2:Search by Sequence, 3:Search by Serial Number, 4:Search by Level, 5:Search by Group Evel, 5:Search by Group Evel, 5:Search of Exact by Evel, 5:Search of Evel by range. 2: no filtering Evel to 1: show the results filtered by range. 2: no filtering Evel to 1: Search of Evel t	Enable Search Fu	nction	
Register Query Mode LW0 Exact by Date 1:Search by Time Range, 2:Search by Sequence, 3:Search by Serial Number, 4:Search by Level, 5:Search by Group Evel, 5:Search by Group Evel, 5:Search of Exact by Evel, 5:Search of Evel by range. 2: no filtering Evel to 1: show the results filtered by range. 2: no filtering Evel to 1: Search of Evel t			
LW0 0:Search by Date ,1:Search by Time Range, 2:Search by Sequence ,3:Search by Serial Number, 4:Search by Level ,5:Search by Group Search Trigger Bit: LB0 @ LB0 1: show the results filtered by range. 2: no filtering Search Register: LW10 @ LW10~LW21 Use maximum 12 registers, depending on different search methods.			p
Sequence ,3:Search by Serial Number, 4:Search by Level ,5:Search by Group EBD 1: show the results filtered by range. 2: no filtering Search Register: LW10 E LW10~LW21 Use maximum 12 registers, depending on different search methods.	Register Query		
Level, 5:Search by Group         LB0         LB0 1: show the results filtered by range.         2: no filtering         Search Register:         LW10         LW10~LW21 Use maximum 12 registers, depending on different search methods.		LWU U:search by Date ,1:Search by Time Kange, 2:Search by Sequence, 3:Search by Serial Number, 4:Search by	
Search Trigger Bit: LB0 EB LB0 1: show the results filtered by range. 2: no filtering Search Register: LW10 EB LW10-LW21 Use maximum 12 registers, depending on different search methods.			
Search Register: 2: no filtering LW10 E LW10~LW21 Use maximum 12 registers, depending on different search methods.  Use Control Function  Export CSV	Search Trigger Bi		
Search Register: LW10 EW10~LW21 Use maximum 12 registers, depending on different search methods. Use Control Function Export CSV			
LW10-LW21 Use maximum 12 registers, depending on different search methods.         Use Control Function         Export CSV			
Use Control Function	Search Registe		
Export CSV		LW10~LW21 Use maximum 12 registers, depending on different search methods.	
Export CSV			
Export CSV			
Export CSV	<b>-</b>		
	Use Control Fund	lion	
	Export CSV		
Help Description: OK Canc			
Help Description: OK Canc			
Help Description: OK Canc			
Help Description: OK Canc			
Help Description: OK Canc			
Help Description: OK Canc			
Help Description: OK Canc			
Help Description: OK Canc			
Help Description: OK Canc			
Help Description: OK Canc			
Help Description: OK Canc			
Help Description: OK Canc			

### Enable Search Function

Check the option "Enable Search Function" to use the search function.

"Search mode"

Imable Search Function	
💿 Search By Date 💿 Search By Time Range 💿 Search By Sequence 💿 By Serial No. 💿 By Level 🤇	Search by Group
Register Query Mode LW0     LW	
LW0 0:Search by Date ,1:Search by Time Range, 2:Search by	
Sequence ,3:Search by Serial Number, 4:Search by	
Level ,5:Search by Group	

There aresevensearch modes: "Search By Date", "Search By Time Range", "Search By Sequence", "By Serial No.", "By Level", "Search by Group" and "Register Query Mode".

The "Register Query Mode" is a dynamic search mode. You can specify a word register to dynamically adjust the search mode. If the word register is 0, the "SearchByDate" mode is used. If it is 1, the "Search By Time Range" mode is used. If it is 2, the "Search By Sequence" mode is used. If it is 3, the "By Serial No." mode is used. If it is 4,



HCTDesigner SOFTWARE MANUAL

the "By Level." mode is used. If it is 5, the "Search by Group." mode is used. The word register address input method is referred to: <u>Detailed manual/General functions/Address</u> editor/Standard ByteAddress Input.

# "SearchTrigger Bit"

The option "Search Trigger Bit" is used to specify a bit register to trigger the search function. Note that the search function is not edge-triggered mode. When settingthe trigger bit 1, the alarm list displays the filtered results. After set the trigger bit 0, the list will display the results which are not filtered. The bit address input method is referred to: Detailed manual/General functions/Address editor/Standard Bit Address Input.

# "SearchRegister"

The "SearchRegister" is used to specify the first word register address for the search function. The number of the word registers is depending on the search mode. The function of the word registers used to searchis different for the different search mode. You can get the information of the used word registers according to the text displayed under the first word register address. The word address input method is referred to: <u>Detailed</u> <u>manual/General functions/Address editor/Standard ByteAddress Input</u>.

Search Register: LW10

LW10 : Year (Input unsigned number YYYY, e.g. 2015) LW11 : Month (Input unsigned number MM between 1 to 12) LW12 : Day (Input unsigned number DD between 1 to 31)

# Use Control Function

After checking this option, you can use word address registers to control the display of the alarms and events in the alarm list.

Use Control Function			
Control Register:	LW0		
	LW0:0: Display All Alarming Events		
	LW0:2: Hide the Recovered Event	LW0:3: Hide the	Confirmed and Recovered Event

# Export CSV

The option"Export CSV" is referred to:<u>Detailed manual/ General functions/ Drawing/</u> <u>Export CSV</u>.

Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.



## 4.6.13.1.3 Alarm Bar (Marquee)

The "Alarm Bar" function is to display the alarms and events in a single line and in a marquee form. The scrolling direction, step and speed need to be set. A title can be chosen to display.

Alarm ar eneral	nd Event Display Table Display	8
O Ala	arm Bar(Marquee) armig and Event History urrent Alarming and Events	Show Group: From 1[0]  To 32[0]  Alarm and Events Login
Show		
Die	play Language: 1-English	Show Title     Sorting Mode: By Date
V	Jse Labels	List Font Setting O Ascending O Descending
Use		Title Description
	Serial No.	<u> </u>
	Alarming Event Serial No	
	Alarming Event Group	=
	Alarming Event Emergen	Move Up
	Date of Alarming Event	Date of Alarming Event Move Down
	Time of Alarming Event	Time of Alarming Event
	Count of Alarming Events	
	Alarming Event Contents	Content Restore Default
	Trigger Status	*
	ning Status Display:	t To Lef  Step: 5  Pixel Speed: 10  x 0.1s Trigger: Trigger Trigger ( Confirmed: Unconfirmed Confirmed Confirmed Confirmed
Date	Format: YY*MM*DD 🔻	Date Separator: /   Time Format: HH:MM:SS
Line	Spacing: 0	Column Spacing: 10 👻
Help	Description:	OK

### General

Show Group

The specified groups of the alarms and events will display in the Alarm Bar.

The alarms and events can be grouped when they are created. The range of groups is from 1 to 32. The alarm and event content can be set by clicking the button "Alarm and Events Login" or by double-clicking the "System Settings/Alarm and Event" in the project tree. The details are referred to:<u>Detailed manual/Setup/System Settings/Alarm and Event</u>.



Show List

Use	Display Item	Title Description
	Serial No.	*
	Alarming Event Serial No	
	Alarming Event Group	E
	Alarming Event Emergen	Move Up
	Date of Alarming Event	Date of Alarming Event Move Down
	Time of Alarming Event	Time of Alarming Event
	Count of Alarming Events	
1	Alarming Event Contents	Content Restore Default
	Trigger Status	*
Marc	quee moving mode: Righ	t To Lef • Step: 5 • Pixel Speed: 10 • x 0.1s
Alarr	ning Status Display:	Trigger: Trigger 🚺 Trigger ( 🗸 📝 Recovery: Restore 🛛 🔳 Resume 💌 🍠
	Unan	nfirmed: Unconfirmed Confirmed: Confirmed

## "Display Language"

The "Display Language" is selected to switch the current display language for editing the Title Description. The details are referred to: <u>Detailed manual/Setup/System</u> <u>Settings/Language Settings</u>.

### "Show Title"

The option "Show Title" is checked by default. If you do not want to display the title bar, you can remove the check.

### "ListFont Setting"

The button "List Font Setting" is used to set the font of the title bar. The details are referred to: <u>Detailed manual/ General functions/ Drawing/ Font settings</u>.

### "Sorting Mode"

The "Sorting Mode" sets the arrangement order of the alarms and events.

If you set "By Date" and select the option "Descending", the latest event will be displayed on the top.





If you set "By Level" and select the option "Descending", the higher level events are displayed on the top.

If you select the option "Ascending", the display order is inverse.

"Use Labels"

If you check the option "Use Labels", the contents of the "Title Description" can use the default or you can edit them.

If you don't check the option "Use Labels", the contents of the "Title Description" can

be set by using the text in the text library. It is shown as below. You can click the button "...." to open the text library and select the required text. The details of the Text Library are referred to:<u>Detailed manual/Library/Text Library</u>.

Use Labels			List Font Setting	O Ascending
Use	Display Item	Title Description		
	Serial No.			*
	Alarming Event Serial No			
	Alarming Event Group			E
	Alarming Event Emergen			
	Date of Alarming Event			
	Time of Alarming Event			
	Count of Alarming Events			
1	Alarming Event Contents			
	Trigger Status			*

# "List settings"

The title bar contents of the alarm bar are set in the below table. The contents of the title barcan be set to display by checking it. But the gray Display Items cannot be checked.



# HCTDesigner SOFTWARE MANUAL

Use	Display Item	Title Description		
1	Serial No.		*	
鬱	Alarming Event Serial No			
	Alarming Event Group		E	
<b>E</b>	Alarming Event Emergen			Move Up
V	Date of Alarming Event	Date of Alarming Event		Move Down
1	Time of Alarming Event	Time of Alarming Event		more bown
<u>e</u>	Count of Alarming Events			
J	Alarming Event Contents	Content		Restore Default
	Trigger Status		*	inconcile bendant

You can use the button "Move Up" or "Move Down" to modify the order of the display items arrangement. The content on the toprow will display on the left of the alarm bar. You can restore the default arrangement by clicking the button "Restore Default ".

## "Marquee moving mode"

You can set the scrolling direction of the alarm contents, the step size (Step: 1 to 255 pixels), and the scrolling speed (Speed: 1 to 255\*0.1s).

Marquee moving mode: Right To Le	ef 🔹 Ste	5 🗘	Pixel	Speed:	10 🔷 x 0.1s
----------------------------------	----------	-----	-------	--------	-------------

### "Alarm StatusDisplay"

The alarm bar only displays the triggered alarms and events. So only the Trigger Color can be changed.

### "Date Format"

Alarming Status	Display: T	rigger:	Trigger	Trigger (	• 🖉	Recovery:	Restore		Resume	•
	Unconf	irmed: [	Unconfirme	d		Confirmed:	Confirmed		Confirme	•
Date Format:	YY*MM*DD ▼	Date	Separator:	/	• Tim	ne Format:	HH:MM:SS	•		
Line Spacing:	0	Colum	n Spacing:	10	*					

The "Date Format" is used to set the sort order of year (YY), month (MM) and day (DD). The "Date Separator" is used to set the separatoramongyear, month and day. The "Time Format" is used to set the time display format.

"LineSpacing and Column Spacing"



The "Line Spacing" and the "Column Spacing" are to set the ranks spacing of the alarm bar. The unit is pixel and the range is 0-255.

# • Table

The settings of the "Table" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Table Drawing</u>.

## • Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

# 4.6.13.2 Historical Data Display

The function of the "Historical Data Display" is to display the sampling data in tabular form. The display is continuously refreshed according to the specified sampling frequency.

Data So	Pause:	LBO 00: Ref			1	wse Method: Scroll Bar Scrol Slide Note: Only Browser Reg. Hide Column Regi			
how Li Langu 🔽 Use	age: 1-		n (Uni ▾) 💽 🛽 same font for Ti	☑ Display T itle Bar and		Table Font Settings	Aso	ng Mode: cending scending	
Use	Displa	ay Tl	Title Discription	n List Fo	nts Co	Data Type	Integer	Decimal	Leading Z
	Serial	No. S	erial No.		• 🖉				
1	Dat	te D	)ate		• 🖉				
	Tim	ie T	ime		•				
1	Chann	nel1 C	hannel1		•	Single-precision Flo	4	0	
1	Chanr	nel2 C	hannel2		• 🖉	16-bit Unsigned	4 🗘	0 🔶	
						Up [	Down	R	eset Default
	ormat: Y		•	ata Separat Space:			ormat: (	HH:MM:S	s 🔹



## 4.6.13.2.1 General

## Data Source

Select a data sampling from the pull-down list. If there is no data sampling, youcan

quickly build one by clicking the button " <sup>1</sup> . The details are referred to: <u>Detailed</u> <u>manual/Setup/System Settings/Data Sampling</u>.

## Pause

Abit registeraddress can be set to pause or start the display of the historical data sampling.

For example: set a bit address LB0 for the option "Pause". Then when LB0 is OFF, the latest data sampling is refreshed. When LB0 is ON, the refreshing is paused.

### Note:

The refreshing is paused, but sampling is not stopped. All sampling data will be refreshed.

## Browse Method

The "Browse Method" includes "Scroll Bar", "Slide", "Browser" and "Hide Column Register".

Scroll Bar	Scrollbar Width 20
Slide Note:	Only for capacitive scre

Scroll Bar

When checking the option "Scroll Bar", the list will appear scroll bar for viewing. The scrollbar width can be customized. The unit is pixel.

Slide

You can check the option "Slide" in order to view by sliding the screen. This function is supported by the capacitive screen devices.

Browser



The option "Browser" can be checked when you need to view multiple pages. A word register needs to be specified to define the current page. The default isthat 0 represents the records on the current day, 1 represents the records on yesterday, 2 represents the records on the day before yesterday, and so on. The word register input is referred to: Detailed manual/General functions/Address editor/Standard Byte Address Input.

# > Hide Column Register

If you check the option "Hide Column Register", a word register can be set. The value of the word register is used to control the display or hiding of each column.

Use	Lable 🔽 Us	e same font for Title	Bar and Table	Table Font Settings	6	ending cending	
Use	Display Tl	Title Discription	List Fonts Co	Data Type	Integer	Decimal	Leading Z
1	Serial No.	Serial No.	· · /				
V	Date	Date					
1	Time	Time	· · /				
J	Channel1	Channel1	<b>– – /</b>	Single-precision Flo	4	0	
1	Channel2	Channel2		16-bit Unsigned	4 🖨	0	
				Up	Down		set Defaul

## Show List

# > Language

The "Display Language" is selected to switch the current display language for editing the Title Description. The details are referred to: <u>Detailed manual/ Setup/ System</u>. <u>Settings/ Language Settings</u>.

# Display Title Bar

The option "Display Title Bar" is checked by default. If you do not want to display the title bar, you can remove the check.

# Table Font Settings



It is used to set the font of the title bar. The details are referred to: <u>Detailed</u> <u>manual/General functions/Drawing/Font settings</u>.

## Use Label

By default, the option "Use Label" is checked. The contents of the "Title Description" can use the default or you can edit them. It is shown as below.

Use	Display Tl	Title Discription	List Fonts Co	Data Type	Integer	Decimal	Leading Z
1	Serial No.	Serial No.	· · /				
1	Date	Date					
1	Time	Time	<b>– – /</b>				
1	Channel1	Channel1	· · · ·	Single-precision Flo	4	0	
1	Channel2	Channel2		16-bit Unsigned	4 🗘	0	

If you don't check the option "Use Label", the contents of the "Title Description" can be set by using the text in the text library. It is shown as below. You can click the button "..." to open the text library and select the required text. It is shown as below.

Use Lable 📝 Use same font for Title Bar and Table Table Font Settings 💿 Descending

Use	Display Tl	Title Discription	List Fonts Co	Data Type	Integer	Decimal	Leading Z
1	Serial No.		<b>- -</b>				
1	Date		<b>-</b>				
1	Time		<b>-</b>		-		
1	Channel1		Y	Single-precision Flo	4	0	
1	Channel2		3	16-bit Unsigned	4 🗘	0	

The details of the Text Library are referred to: Detailed manual/Library/Text Library.

## > Use same font for Title Bar and Table

By default, the font of the contents in the list is same to the font of the title bar. If you want to define the font of the contents in the list, you can remove the check and set the font by clicking the button "Table Font Settings".



The details are referred to: Detailed manual/General functions/Drawing/Font settings.



## Sorting Mode

There are two Sorting Modes: Ascending and Descending.When the option "Ascending" is selected, the oldest record is displayed in the first row. When the option "Descending" is selected, the newestrecordwill display on the first row.

## List Settings

Use	Display Tl	Title Discription	List Fonts Co	Data Type	Integer	Decimal	Leading Z
J	Serial No.	Serial No.	· · · /				
V	Date	Date	• • • • • • • • • • • • • • • • • • •				
J	Time	Time	<b>-</b>		5		
1	Channel1	Channel1	· · /	Single-precision Flo	4	0	
1	Channel2	Channel2		16-bit Unsigned	4 🗘	0	
	Channelz	Channel2		10-bit offsiglied	Y V	0	
			0	Up	Down		eset Default

You can select the required contents to display in the title bar by checking in the "Use" column. For the order of the contents arrangement, you can use the button "Move Up" or "Move Down" to modify it. The content on the toprow will display on the left of the Historical Data Display List. You can restore the default arrangement by clicking the button "Restore Default ".

## Date and Time Format

The "Date Format" is used to set the sort order of year (YY), month (MM) and day (DD). The "Date Separator" is used to set the separatoramongyear, month and day. The "Time Format" is used to set the time display format.

## Line Spacing and Column Space

The "Line Spacing" and the "Column Space" are to set the ranks spacing of the alarm list. The unit is pixel and the range is 0-255.

## 4.6.13.2.2 Table

The settings of the "Table" property TAB are referred to: <u>Detailed manual/ General</u> <u>functions/ Drawing/ Table Drawing</u>.

## 4.6.13.2.3 Search

• Enable Search Function



Check the option "Enable Search Function" to use the search function.

eneral Table Search 🥹	Display			
■ Enable Search Function				
Search By Date	Search By Time Range	Search By Seque	nce	
C Register Query Mode				
Search Trigger Bit:				
Search Register:				
Export CSV				

## > Search mode

There are four search modes supported: "Search By Date", "Search By Time Range", "Search By Sequence" and "Register Query Mode".

The "Register Query Mode" is a dynamic search mode. You can specify a word register to dynamically adjust the search mode. If the word register is 0, the "SearchByDate" mode is used. If it is 1, the "Search By Time Range" mode is used. If it is 2, the "Search By Sequence" mode is used. The word register address input method is referred to: Detailed manual/General functions/Address editor/Standard ByteAddress Input.



■ Enable Search Function	
🔘 Search By Date 🛛 🔘 S	earch By Time Range 🛛 🔘 Search By Sequence
Register Query Mode	LW0
	LW0 0:Search by Date ,1:Search by Time Range, 2:Search by Sequence

## Search Trigger Bit

The option "Search Trigger Bit" is used to specify a bit register to trigger the search function. Note that the search function is not edge-triggered mode. When set the trigger bit 1, the alarm list displays the filtered results. After settingthe trigger bit 0, the list will display the results which are not filtered. The bit address input method is referred to: Detailed manual/General functions/Address editor/Standard Bit Address Input.

Search Register

Search Register:	LW10
	LW10 ~ LW21: Depending on different search methods, take up to 12 words.

The "SearchRegister" is used to specify the first word register address for the search function. The number of the word registers is depending on the search mode. The function of the word registers used to searchis different for the different search mode. You can get the information of the used word registers according to the text displayed under the first word register address. The word address input method is referred to: <u>Detailed manual/General functions/Address editor/Standard ByteAddress Input</u>.

Export CSV

The option "Export CSV" is referred to: <u>Detailed manual/ General functions/ Drawing/</u> Export CSV.

### 4.6.13.2.4 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

### 4.6.13.3 OperatorLog

The function of the "Operation Log" is to record therequired detailed operation of the HMI device, such as a button is triggeredat a certain time, a value is modified at another certain time, and so on.The "Operation Log component displaysthe detailed operating records in the list form. You can search the recordsor export them.

Note 1:



For the created components, the operations are not recorded by default. To record the operation of a component, check the "RecordsOperation" option in the "Control Settings" property TAB and click the button "Set" to set the operation information. The details are referred to: <u>Detailed manual/General functions/Drawing/Control settings</u> and <u>Detailed manual/General functions/Drawing/Label</u>.

activation Settings	Security Settings
Always	Minimum Press Time: 0 (X0.1S)
Conditional	Require confirmation prior to execution
	Waiting Time 100 🔦 (X0.1S)
	Records Operation
	Minimum Operation Interval: 0 🔪 (X0.1S)
	Notification Settings
	Before Writing After Writing
	🔲 Notify Bit Address:
	Notify Byte Address:
	Trigger Macro:
Keyboard	
🔲 Use Keyboard	Audio
	🔲 Play Audio

## Note 2:

Only when the user privilegeis enabled and a user logs in, the operator user name will be recorded and displayed. When the user privilege is not enabled or there is no user to log in, the user name is displayed a blank in the operation records.

# 4.6.13.3.1 General

The general attributes of the "Operator Log" are set in the "General" property TAB.



Genera Brows V	e Methoo Scrollbar	Checking Display d: Scrollbar Width 20 Note: Only for capacitive s		3
Langu	ay the List Jage: 1- e Lable		♥ Display Title Bar Title Font S e Bar and List	Sorting Mode: Ascending (Older data are displayed first) Descending(Newer data are displayed first)
	Use	Display the Project	Title Bar Description	
		Serial No.	Serial No.	
		Date	Date	
		Time	Time	Up
	1	User Name	User Name	
	V	Operation Log	Operation Log	Down
	Format:		ime Split: /  Time For	Restore to default sorting
Row	Spacing	5 🗢 Colum	n Spacing 5 🜩	
Help	De	scription:		OK Cancel

### Browse Method

Browse Method:	
✓ Scrollbar Scrollbar Width	20 🔷
Screen Note: Only for capac	
Browser Reg.	

There are three browse methods: "Scrollbar", "Screen" and "Browser".

The scroll bar will display in the alarm list if you check the option "Scrollbar". You can view the alarms by using the scroll bar. The "Scrollbar Width" needs to be set. The unit of it is pixel.

You can check the option "Screen" in order to view the records by sliding the screen. This function is supported by the capacitive screen devices.

The option "Browser" can be checked when you need to view multiple pages. A word register needs to be specified to define the current page. The default isthat 0 represents the records on the current day, 1 represents the records on yesterday, 2 represents the



records on the day before yesterday, and so on. The word register input is referred to: Detailed manual/General functions/Address editor/Standard Byte Address Input.

Use	Display the Project	Title Bar Description	Descending(Newer data are displayed first
	Serial No.	Serial No.	
J	Date	Date	
	Time	Time	Up
	User Name	User Name	
	Operation Log	Operation Log	Down
			Restore to default sorting

# Display the list

## Language

The "Language" is selected to switch the current display language for editing the Title Description. The details are referred to: <u>Detailed manual/ Setup/ System Settings/</u> Language Settings.

### Display Title Bar

The option "Display Title Bar" is checked by default. If you do not want to display the title bar, you can remove the check.

### Title Font Setting

It is used to set the font of the title bar. The details are referred to: <u>Detailed</u> <u>manual/General functions/Drawing/Font settings</u>.

### Use label

By default, the option "Use Label" is checked. The contents of the "Title Bar Description" can use the default or you can edit them. It is shown as below.





Use	Display the Project	Title Bar Description
1	Serial No.	Serial No.
1	Date	Date
1	Time	Time
V	User Name	User Name
J	Operation Log	Operation Log

## 

If you don't check the option "Use Label", the contents of the "Title Bar Description" can be set by using the text in the text library. It is shown as below. You can click the

button ", to open the text library and select the required text. It is shown as below.

📃 Use Lable 🛛 📝	Use same	font for Title	Bar and List
-----------------	----------	----------------	--------------

Use	Display the Project	Title Bar Description
1	Serial No.	
1	Date	
1	Time	
1	User Name	
1	Operation Log	

The details of the Text Library are referred to: Detailed manual/Library/Text Library.

### Use same font for Title Bar and List

By default, the font of the contents in the list is same to the font of the title bar. If you want to define the font of the contents in the list, you can remove the check and set the font by clicking the button "Table Font Settings".

Use same font for Title Bar and List

Table Font Setting

The details are referred to: <u>Detailed manual/General functions/Drawing/Font settings</u>.

### Sorting Mode

There are two Sorting Modes: Ascending and Descending.When the option "Ascending" is selected, the oldest record is displayed in the first row. When the option "Descending" is selected, the newestrecordwill display on the first row.



## List Settings

Use	Display the Project	Title Bar Description	
V	Serial No.	Serial No.	
1	Date	Date	
1	Time	Time	Up
1	User Name	User Name	-F
1	Operation Log	Operation Log	Down

You can select the required contents to display in the title bar by checking in the "Use" column. For the order of the contents arrangement, you can use the button "Up" or "Down" to modify it. The content on the toprow will display on the left of the Operator Log List. You can restore the default arrangement by clicking the button "Restore to default sorting".

## Date and Time Format

The "Date Format" is used to set the sort order of year (YY), month (MM) and day (DD). The "Date Time Split" is used to set the separatoramongyear, month and day. The "Time Format" is used to set the time display format.

## Row Spacing and Column Spacing

The "Row Spacing" and the "Column Spacing" are to set the ranks spacing of the operator log list. The unit is pixel and the range is 0-255.

## 4.6.13.3.2 Table

The settings of the "Table" property TAB are referred to: <u>Detailed manual/ General</u> <u>functions/ Drawing/ Table Drawing</u>.

### 4.6.13.3.3 Checking

• Enable Search Function

Check the option "Enable Search Function" to use the search function.



🖪 Operate Log Display	ಷ್ ನಕ್ಕೆ		? <mark>×</mark>
General Table Checking 🥹	Display		
■ Enable Search Function			
Oheck By Date	Check By Time Range	Check By Sequence	Check By User Name
OUse register to control th	ne search mothod.		
Search trigger bit			
Search Register			
Export CSV			
Help Description:			OK Cancel

## Search mode

There are four fixed search modes supported: "Check By Date", "Check By Time Range", "Check By Sequence" and "Check By User Name".

The "Use register to control the search method" is a dynamic search mode. You can specify a word register to dynamically adjust the search mode. If the word register is 0, the "CheckByDate" mode is used. If it is 1, the "Check By Time Range" mode is used. If it is 2, the "Check By Sequence" mode is used. If it is 3, the "Check By User Name" mode is used. The word register address input method is referred to: Detailed manual/General functions/Address editor/Standard ByteAddress Input.

Check By Date	Check By Ti	me Range	Check B	y Sequence	Check By User Name
Output Ster to control the second states	earch mothod.	LW0			
		LW0 0:Search 1:Search By 1 2:Search By 9 3:Search By 1	lime Range, Sequence,		

### Search trigger bit

The option "Search trigger bit" is used to specify a bit register to trigger the search function. Note that the search function is not edge-triggered mode. When set the trigger



bit 1, the alarm list displays the filtered results. After set the trigger bit 0, the list will display the results which are not filtered. The bit address input method is referred to: <u>Detailed</u> <u>manual/General functions/Address editor/Standard Bit Address Input</u>.

SearchRegister

The "SearchRegister" is used to specify the first word register address for the search function. The number of the word registers is depending on the search mode. The function of the word registers used to searchis different for the different search mode. You can get the information of the used word registers according to the text displayed under the first word register address. The word address input method is referred to: <u>Detailed manual/General functions/Address editor/Standard ByteAddress Input</u>.

Search Register	LW10	
	LW10: Year (Input unsigned n LW11: Month (Input unsigned LW12: Day (Input unsigned nu	number MM between 1 to 12)

# Export CSV

The option "Export CSV" is referred to:<u>Detailed manual/ General functions/ Drawing/</u> Export CSV.

## 4.6.13.3.4 Display

The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Display</u>.

## 4.6.14 Tools

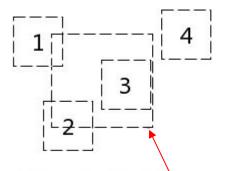
The "Tools" component includes "Touch Trigger", "Canvas", "Calendar Clock" and "QR-Code".

File	View Edit Window Drawing	Com	ponent Library	Macro Re	ecipe S	etup	Fools	Help
10	🚰 🛃 🗿 🕺 🛍 🕮 🕰 🗙 🔊		Switch			•	I III	* 표   말 한 교 🤫   🎙
S	$\mathbf{S}_1 \ \mathbf{S}_2 \ \mathbf{S}_3$ Status0 $\mathbf{\bullet}$ L1 L2	9	In <mark>dicator Lig</mark> ht			•	B_	1:Basic Window(1) 🛛 🝷 📄
HH	- 💡 - 📖 - 🕍 - 🕖 - 🏢 - 😰	123	Numeric Value and	d Character	Display	•		* * * * 🚵 📥 **
	1200000000	_	Toggle Switch and			•	r	
	Public Window* B_1:Basic	0	Timer and Data Tr	ansmission		•		
	Public Window D_1.busic	E	Bar And Meter			•		
ojec		100	Curve Graphs			•		
-		had	Scale			•		
Project 🥄 Find			Table			•		
dar		-0-	Slider			•		
d Re			Moving Compone	nt		•		
pla		·····	Window			•		
in a			List			•		
Re		R	Tools			•	1	Touch Trigger
and Replace Reference		4	Pipeline			•		Canvas
nce		_					P	Calendar Clock
								QR-Code



## 4.6.14.1 Touch Trigger

The "Touch Trigger" component can be used in the occasions that a component or more components can be triggered not by touching. That is, all components which occupy the active area of the touch trigger component can be triggered when the registerspecified by the touch trigger component meets the conditions.



The area of a touch trigger component

As shown as above, when the trigger condition of the touch trigger component is met, the components 1,2 and 3 will be triggered, while component 4 will not be triggered. The property page of the "Touch Trigger" component is shown as below.



		2
Frigger Settings 🥹	Dynamic Graphics Display	
Trigger Simulation	Гуре	
Simulation Cli	ck 🔘 Simulation Sliding 🔘 Simulation Zoom	
Trigger Condition:		
Bit Status Chang	ing 🔘 World Value Changing 🔘 Condition Judgment	
rigger Address:	<b></b>	
	F->ON	
rigger Mode: OF	F->ON	

### 4.6.14.1.1 Trigger Simulation Type

The "Trigger Simulation Type" refers to the trigger type of the "Touch Trigger" component. It includes "Simulation Click", "Simulation Sliding" and "Simulation Zoom". They are corresponding to the trigger actions when the trigger conditions of the touch trigger component are met.

<ul> <li>Simulation Click</li> </ul>	
Trigger Simulation Type	
Simulation Click Simulation Sliding	Simulation Zoom
•	

When the trigger conditions of the touch trigger component are met, the components which occupy the active area of the touch trigger component will execute the click action, such as clicking a switch button.

• Simulation Sliding



Trigger Simulat	ion Type	
Simulatio	n Click 💿 Simulation Sliding 🔘 Simulation Zoom	
Touch Control	Parameters	
LW0		
The sliding an decline.	gle, 0 for the right slide, 90 slide up, 180 slide to the le <mark>ft</mark> , 270	to
LW1		
The sliding vel	ocity, unit: pixel per second	

When the trigger conditions of the touch trigger component are met, the components which occupy the active area of the touch trigger component will execute the sliding action within this area. The sliding action is controlled by two word registers. The first word register controls the sliding angle, 0 for sliding to right, 90 for sliding up, 180 for sliding to left, 270 for sliding down. The second word register controls the sliding velocity. The sliding velocity unit is pixel per second. The address input of the word register is referred to: Detailed manual/General functions/Address editor/Standard ByteAddress Input.

<ul> <li>Simulat</li> </ul>	ion Zoom
Trigger Simulati	on Type
Simulation	Click 🔘 Simulation Sliding 💿 Simulation Zoom
Touch Control P	arameters
LW1	
Zoom ratio, 0~ amplification.	200, in percent, less than 100 is reduced, with more than 100

When the trigger conditions of the touch trigger component are met, the components which occupy the active area of the touch trigger component will execute the zooming action within this area, such as viewing the trend curve by zooming.

The zoom ratio is controlled by a word register. The range of zoom ratio is 0-200, in percent. The value 1-200 is legal. It represents the zoom percentage which less than 100 is corresponding to reducing and more than 100 is corresponding to amplification. The address input of the word register is referred to: <u>Detailed manual/ General functions/</u><u>Address editor/ Standard ByteAddress Input</u>.

#### 4.6.14.1.2 Triggering Condition



Trigger Condition		d Value Changing 🔘 Condition Judgment
Trigger Address	EB0	
Trigger Mode:	OFF->ON	Auto Reset

The "Trigger Condition" supports "Bit StatusChanging", "Word Value Changing" and "Condition Judgment". The settings are referred to: <u>Detailed manual/Component/Timer</u> <u>and Data Transmission/Timer</u>.

#### 4.6.14.2 Canvas

The property page of the "Canvas" can be opened by clicking the menu command "Component/Tools/Canvas".

#### 4.6.14.2.1 Monochrome Brush

You can control the graphics canvas by bit registers. You can modify the canvas color and the pen color, as shown as below.



eneral Dynam	nic Graphics Display
Brush Type	
Monochror	me Brush 📃 Canvas 👻 🍠 🔳 Pen Co 👻 🍠
Multicolor	
Address	
🔲 Use Add	lress Tag
Deivce: LO	CAL:[Local Register]
	within a Byte Register
Address Ty	pe: LB
Address Ty Address:	pe: LB
Address Ty Address:	pe: LB
Address Ty Address: Format(Rar	pe: LB
Address Ty Address:	pe: LB
Address Ty Address: Format(Rar	pe: LB
Address Ty Address: Format(Rar	pe: LB
Address Ty Address: Format(Rar Address	pe: LB
Address Ty Address: Format(Ran Address Address Refresh © Timing Re	pe: LB O System Register oge) DDDDDD(0~7999 Index The length of occupancy address: 16384
Address Ty Address: Format(Ran Address Address Refresh © Timing Re	pe: LB O System Register Inge) DDDDDD(0~7999 Index The length of occupancy address: 16384 efresh O Trigger Touch



ieneral D	ynamic Gra	phics	Disp	lay		
Position						
Position:	<b>X</b> :	0	\$	Υ:	0 🗘	
Locked	Width:	128	\$	Height:	128 🗘	
a	N-1-1-1					
Always E Condition	nal Display					
	nai Dispiay					

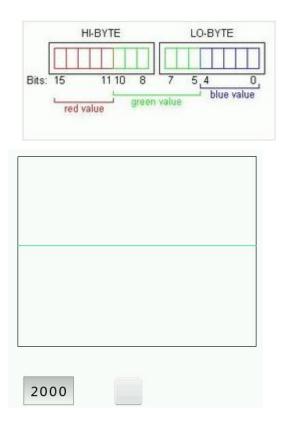
In the above settings, you can see that the Canvas Width is 128 and the Canvas Height is 128 in the "Display" property page. The size of the canvas is 128\*128.So theoccupied LBaddresses number is 16384. It is displayed in the "General" property page. Ifany of the address LB0 ~ 160000 is 1, the corresponding pixel on the canvas is white.If it is 0, the corresponding pixel on the canvas is black. You can also check the "Bit-index within a Byte Register" to set the canvas. It is easy to program a complex graphic. You can set LW0=65535 (0xFFFF) directly if you want all LW0.0~ LW0.15 to be 1.

### 4.6.14.2.2 Multicolor Brush



The settings of the "Multicolor Brush" are similar to the monochrome brush. The default canvas color is white. Each pixel of the canvas is controlled by using word registeraddresses. The color of pen brushis based on the value of the corresponding word address according to the RGB565 form.

The RGB565 mode is a color mode which a pixel occupies two bytes. The first 5 bits in the low byte are used to indicateB (BLUE). The last 3 bits in the low byte + the first 3 bits in the high byte are used to indicateG (Green). The last 5 bits in the high byte are used to indicate R (RED).





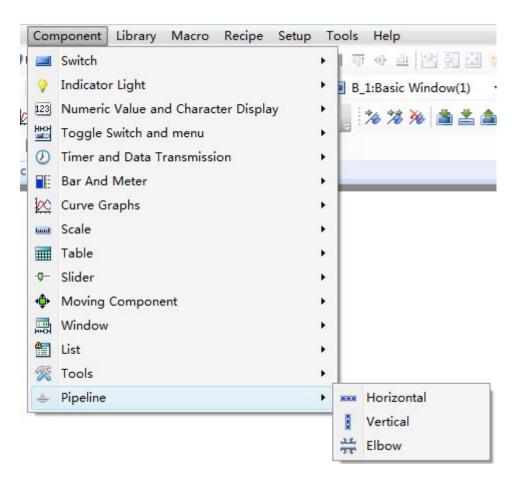
	7
60000	
60000	

50000		

## 4.6.15 Pipeline

The "Pipeline" component includes three types: Horizontal, Vertical and Elbow.





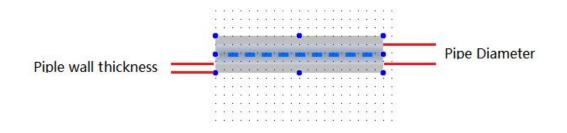
### 4.6.15.1 Horizontal

#### 4.6.15.1.1 Pipeline

The Pipe Diameter and Pipe wall thickness should be given when you use a horizontal component. It is shown as below.



Pipeline	8
Pipeline Flow Block Flow Block Graphics Dynamic Graphics Display	
Pipeline Settings	
Pipe Diameter: 15 Civel Pipe wall thickness: 1 Pixel	
Piple wall color: Piple Wall Color 👻 🍞 🖲 Horizontal 🔿 Vertical	
Background Color 🕶 🏹 Fill Type Gradient 🔹	
Foreground Color 🕶 🍠 Gradual Approach Horizontal 💌	
Gradient Filling Effect	
Help Description:	OK Cancel

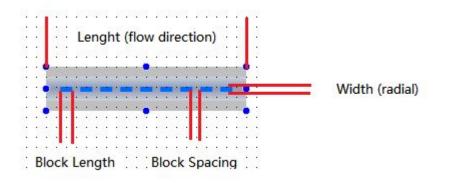


### 4.6.15.1.2 Flow Block

The "Flow Block" property page is mainly used to set the width and length of the pipe and the flow block. The flow direction and flow velocity parameters are also set here. It is shown as below.



Pipeline		? 2
pipeline	low Block Flow Block Graphics Dynamic Graphics Display	
Flow A	Settings	
Widt	adial): 5 \$ Pixel Length(flow direction): 180 \$ Pixel	
Flow B	k Settings	
10000 12	ength: 12 ♀ Pixel Block Spacing: 8 ♀ Pixel	
Flow	rection: Left To Right 🔻 Flow Speed: Varia 👻 LW0 🕅	
	te stop flowing. ndicate the forward flow, the greater the value flow faster.	
LW2	licate graphics library state licate flicker speed ate no flicker,1~10 control flicker speed, the greater the value of blink faster.	
LW2 0 ind	licate graphics library state licate flicker speed	



Note:

For example, the system will use LW0, LW1 and LW2 to control the flow block of the pipe when the Flow Speed is set LW0.

### 4.6.15.1.3 Flow Block Graphics

The graphic of the flow block is set here. You can edit the graphic and the display color in different status. It is shown as below.



	ct				*	tatus Preview	
backgro circle dot	backspace	button flowblock	button002	button1		Status0	Status1
Import	Add a new Gr	aphic			·	Favorites	Edit Graphics

#### 4.6.15.1.4 Display settings

The overall height and width of the pipeline component are set here. The settings are shown as below. Note that the "Width" of the component should be greater than the length of the flow block and the "Height" of the component should be greater than the diameter of the pipeline.



Pipeline											? 🗙
Pipeline	Flow	Block	Flow Blo	ock Graphics	Dynami	ic Gr	aphics	Display			
Positio	n										
Positic	n:	<b>X</b> :	270	\$	Y: 1	20	2				
Loc	ked	Width:	200	Hei	ght:	44 3	2				
Alwa	iys Dis	splay									-14
		al Displ	ау								
Help	D	escripti	on:							OK	Cancel

### 4.6.15.2 Vertical

The settings of a vertical pipeline are similar to a horizontal pipeline. The attribute of vertical or horizontal can be switched directly in the "Pipeline" property page. It is shown as below.



e Pipeline	? <mark>×</mark>
Pipeline Flow Block Flow Block Graphics Dynamic Graphics Display	
Pipeline Settings	
Pipe Diameter: 44 2 Pixel Piple wall thickness: 10 2 Pixel	
Piple wall color: 🗾 Piple Wall Color 👻 🍠 🔘 Horizontal 🍥 Vertical	
V Fill	
Background Color 🕶 📝 Fill Type Gradient 🔹	
Foreground Color 🕶 📝 Gradual Approach Horizontal 💌	
Gradient Filling Effect	
	-
Help Description: OK	Cancel

#### 4.6.15.3 Elbow

It is mainly used to connect the horizontal pipeline and the vertical pipeline. There are many kinds of elbows in the graphics library. You can use it by clicking the button "Import" to select one to use. They are shown as below.



Es Elbow	🖪 View Graphics Library			
Elbow Graphics Dynamic Graph Use Graphics Current Project backgro backspace circle dot Enter Import Add a new Shadow Effect	Collapes Branches	Shape: Elbow001 Elbow001	Only Vector Graphics       Only Editable Graphics         Image: Display the second secon	Add To Favorites Category Add New Graphics Edit Graphics
Change the Filling Help Description:	Add Rename Delete	Status:		Rename Graphics Delete Graphics Exit Select and Exit

# 4.7Library

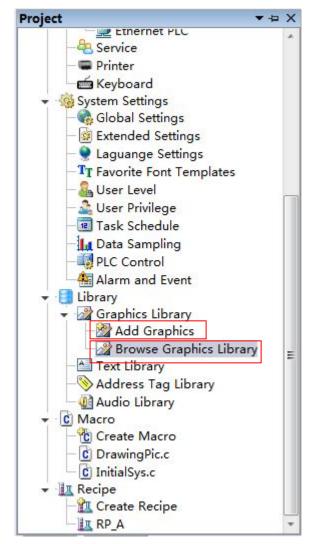
## 4.7.1GraphicsLibrary

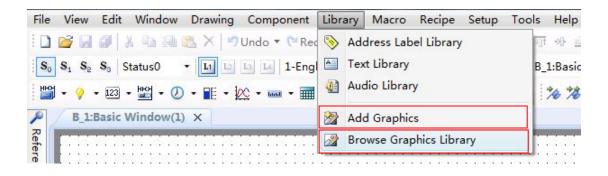
Many graphics need to be used in the project configuration. The FlexemStudio software has a graphics library which provides rich graphics. The users can also add their own pictures to the library to use.

The commands of Graphics Library include "AddGraphics" and "Browse Graphics Library". You can use any of these commands by clickingthe menu command "Library/Add Graphics" or "Library/Browse Graphics Library". You can alsodouble-click the "Library/ Add Graphics" or "Library/ Browse Graphics Library" in the project tree.



LENEIN STODIO SOLIVIALE INIANOAL





#### 4.7.1.1 Add Graphics

The "Add Graphics" window is shown as below.



Es Elbow	🖪 View Graphics Library			
Elbow Graphics Dynamic Graph Use Graphics Current Project backgro backspace circle dot Enter Import Add a new Shadow Effect	Collapes Branches	Shape: Elbow001 Elbow001	Only Vector Graphics       Only Editable Graphics         Image: Display the second secon	Add To Favorites Category Add New Graphics Edit Graphics
Change the Filling Help Description:	Add Rename Delete	Status:		Rename Graphics Delete Graphics Exit Select and Exit

# 4.7Library

## 4.7.1GraphicsLibrary

Many graphics need to be used in the project configuration. The FlexemStudio software has a graphics library which provides rich graphics. The users can also add their own pictures to the library to use.

The commands of Graphics Library include "AddGraphics" and "Browse Graphics Library". You can use any of these commands by clickingthe menu command "Library/Add Graphics" or "Library/Browse Graphics Library". You can alsodouble-click the "Library/ Add Graphics" or "Library/ Browse Graphics Library" in the project tree.



E Add New Graphics	
Name: Test	
Status Count: 1	
Modify on current graphics library	Select Graphics
Preview Status0	OK Cancel

### 4.7.1.1.3 Edit

Click the button "OK" to confirm. Then the graphic editor window is displayed. The content of the editor window is corresponding to the selected status. It is shown as below.



	_	Te		t*		×	7		B		1:1	Ba	isi	ic	N	/ir	nd	0	w	(1)	)*								
				St	at	tu	sC	)				L			S	ta	tu	s	1										
	1	:	1	2	1	÷	1	2	1	1	1	5	1	1	2	ŝ	1	1	1	2	1	÷	1	1	1	÷	1	2	
				2				2				2				2				2				2				2	
	1		1	1		•	1	1			1	1			1	1	1		1	1		•	3	1	1	•	1	3	
		:				:		2				3		:				:				:		1	:	:		1	
				2				2				2				2				2				2				2	
			15	2			15	13	in:		18	13	12	2	18	13	a.		15	13	de.		15	2			15	3	2.13
	•	•	•	1	•	•	•	1	•	•	•	1		1		•	•	1		1	•	•		3	•	•	•	1	•
				2				2				2				2				2				2				2	
				$\mathbf{x}$			10	$\mathbf{x}$			10	2			10	20			10	20				2				2	
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	•	•	•	1	•	•	•	1	•	•	•	-3	•	•	•	-3	•	•	•	1	•	•	•	1	•	•	•	1	•
										÷																			
																												-	
HE.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
L P	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	
			1	3	0		1	1	3		1	1		1	÷	1			1	1	1		1	1	0	:	1	1	3
H P												.3	۰.																
			12	2			22	2	12		18	2	12		12	13	a.		18	13			12	2			12	2	12
	•	•	•	1	•	•	•	1	•	•	•	1	•	•	•	•	•	*	•	•	•	•	•	1	•	•	•	1	•
	:		:	1		:	:	1				1	:		:	1	:		:	1	:	:		1	:	:	:	2	
	•	•	•		•	•	•	•	•		•		•		•	•	•		•		•	•	•	•	•		•		•
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

### 4.7.1.2 Browse Graphics Library

The menu command "Browse Graphics Library" is used to open the "View Graphics Library". It is shown as below.



Collapes Branches	Shape:		Only Vector C	iraphics On	ly Editable Gra	phics	
- 🔆 Favorites - 🖧 Graphics Library		4					
- 😽 1.Switch							
	backgroun	backspace	button	button002	button1	ш	
- 4.Arrow	d	backspace	button	Duttoniooz	Duttoni		
- 🔄 5.Sensor							
- 6.Conveyor - 7.Medicine							
	$\smile$				100		6
- 🧠 9.Safety							Import
– 🧠 a.CommonIcon – 🔄 b.Treater 🛛 🗉	circle dot	Elbow001	Enter	flowblock	Forbidden		Add To Favorites Category
- 🔄 c.File - 🔄 d.Pump	1						Add New Graphics
					$\bigcirc$		Edit Graphics
	Frame002	frame003	indicatorla	indicatorla	indicatorla		Rename Graphics
— <mark>-a</mark> i.Pipeline —-a j.Edit	rrame002	Trameous	mp 002	mp006	mpPNG20	-	Delete Graphics
	Status:						
– 🔤 l.Dial – 🔄 m.Computer							
- a n.Language							
- a p.Fan							

### 4.7.1.2.1"Only Vector Graphics" and "Only Editable Graphics"

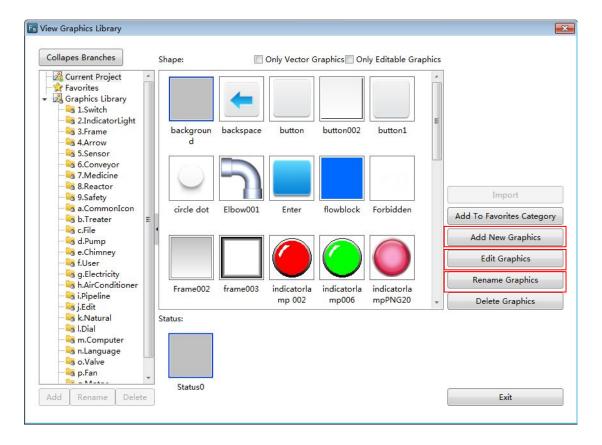
You can filter to display the graphics by check the "Only Vector Graphics" or the "Only Editable Graphics".

Collapes Branches	Shape:	Only Vector Graphics Only Editable Graphics	
Current Project			
Favorites			
Braphics Library			

### 4.7.1.2.2 Add, Edit and Rename Graphics

You can add a new graphic to the library by clicking the button "Add New Graphics". After select a graphic in thelibrary, you can modify it by clicking the button "Edit Graphics" and rename it by clicking the button "Rename Graphics".

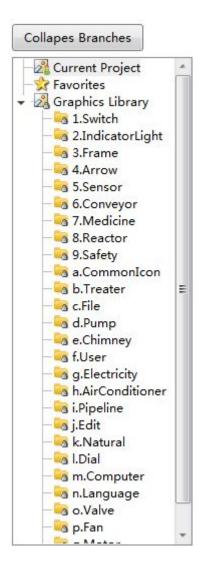




### 4.7.1.2.3 "Collapse Branches" and "Expand Branches"

There are rich graphics in the GraphicsLibrary, such as Switch, Frame, Arrow, and so on. You can view the directory on the left area of the "View Graphics Library" window by clicking the button "Expand Branches" and select a required graphic from the directory.





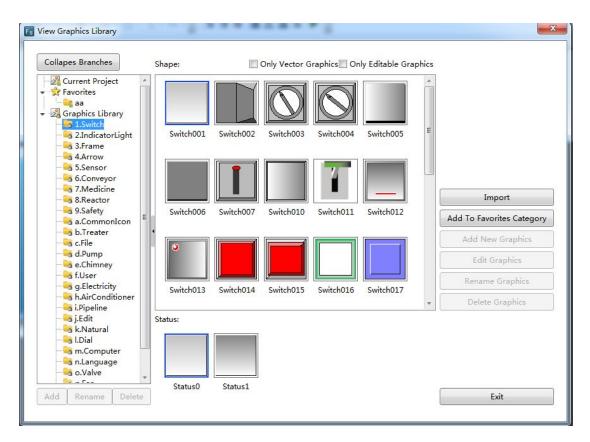
### 4.7.1.2.4 Favorites

The users can select favorite or popular graphics into the "Favorites" or a category under the "Favorites".The category under the "Favorites" can be added by clicking the button "Add". It can be renamed by clicking the button "Rename" or deleted by clicking the button "Delete".



Collapes Branches	Shape:	Only Vector Graphics Only Editable Graphics	
Current Project	Test	AirConditi oner015	Import
	En		Add To Favorites Category
– leg b.Treater – leg c.File	•		Add New Graphics
- 🔄 d.Pump - 🔄 e.Chimney			Edit Graphics
- a f.User - g.Electricity			Rename Graphics
			Delete Graphics
→ j.Edit → k.Natural → J.Dial → a m.Computer → a n.Language → a o.Valve	Status:	Status1 Status2	

The selected graphic of the Graphics Library can be added to the Favorites or a ategory of the Favorites by clicking the button "Add To Favorites Category".



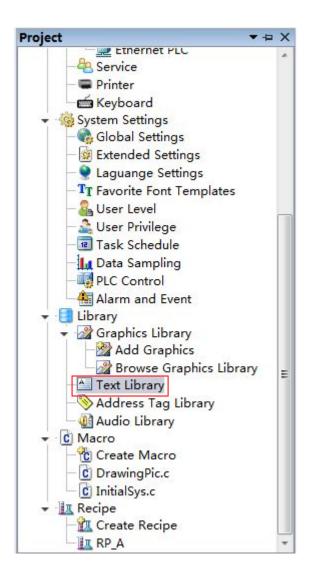


### 4.7.2Text Library

The text can be saved in the form of multi-languages and multi-statuses by using the function of the Text Library. It can facilitate the users to use the text and modifyit together in the project.

The Text Library can be opened by clicking the menu command "Library/ Text Library" or double-click the "Library/ Text Library" in the project tree.







The "Text Library" window will pop up. It is shown as below.

F	Text Libra	ary				
ſ			Search	Language Display Sort b	y Name	Display All Languages
	В	C D E F G H			vwx	Y Z
đ	諚					
	Name				Status Number	Reference Number
7	Examp	le_1		1 🗘	0	
	Status	1-English (United States)	2-Chinese (Simplified, PRC)		^	
	0	Test	测试			· · · · · · · · · · · · · · · · · · ·
-	Examp	le_2	S		1 🗘	0
	Status	1-English (United States)	2-Chinese (Simplified, PRC)			
	0	ОК	确定			
1						
	New	Delete			Cor	nfirm Cancel

#### 4.7.2.1 Search

After enter the name required to find and click the button "Search", all items which match the contentwill be found out.

Note that only the name is supported to find. The content in different language is not supported to search.

## 4.7.2.2 Language Display

After click the button "Language Display", the "Language Display" window will pop up. It is shown as below.



	12.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.	while it will not change the list see	quence of the languag
/isible	Serial No.	the second se	Language Setting
v V	2	1-English (United States) 2-Chinese (Simplified, PRC)	
			Down
			Restore Order

### 4.7.2.2.1 Language Settings

After clicking the button "Language Settings", the "Language Settings" property page will be opened. You can add or delete language and set the display color, size and other information here. The details of the "Language Settings" arereferred to:<u>Detailed manual/</u><u>Setup/ System Settings/Language Settings</u>.

#### 4.7.2.2.2 Other settings

The checked languages will be displayed in the "Text Library" window. And you can check all the languages by clicking the button "Select All". Meanwhile, you can modify the order of the languages by clicking the button "Up" or "Down" after select a language.

Note:



The settings are valid for the language display effect in the "Text Library" window. It does not change the order of languages.

#### 4.7.2.3 Sort by Name

After clicking the button "Sort by Name", all items in the text library will be sorted in the increasing order by the first letter of the item name.

#### 4.7.2.4 Display All Languages

After checking the button "Display All Language", all the languages will display in the table including which is not checked in the "language display" window.

#### 4.7.2.5 A~Z letters

The A~Z letters are used to locate the desired item.

#### 4.7.2.6 Preview box

The same content to the selected text in the table displayssimultaneously in the preview box. If you modify the content in the preview box, the selected text in the table will be modified to the same content.

#### Note:

The name of the item is not displayed in the preview box.

Tes	st				
	Nam	ie		Status Number	Reference Number
-	Exan	nple_1		1 🗘	0
	State	us 1-English (Unit	ed States) 2-Chinese (Simplified, PRC)		•
	0	Test	测试		

The item in the table is shown as below.

	Name			Status Nun	nber	Reference Number
-	Examp	le_1			2 🗘	0
	Status	1-English (United States)	2-Chinese (Simplified, PRC)		_	2
	0	Test	测试			
	1	Act	执行			

#### Note:

The name of the item cannot be blank and not be duplicated.



#### 4.7.2.7 New

A new item will be created after you click the button "New".

#### 4.7.2.8 Delete

The selected item will be deleted after you click the button "Delete".

### 4.7.3Address Tag Library

The "Address Tag Library" saves the addresses in the tag form. This makes it easy to use and modify the address for the user.

The Address Tag Library can be opened by clicking the menu command "Library/ Address Label Library" or double-click the "Library/ Address Tag Library" in the project tree.



Project 🔻 🖛 🗙						
- Service	Address	ag Library				X
- Printer	Reference	Tag Name	Device Alias	Station No.	Address Type	Address
- 🖆 Keyboard - 🍓 System Settings	0	Motor Speed	LOCAL:[Local Register]	0	LW	0
Global Settings	0	Running Time	LOCAL:[Local Register]	0	LW	0
- Settings						
- 👷 Laguange Settings						
- TT Favorite Font Templates						
- Sa User Level						
- 🚠 User Privilege						
III Task Schedule						
🚽 📶 Data Sampling						
- BLC Control						
Alarm and Event						
👻 📑 Library						
👻 Graphics Library						
- Add Graphics	1					
Browse Graphics Library						
- Address Tag Library						
Audio Library						
▼ C Macro						
Create Macro						
C DrawingPic.c				- 1*-	<b>a</b>	
C InitialSys.c	New Bi	New Word	Delete All	Edit	Cancel	
✓ II Recipe						
- 🟦 Create Recipe	L					
RP_A 🔹						

#### 4.7.3.1 Table preview



The table in the "Address Tag Library" displays the information of all the address tags.

Reference	Tag Name	Device Alias	Station No.	Address Type	Address
0	Motor Speed	LOCAL:[Local Register]	0	LW	0
0	Running Time	LOCAL:[Local Register]	0	LW	0

#### 4.7.3.2 New Bit

After click the button "New Bit", the "Create Bit Address" dialog will pop up. You can create a new bit address here. The details to input the bit address are referred to: <u>Detailed</u> <u>manual/General functions/Address editor/Standard Bit Address Input</u>.

Reference	Tag Name	Device Alias	Station No. Addres	s Type Address
0	Motor Speed	LOCALILlocal Register		0
D	Running Es Create	Bit Address	<b>—</b> ×	0
	Tag Nam	e Bit Adress 1		
	Deivce: [	.OCAL:[Local Register]	•	
	🔲 Bit-ind	ex within a Byte Register		
		Type: LB	•	
	Address:	- · · · ·	System Register	
	Format(R	ange) DDDDDD(0~799999)		
			OK Cancel	
New Bit	New Word	Delete Delete All	Edit	

### 4.7.3.3 New Word

After click the button "New Word", the "Create Byte Address" dialog will pop up. You can create a new word address here. The details to input the bit address are referred to: Detailed manual/General functions/Address editor/Standard ByteAddress Input.



Reference	Tag Name		Device Alias		Station No.	Address Type	Address
D	Bit Address		LOCALITION R	anistar]	10	10	0
D	Motor S	Create Byte	Address			×	0
)	Running	ag Name	Word Address 1			7 F	0
	C	eivce: LOC	AL:[Local Register	]		•	
	A	ddress Type ddress: [0 ormat(Rang		•	System Regi	ster	
	-						
				OK	Car	ncel	
					20		

#### 4.7.3.4 Delete

Delete the selected tag.

4.7.3.5 Delete All

Delete all tags.

#### 4.7.3.6 Edit

Modify the selected tag.

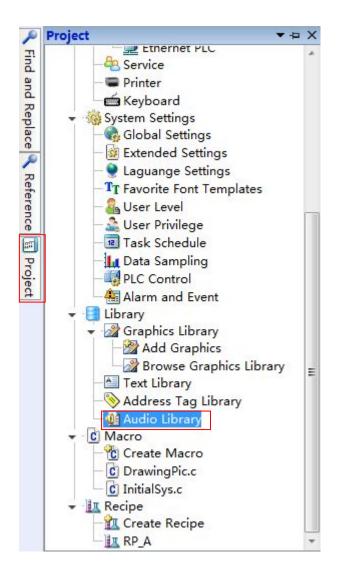
### 4.7.4 Audio Library

In the FlexemStudio software, you can use some specificaudios. These audios can be selected from the Audio Library or be added from the other devices.

The Audio Library can be opened by clicking the menu command "Library/ Audio Library" or double-click the "Library/ Audio Library" in the project tree.



File View Edit Window Drawing Component	Library Macro Recipe Setup To	ols Help
🗄 🗋 💕 🛃 🥔 👗 🖦 🏨 🕵 🗙 🖣 Undo 🔻 🍽 Red	Nddress Label Library	<u>11</u> -0- <u>11</u>
S <sub>0</sub> S <sub>1</sub> S <sub>2</sub> S <sub>3</sub> Status0 - L1 L2 L4 1-Engl	Text Library	B_1:Basic
💾 • ♀ • ⊠ • ≌ • ∅ • 🖩 • 🖄 • 🚥 • 📰	🔃 Audio Library	** **
! & \ L □ () 0 \ () ∩   <b>≅</b> M M	Mdd Graphics	
B_1:Basic Window(1) X	Browse Graphics Library	



The "Audio Library" is opened as below.



udio Name	File Name	Reference Times	File Size(KB)	Audio Length	Import Audio
Sleep Away	Sleep Away.mp3	0	4729	200.6	
					Import from System Catalogue
					Export Audio
					Delete Audio
					Play Audio
					Import and Merge Audio Librar
					Export Audio Library
					Clear

#### 4.7.4.1 Import Audio

After click the button "Import Audio" or "Import from System Catalogue", the audio file in the current computer can be imported to the Audio Library.

Audio Name	File Name	Reference Times	File Size(KB)	Audio Lengtł	Import Audio
Sleep Away	Sleep Away.mp3	0	4729	200.6	C
					Import from System Catalogue
					Export Audio
					Delete Audio
					Play Audio
					Import and Merge Audio Librar
					Export Audio Library
					Clear
Sleep Away	Audio Na	me: Sleep Away		e:4729KB	
AU 00:00/03:20	File Name	:Sleep Away.mp3		Length:200.6s nce Times:0	

4.7.4.2 Export Audio



You can click the button "Export Audio" to export the selected audio. So the other projects can use it.

udio Name Sleep Away	File Name Sleep Away.mp3	Reference Times	File Size(KB) 4729	Audio Lengtł 200.6	Import Audio
kalimba	Kalimba.mp3	0	8217	348.1	Import from System Catalogue
					Export Audio
					Delete Audio
					Play Audio
					Import and Merge Audio Librar
					Export Audio Library
					Clear
Kalimba	Audio N	ame: Kalimba		e:8217KB	
AU 00:00/05:48	File Nam	e:Kalimba.mp3		Length:348.1s nce Times:0	

### 4.7.4.3 Play Audio

After you import the audio to the Audio Library and select it, you can click the button "Play Audio" to listen.



Audio Name Sleep Away	File Name Sleep Away.mp3	Reference Times	File Size(KB)	Audio Lengtł 200.6	Import Audio
Kalimba	Kalimba.mp3	0	8217	348.1	Import from System Catalogue
					Export Audio
					Delete Audio
					Play Audio
					Import and Merge Audio Librar
					Export Audio Library
					Clear
Kalimba	Audio Na	me: Kalimba		e:8217KB Length:348.1s	

### 4.7.4.4"Delete Audio" and "Clear"

You can delete the selected audio by clicking the button "Delete Audio". And you can delete all the audios of the Audio Library by clicking the button "Clear".

Audio Name	File Name Sleep Away.mp3	Reference Times	File Size(KB)	Audio Lengtł 200.6	Import Audio
Kalimba	Kalimba.mp3	0	8217	348.1	Import from System Catalogue
					Export Audio
					Delete Audio
					Play Audio
					Import and Merge Audio Librar
					Export Audio Library
					Clear
Kalimba	Audio Na	ame: Kalimba		e:8217KB	
				Length:348.1s	



### 4.7.4.5 Name

You can change the name of the imported audio in the edit box "Audio Name" for your project.

Audio Name Sleep Away	File Name Sleep Away.mp3	Reference Times	File Size(KB)	Audio Lengtł 200.6	Import Audio
Kalimba1	Kalimba.mp3	0	8217	348.1	Import from System Catalogue
					Export Audio
					Delete Audio
					Play Audio
					Import and Merge Audio Library
					Export Audio Library
					Clear
Kalimba1		ime: Kalimba1 e:Kalimba.mp3	Audio	e:8217KB Length:348.1s nce Times:0	

## 4.8Macro

### 4.8.1Create Macro

Click the menu command "Macro/ Create Macro" or double-click the "Macro/ Create Macro" in the project tree, you can open the "Create Macro" window. It is shown as below.



Es Macro Instruction			
℃ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	👗 🛅 📇 🎝 Cut Copy Paste Und	~	≫ Ø Compiling Help
Name       Macro Code         InitialSys       DrawingPic         macro_1	Create Ma Name: Description:	cro X macro_1	
Address Statement			Input assistant Find and Replace
Ready			

#### (1)Name

You need to designate a name for the new macro. It will be displayed in the "Macro" directory of the project tree. When you call and execute a macro, the name is used. It can be in Chinese or English.

#### (2) Description

The "Description" is used to introduce the macro, which is similar to the "Comments". It can be in Chinese or English.

Click the button "OK" to confirm and the new macro will be displayed in the macro editor as below. You can also click the button "Cancel" to cancel the new macro.



E Macro Instruction		
🐮 🛃 🥩 Create Macro Save Save All	Image:	≫ ss Compiling Help
Alias Name Address	<pre>TransData.c X 1 #include <macro.h> 2 3 int MacroMain() 4 { 5</macro.h></pre>	Read Write Function     System Functions     Compution and Convertion Function     Operator
Macro Code Ready		Input assistant Find and Replace

You can edit the macro code in the code editor window. The details are referred to: <u>Use topic/Macro</u>.

## 4.8.2Edit Macro

Click the menu command "Macro/ Edit Macro", you can open the "Macro Instruction" window. It is shown as below.



Macro Instruction										
Create Macro	Save	🧊 Save Al	I Cu		强 Paste	<b>v)</b> Undo	<b>€</b> Redo	😽 Add New Address	🏇 Compilin	g Help 3
InitialSys DrawingPic TransData	Exp c Code	Edit								Read Write Function         > System Functions         > Computation and Convertion Function         > Operator
Ready										Select And Exit Quit

The existing macros are listed on the left side of the "Macro Instruction" window.

After clicking any one of the existing macros, you can delete, modify, import and export it. But the deleted macro will not be recovered.

After double-click any one of the macro, the macro can be opened and display in the code editor window area.

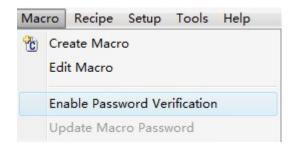
The details are referred to: Use topic/Macro.

#### 4.8.3 EnablePassword Verification

You can use the password verification function to protect the macro codes.

Click the menu command "Macro/Enable Password Verification", you can open the "Set Macro Password" window.





Set Macro Passw	ord	
Password:	123456	
Confirm Password:	123456	
ſ	ОК	Cancel

Note the "Confirm Password" needs to be same to the "Password". Otherwise the "OK" button will be unavailable.

After you enable password verification, the "Verify Password" window will pop up when you click the menu command "Create Macro" or "Edit Macro". These two menu commands can be use only after you entering the correct password. The "Verify Password" window is shown as below.

😼 Verify Password	×
Password:	
Verify	Cancel

If you want to cancel the password verification function, you can click the menu command "Macro/Enable Password verification" again and enter the correct password to cancel the password verification function.







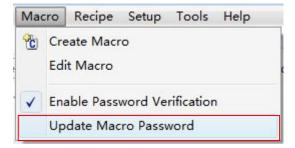
If you want to modify the macro password, the details are referred to: <u>Detailed</u> <u>manual/Macro/Update MacroPassword</u>.

Note: The macro password is a global password. All macros need to password verification once you enable the password verification function. You can't set a password for a single macro.

### 4.8.4 Update MacroPassword

If you use the "Enable Password Verification" function, the menu command "Update Macro Password" is available. Otherwise this command is not available.

The menu command "Update Macro Password" is available. It is shown as below.



The menu command "Update Macro Password" is not available. It is shown as below.



After click the "Update Password Verification", the "Update macro password" window will pop up.

🕞 Update macro pa	assword 🔀
Old Password:	123456
New Password:	654321
Confirm Password:	654321
	OK Cancel



Enter the correct old password and valid new password, then **clicking**the button "OK" to confirm the password modification.

If the new password is not valid, thebutton "OK" is unavailable.

After click thebutton "OK", a "Warning" window will pop up to message that the old password is error if the old password is not correct.

Warning	<b>•••</b>
<u>^</u>	Old password is wrong.
	ОК

## 4.9 Recipe

Recipe refers to a group of data saved in a continuous registers of the HMI device. The data in this area is resistant after powering off. It can be quickly downloaded to the controller.

Click the menu command "Recipe/ Create Recipe" or double-click the "Recipe/ Create Recipe" in the project tree, you can open the "Recipe" settings page. It is shown as below.



Recipe	8	X
General 🥥 Data Information		
Name: RP_	: 1 🗘 Data Entry Array Formula: 1000 🗘	
Address of Recipe Storage		
Word address range:	RPW : 0~999	
Word address index range:	RPWI_: 0~0	
Bit address range:	RPB_: 0.0~999.15	
Bit address index range:	RPBI_: 0.0~0.15	
Current recipe ID register:	RPL:0	
Use External Address as Recipe index	NF1_, U	
<ul> <li>Clear current recipe bit address.</li> <li>Note: Clear all recipe bits addresses</li> </ul>		
Help	OK Cano	el

### 4.9.1General

#### 4.9.1.1 Name

You need to specify a name for the new recipe for the "Name" option. The name can be English, numbers, letters, and so on. The prefix name "RP\_" is fixed and not editable. It represents a "recipe register". For example, if yougive a name "coffee" for a recipe, then the whole name of the recipe is "RP\_ coffee". The recipeword register name is "RPW\_coffee".

### 4.9.1.2 Recipe Length

The default "Recipe Length" is 1. You can modify it by clicking the button "Data Entry" or clicking the title of the settings page "Data Information". The Recipe Length refers to the number of words occupied byeach group of this recipe.



#### 4.9.1.3 Array Formula

The default value of the "Array Formula" is 1000. It ranges from 1 to 65535.

The whole length of the word register addresses occupied by the recipe can be calculated after you set the "Recipe Length" and the "Array Formula". For example, if the "Recipe Length" is 10 and the "Array Formula" is 1000, then the whole length of the word register addresses occupied by the recipe is 10\*1000=10000.

#### 4.9.1.4 Address of Recipe Storage

You can view the details of the addresses occupied by the recipein the "Address of Recipe Storage" area. It is shown as below.

Recipe General Data Information				8
Name: RP_ coffee Recipe Address of Recipe Storage	Length: 10 🗘	Data Entry	Array Formula: 100	0 \$
Word address r	ange: RPW_coffee: (	)~9999		
Word address index r				
Bit address r	ange: RPB_coffee: 0	0~9999.15		
Bit address index r	ange: RPBI_coffee: 0	0.0~9.1 <mark>5</mark>		
Current recipe ID reg	ister: RPI_coffee: 0			
🔲 Use External Address as Recipe	ndex			
🔲 Note: Clear all recipe bits addresses				
Help				

#### 4.9.1.4.1 Word address range



For example, the "Recipe Length" is 10 and the "Array Formula" is 1000, so the whole length of the word register addresses occupied by the recipe is 10\*1000=10000. The Recipe name is "RP\_Coffee". So theaddress range of the word registers is "RPW\_ Coffee:  $0 \sim 9999$ ".

### 4.9.1.4.2 Word address index range

In the above example, the "Recipe Length" is 10 for each group of the recipe. So the Word address index range is "RPWI\_ coffee: 0-9."

### 4.9.1.4.3 Bit address range

The bit address range is determined by the word address range. So the bit address in the above example is "RPB\_ coffee: 0.0 to 9999.15."

#### 4.9.1.4.4 Bit address index range

Similarly, the bit address index range is determined by the "Recipe Length". So the "Bit address index range" is "RPBI\_ coffee: 0.0 to 9.15."

#### 4.9.1.4.5 Current recipe ID register

The "Current recipe ID register" is used to specify the group number of the recipe. For the above example, the "Current recipe ID register" is "RPI\_coffee: 0".It is a unique register for each recipe.

### 4.9.1.4.6 UseExternal Address as Recipe index

It is not checked by default. If it is checked, you can specify a word address as a recipe ID register and the "Current recipe ID register" (such as "RPI\_ Coffee: 0") is not valid.

#### 4.9.1.5 Clear current recipe bit address

It is not checked by default. If it is checked, you can specify a bit address. If it isset ON, the current data of the recipe group which specified by the recipe ID register will be cleared. After the data is cleared, this bit address will be reset OFF. It is shown as below.



	8
General Data Information	
Name: RP_ coffee Recipe Length	: 10 🗘 Data Entry Array Formula: 1000 🗘
Address of Recipe Storage	
Word address range:	RPW_coffee: 0~9999
Word address index range:	RPWI_coffee: 0~9
Bit address range:	RPB_coffee: 0.0~9999.15
Bit address index range:	RPBI_coffee: 0.0~9.15
Current recipe ID register:	RPI_coffee: 0
Use External Address as Recipe index	
Clear current recipe bit address. I BO	
	DN:Current recipe will be cleared, after clearing finished,
Note: Clear current recipe bit address. LB0 is ( setting to OFF.	
Note: Clear current recipe bit address. LB0 is (	
Note: Clear current recipe bit address. LB0 is ( setting to OFF.	
Note: Clear current recipe bit address. LB0 is ( setting to OFF.	
Note: Clear current recipe bit address. LB0 is ( setting to OFF.	
Note: Clear current recipe bit address. LB0 is 0 setting to OFF.	
Note: Clear current recipe bit address. LB0 is 0 setting to OFF.	
Note: Clear current recipe bit address. LB0 is ( setting to OFF.	

For example, if the value of the "RPI\_ coffee: 0" register is 3, the data of the No. 3 group of the recipe "RP\_coffee" will be cleared when the "Clear current recipe bit address" LB0 is set ON. After finish clearing,LB0 will be reset OFF.

### 4.9.1.6 Note: Clear all recipe bit addresses

It is not checked by default. If it is checked, you can specify a bit address. If it isset ON, the data of all the recipe groups will be cleared. After the data is cleared, this bit address will be reset OFF. It is shown as below.



ieneral Data Information	
Name: RP_ coffee Recipe Length	: 10 🗘 Data Entry Array Formula: 1000 🗘
Address of Recipe Storage	
Word address range:	RPW_coffee: 0~9999
Word address index range:	RPWI_coffee: 0~9
Bit address range:	RPB_coffee: 0.0~9999.15
Bit address index range:	RPBI_coffee: 0.0~9.15
Current recipe ID register:	RPI_coffee: 0
Use External Address as Recipe index	
Clear current recipe bit address. LB0	
	DN:Current recipe will be cleared, after clearing finished,
Note: Clear current recipe bit address. LB0 is 0	
Note: Clear current recipe bit address. LB0 is C setting to OFF. Note: Clear all recipe bits addresses LB1	DN:Current recipe will be cleared, after clearing finished,
Note: Clear current recipe bit address. LB0 is C setting to OFF. Note: Clear all recipe bits addresses LB1 Note: Clear all recipe bits addresses. LB1 is Of	DN:Current recipe will be cleared, after clearing finished,

For the above example, all the data of the recipe "RP\_coffee" will be cleared if the bit register LB1 is ON. After the data is cleared, LB1 will be reset OFF.

### 4.9.2 Data Information

The default "Data Information" settings page is shown as below.



ipe					4
eral Data Inform	nation				
Address Offset	Number of Words	Is Data Group	Data Group Length	Data Type	Data Nan
0	1	No		16-bit Unsigned	
Move Up	Move Down	Insert	Add Delete	Modify	
lp				OK	Ca

The default recipe length is 1. A 16-bit unsigned data is preset.

### 4.9.2.1 Modify

After double-click the selected entry, the "Data Setting" dialog will pop up. You can modify the settings for this entry. It is shown as below.



### HCTDesigner SOFTWARE MANUAL

Name:		
ddress Offset	0	
Data Type:	16-bit Unsigned 👻	
🔲 Data Gro	up	

### 4.9.2.1.1 Name

A description for the data of this entry can be given here.

#### 4.9.2.1.2 Address Offset

It refers to the address offset of this entry in the recipe. The address offset of the first entry starts from 0. It is determined according to the data type and the entry order by system and not be edited.

#### 4.9.2.1.3 Data Type

A data type needs to be sethere. The default is "16-bit Unsigned".

### 4.9.2.1.4 Data Group

It is not checked by default. You can check it when you need to define a group of the same data type data for this entry.

🕞 Data Setting		
Name:		
Address Offset	10	
Data Type:	16-bit Unsigned 👻	
🔽 Data Grou	p Length 2 🗢	
	ок	Cancel

The "Length" option needs to set for the data group when you check the option" Data Group".



Click the button "OK" to finish the settings for the selected entry.

#### 4.9.2.2 Insert

After select an entry in the list and then click the button "Insert", a new entry will be addedbefore the selected entry.

#### 4.9.2.3 Add

After click the button "Add", a new data entry will be added after the last data entry.

#### 4.9.2.4 Move Up

For many data entry, the selected data entry will be moved up a row after click the button "Move Up".

#### 4.9.2.5 Move Down

For many data entry, the selected data entry will be moved down a row after click the button "Move Down".

#### 4.9.2.6 Delete

The selected data entry will be deleted from the list after click the button "Delete".

For example, the recipe "RP\_coffee" has only one entry and the data type of the entry is "16-bit Unsigned ". The Recipe Length is 10. The data setting of the entry is shown as below.

🖪 Data Setting				X
Name:	Coffee Data	9		
Address Offset	0			
Data Type:	16-bit Unsig	gned 👻		
🔽 Data Grou	up Len <mark>gth</mark>	10		
		ОК	Cancel	

After click the button "OK" to confirm the entry setting, the "Data Information" setting page of this recipe is shown as below.

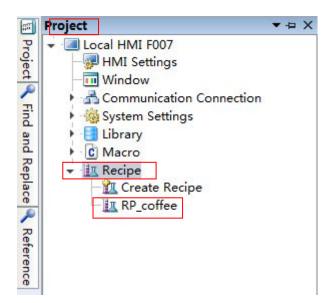


Recipe General Data Inform	nation				2
Address Offset	Number of Words	Is Data Group	Data Group Length	Data Type	Data Nam
0	10	Yes	10	16-bit Unsigned	Coffee Data
Move Up	Move Down	Insert	Add Delete	Modify	
Help				ОК	Cance

Thus, a named "RP\_coffee" recipe is created. It will be displayed in the project tree. It is shown as below.







# 4.10 Setup

### 4.10.1 HMI settings

You can open the "HMI Settings" property TAB by clicking the menu command "Setup/ HMISettings ". It is shown as below.

Model:	F007				
Description		Ethernet Setting	g		
Size:	7	O Auto IP Add	Iress (DHCP)	Static IP Address	
Resolution:	1024 X 600	IP Addres:	192.168. 0 .200	SRW10010~13	
Color:	24BIT Color	Subnet Ma	255.255.255.0	SRW10014~17	
Touch Type:	Capacitive Touch Panel	Gateway:	192.168.0.1	SRW10018~21	
Key:	0	DNS1:	0.0.0.0	SRW10022~25	
Ethernet:	Yes	DNS2:	0.0.0.0	SRW10026~29	
Main USB:	1		register SRB10000 to s	elect IP address assign	ning method
SD/TF Card:	Yes	(Auto-allocate			
COM1 :	RS232\RS485-2\RS485-4	Use FTP Pro	otocol		
COM2 :	RS485-2	Rotation Displa	av.		
COM3 :	RS232				
COM4 :	RS485-2		rizontal Display)	- Previe	3WV
CAN :	None	O Vertical (Rot	tate 90 degrees Cloc		^
Expansion P	ort:None	Vertical(Rotal)	ate 90 Degree count		A
Vedio:	None	O Upside Dow	vn(Rotate 180 Degre		
Audio:	None	Color Setting			
		-	(65535 Color)	24 Bit Color (1677)	7216 Color)
			Fuchas	nge HMI	



#### 4.10.1.1 Model

The "Model" displays the type of the current selected HMI device.

#### 4.10.1.2 Description

The detailed information of the current HMI device is displayed in the "Description" area.

#### 4.10.1.3 Ethernet setting

You can set the Ethernet connection properties for the current HMI device. The setting mode of IP address can be "Auto IP Address (DHCP)" or "Static Address".

If you select a "Static Address" mode, the IP address can be assigned here. Or you can use the SRW registers to set the IP address.

P Addres:	192.168. 0 .200	SRW10010~13
Subnet Ma	255.255.255.0	SRW10014~17
Gateway:	192.168.0.1	SRW10018~21
DNS1:	0.0.0.0	SRW10022~25
DNS2:	0.0.0.0	SRW10026~29

When SRB10000=0, the setting mode is DHCP. When SRB10000=1, the "Static Address" mode is used to assign the IP address. You can switch the IP address setting mode by the SRB10000 register.

#### 4.10.1.4 Rotation Display



Rotation Display	
Normal (Horizontal Display)	Preview
Vertical (Rotate 90 degrees Cloc	
Vertical(Rotate 90 Degree count	A
O Upside Down(Rotate 180 Degree	

There are 4 rotation display effect. They are "Normal (Horizontal Display)", Vertical (Rotate 90 degrees Clockwise), "Vertical (counterclockwise)" and "Upside down (Rotate 180 degrees)". You can preview the display effect of the character "A" on the right area.

The rotation display mode should be selected according to the installation direction of the HMI device.

#### 4.10.1.5 Color Setting

You can select "16 Bit Color (65535 Color)" or "24 Bit Color (16777216 Color)" based on your project. This setting will take effect after restarting.

Color Setting		
I6 Bit Color (65535 Color)	24 Bit Color (16777216 Color)	

#### 4.10.1.6 Exchange HMI

If you want to change the HMI device type for your project, you can click the button "Exchange HMI".



# HCTDesigner SOFTWARE MANUAL

del:	007				
escription		Ethernet Setting	9		
Size:	7	O Auto IP Add	Iress (DHCP)	Static IP Address	
Resolution:	1024 X 600	IP Addres:	192.168. 0 .200	SRW10010~13	
Color:	24BIT Color	Subnet Ma	255.255.255.0	SRW10014~17	
Touch Type:	Capacitive Touch Panel	Gateway:	192.168.0.1	SRW10018~21	
Key:	0	DNS1:	0.0.0.0	SRW10022~25	
Ethernet:	Yes	DNS2:	0.0.0.0	SRW10026~29	
Main USB:	1			elect IP address assigning method	l.
SD/TF Card:	Yes	(Auto-allocate			
COM1 :	RS232\RS485-2\RS485-4	Use FTP Pro	otocol		
COM2 :	RS485-2	Rotation Display			
COM3 :	RS232		rizontal Display)		
COM4 :	RS485-2			Preview	
CAN :	None	O Vertical (Ro	tate 90 degrees Cloc	٨	
Expansion Po	rt:None	Vertical(Rot	ate 90 Degree count	A	
Vedio:	None	O Upside Dow	n(Rotate 180 Degre		
Audio:	None				
		Color Setting	(65535 Color)	24 Bit Color (16777216 Color)	
		U BIT COIOR	(05555 Color)	24 bit Color (10///210 Color)	
			E I	118.47	
			Exchar	ige HMI Confirm Ca	ancel

The "Change HMI Model" dialog will pop up after you click the button "Exchange HMI".

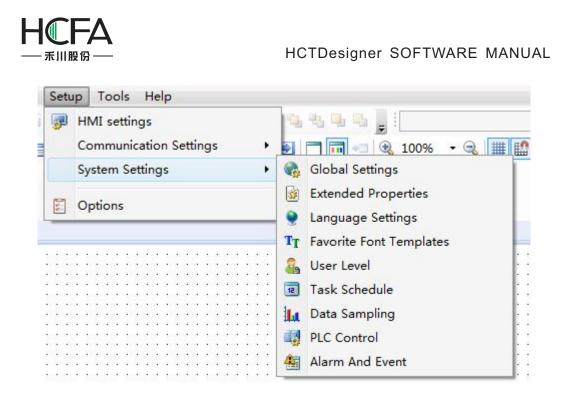


Source HMI Mod	el: F007	Target HMI Mode	
Source HMI De	scription	Target HMI Des	FE4070 rerip FE4104
Size:	7	Size:	7 FE4097
Resolution:	1024 X 600	Resolution:	80 FE4043 FE4121
Color:	24BIT Color	Color:	24 FE4150
Touch Type:	Capacitive Touch Panel	Touch Type:	Re FE5070 FE5097
Key:	0	Key:	0 FE5170
Ethernet:	Yes	Ethernet:	Ye FE5220
Main USB:	1	Main USB:	1 FE2043-V5
SD/TF Card:	Yes	SD/TF Card:	Ye FE2070-V5 FE2104-V5
COM1 :	RS232\RS485-2\RS485-4	COM1 :	R\$ FE2097-V5
COM2 :	RS485-2	COM2 :	RS232\RS485-2\RS485-4
COM3 :	RS232	COM3 :	RS232
COM4 :	RS485-2	COM4 :	RS232
CAN :	None	CAN :	None
Expansion Po	rt:None	Expansion Por	rt:0
Vedio:	None	Vedio:	None
Audio:	None	Audio:	None

After you select the "Target HMI Model" for your project and click the button "Exchange" to confirm the setting, the project will be converted to adapt the new HMI device.

The resolution and color need to be adjusted by manual after the exchanging operation. Because the resolution and color change may result in the change of the window size and the loss of color.

### 4.10.2 System Settings



#### 4.10.2.1 Task Schedule

The "Task Schedule" is used to execute some operations when time is up.

You can open the "Task Schedule" property TAB by clicking the menu command "Setup/ System Settings/Task Schedule". It is shown as below.



Global Settings	Extende	ed Settings	Laguange	Settings F	Favorite Font T	emplates	User Level
User Privilege	Task	c Schedule	Data Sa	mpling	PLC Control	Alarm	n And Event
Description	Enable	Mode	Week	Start Time	End Time	Bit Set	Byte Set
				New(N)	Delete(D)	Clear(C)	Edit(E)

After click the button "New(N)", the "Task Schedule Details" window pop up. It is shown as below.



🖪 Task Schedule Details	X
Description Schedule-1	
Enable Control	
Mode 💿 Week Day 🔘 Every Other Day 🔘 HMI Address	Execution upon Start
Start Time	Execute upon power up
0 ♥ Hour 0 ♥ Minute 0 ♥ Second	Bit Setting
Week Day Sun 🖉 Mon 🗌 Tue 💭 Wed 💭 Thu 💭 Fri	
Sat	
End Time	Word Setting
Set End Time	
	Trigger Macro:
	Popup Window
	Use Buzzer:
	Play Audio
	OK Cancel

### 4.10.2.1.1 Description

You can give a name for the task schedule in the "Description" edit box. This description can facilitate the identification in programming.

### 4.10.2.1.2 Enable Control

After you check the option "Enable Control", you can select a bit register. When the bit is ON, this Task Scheduler is not allowed to use.

#### 4.10.2.1.3 Mode

• Week Day

The start time and the end time are within a week.



• Every Other Day

The start time and the end time can execute in the adjacent two weeks. The Week Day of the start time is only selected one. You must set the end time.

Mode Start Ti	Week Day Street Other Day HMI Addressime
6	Hour 0 Minute 0 Second
Week	Day Sun Mon Tue Wed Thu Fri Sat
End Tir	ne
	End Time
21	Hour 0 Minute 0 Second
Week	Day ● Sun ● Mon ● Tue ● Wed ● Thu ● Fri ● Sat

HMI Address

Use word registers to set the mode.

Start Address (9 Registers)	LW0
Mode: LW0 0 Specifie	ed Week Day, =1 Every
Other Day	
Start Time:Hour:LW1 M	inute:LW2 Second:LW3
CI	~Bit6 are corresponding to
Start Week: LW4 Bit0	~ bito are corresponding to
	om Sunday To Saturday.
7 weekdays starting Fro End Time:Hour:LW5 Min	om Sunday To Saturday.

### 4.10.2.1.4 Execution upon Start and Execute upon End

Only an "Execution upon Start" setting page is displayed by default. The "Execute upon End" setting page is visible if you check the option "Set End Time". They are shown as below.



Execute upon End	Execution upon Start
Execution upon Start	Execute upon End
Execute upon power up	Execute Ending Operation upon Powe
Bit Setting	Bit Setting
Word Setting	Word Setting
Trigger Macro:	Trigger Macro:
Popup Window	Popup Window
Use Buzzer:	Use Buzzer:
Play Audio	Play Audio

The operations need to be executed are listed in the "Execution upon Start" setting page and the "Execute upon End" setting page.

• Execute upon power up

If you check the option "Execute upon power up", the operations checked in the "Execution upon Start" setting page will be executed in the time range (start time - end time). It will stop outside the time range.

• Execute Ending Operation upon Power Off

If you check the option "Execute Ending Operation upon Power Off", the operations checked in the "Execute upon End" setting page will be executed in the time range (start time - end time). It will stop outside the time range.

• Bit Setting



This operation is to set a bit register ON or OFF.

• Word Setting

This operation is to change the value of a word register.

• Trigger Macro

This operation is totrigger a Macro.

• Popup Window

This operation is topop up a window.

• Use Buzzer

This operation is to make the internal buzzer of HMI to ring.

Play Audio

This operation is to play an audio.

#### 4.10.2.2 Global Settings

You can set the project properties, backlight and screensaver, initialization, the main window, touch audio and other related attributes in the "Global Settings" property TAB.

Click the menu command "Setup/ System Settings/Global Settings" to open the "Global Settings" property TAB. It is shown as below.



User Privilege	Task Schedule	Data Sampling	PLC Control	Alarm And	Event		
Global Settings	Extended Settings	Laguange Settings	Favorite Font Ten	nplates Use	r Level		
	Password: 888888 Password: 888888	✓ Initial	indow: B_1:Basic Wi				
Backlight And Scr Dim the bright Turn off Backl	tness: Lowest 🔻 📑	(min)	ndow(HOME) indow(HOME) : B_1	Basic Window(1	•		
Dim down an Turn on ba Creensaver:	acklight upon Alarm/Eve	nts 🔽 Use	wn window the drop-down wind Dnly for capacitive scr				
Require Passw Password	ndow:B_1:Basic Window vord to exit Screensaver Level:0: inal screen when Screen	Source: Set u histo	Clock Source: HMI Internal Clock  Set up the time souce of events, historical data etc. SRW0~7: Year/Month/Day/Hour/ Minute/Second/Millisecond/Week				
Local Register En 16-bit Integer: 32-bit Integer: 32-bit Float: Scrollbar	dian Order 21 4321 4321	▼ V ▼ V ▼ Touch			•		
Scrollbar Width	20 🜩						

### 4.10.2.2.1 Project Properties

### • Upload

If you check "Upload" and set the "Password", the project can be allowed to upload when the other user enter the password after it is downloaded to the HMI device. The uploaded project file can be downloaded to the other HMI device by using theFlexemStudio software Tools.

### Note:

The uploaded project file is a special archive. The project can be opened after decompilation by the Flexem Studio software.

Decompilation



If you check "Decompilation" and set the "Password", the project can be allowed to decompile by the Flexem Studio Tools after the password is entered.

#### Note:

- If only the "Decompilation" is checked, the Fpg file of this project can be decompiled after entering the correct password. But this project can't be uploaded.
- If only the "Upload" is checked, this project can be uploaded after enter the correct password. But the Fpg file of this project can't be decompiled.
- If the "Upload" and the "Decompilation" are not checked, the size of the fileafter compiling is the least. But it cannot be uploaded or decompiled. On the other hand, it is safest wayto protect your project.

### 4.10.2.2.2 Backlight and Screensaver

• Dim the brightness

You can check the option "Dim the brightness" to adjust the backlight lightness after the specified time. The lightness can be set "Lowest", "10%", "20%", "30%", "50%" or "80%". The specified time needs to input in integer.

Dim the brightness:	Lowest 🔻	3 🗘 (min)
✓ Turn off Backlight	Lowest	
Dim down and wait	10%	10 🗢 (min)
🔽 Turn on backligh	1 30%	n/Events
Screensaver:	50%	10 🔷 (min)
	80%	10 🗸 ()
Screensaver Window:	B_1:Basic W	/indow(1 🔻
Require Password to	o exit Scree	nsaver
Return to original set	creen when	Screensaver is

- Turn off Backlight
- Dim down and wait for



You can set a specified time to turn off the backlight after the lightness is adjusted. The default value is 10. That meansit will keep 10 minutes after the backlight lightness is adjusted. Then the backlight will be turned off.

### Note:

The configuration screen will be visible after the backlight is turned off.

> Turn on backlight upon Alarm/Events

If you check the option "Turn on backlight upon Alarm/Events", the backlight will be turned on automatically when the alarms or events occur and the backlight is off during the running.

• Screensaver

If you check the option "Screensaver", the ScreensaverWindow will be switched to display when the time is up. The ScreensaverWindow must be specified. It is used to display the company LOGO.

• Require Password to exit Screensaver

If you check the option "Require Password to exit Screensaver", a system message window will pop up to prompt you to enter the corresponding level password when you want to exit the screen saver window.

### Note:

You need to use the character input component to enter the password to SRW100  $\sim$  103.

• Return to original screen when Screensavers is over

If you check the option "Return to original screen when Screensavers is over", it will return to the original screen when you click the HMI screen. Of course, if you set a password, the system message window will pop up to prompt you to enter the password before return to the original screen.

### Note:

If you don't check the option "Return to original screen when Screensavers is over", it will still stay in the screensaver window when the screensaver is over.

### 4.10.2.2.3 Local Register EndianOrder



The "Local Register Endian Order" refers to the order of the high byte and the low byte. For example, a 32-bit register LW0=0x12345678. If you select the "4321" mode, then the word register LW0=0x1234 and the word register LW1=0x5678. If you select the "2143" mode, then the word register LW0=0x5678 and the word register LW1=0x1234.

### 4.10.2.2.4 Scrollbar

For some components without setting the scrollbar width, you can set it in the "Scrollbar Width" option. For example, you set the scrollbar width for the pop up window component here.

### 4.10.2.2.5 Initialization

InitialWindow

The "Initial Window" refers to the first displayed configuration window after the project is downloaded to the HMI or the HMI is powered on.

Initial Macro

After check the "Initial Macro", you can specify a Macro to run before the configuration window is displayed. This function can realize the initial work of your project.

### 4.10.2.2.6 Main Window(HOME)

The main window can be set here. So you can return to the main window in any configuration window by setting "Return to the main window (HOME)" for the "Window Operation" function of the Bit Set component.

### 4.10.2.2.7 Drop-down window

If this function is checked, you can specify a window as a pull-down window, where you can put the alarm events and other related components to display. This function is valid only for the capacitive HMI device.

### Note:

When you slide the HMI window more than half the width of the window from the upper edge down during running the project, the Drop-down window will display gradually. Similarly, when you slide to more than half the width of the window from the lower edge up, the Drop-down window will be withdrawn.

### 4.10.2.2.8 Clock



The "Source" of Clock can be set "HMI Internal Clock" or "External Device".

Source:	HMI Internal Clock 🔻	
Set u	HMI Internal Clock	nts,
histo	External Device	
	SRW0~7: Year/Month Minute/Second/Millis	/Day/Hour/

If you select the "HMI Internal Clock" as the HMI clock, SRW0~7 will be used to save the time source of events, historical data, etc.

Source:	HMI Internal Clock 🔻
	p the time souce of events,
histo	rical data etc.
	SRW0~7: Year/Month/Day/Hour/
Address	Minute/Second/Millisecond/Week

If you select the "External Device", the registers address can be changed.

Clock		
Source:	External Device 🔻	
	p the time souce of events, rical data etc.	
Address	SRW0	

### 4.10.2.2.9 Touch Audio



Buzzer is enabled



If only the option "Buzzer Is Enabled" is checked, the buzzer will beep for a specified time when you touch the effective components, such as buttons.

If the option "Enable Control" is also checked, you need to select a bit register. When the bit register is ON, the function of "Buzzer Is Enabled" is allowed to use. For example, the LB0 is set for the "Enable Control". If LB0 is ON, the buzzer will beep when you touch the effective components. When it is OFF, the buzzer will not beep. The option "Buzzer Time" can set 50ms, 75ms, 100ms, 150ms, 200ms, 300ms, 500ms, 800ms, and 1s.



• Touch Audio Enabled

If the option "Touch Audio Enabled" is checked, all audio play is available. It is selected by default.

If the option "Enable Control" is also checked, you need to select a bit register. When the bit register is ON, the function of "Touch Audio Enabled" is allowed to use. For example, the LB1 is set for the "Enable Control". If LB1 is ON, the audio play is available. If it is OFF, the audio will not be available.

Touch Audio		
📝 Buzzer Is Enabled	Buzzer Time: 50mS	•
📝 Enable Contro	ol: LB <mark>O</mark>	
☑ Touch Audio Enabled	d.	
🗷 Enable Contro	l: LB1	

#### Note:

If the option "Touch Audio Enabled" is not checked in the global settings, the audio will not be available even if the audio is active in the proper TAB of the effective component.

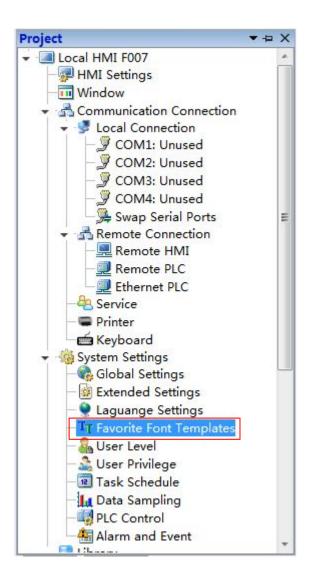


#### 4.10.2.3 Favorite Font Templates

The function is used to save the common font styles as a template. You can use this template when you set the font style.

#### 4.10.2.3.1 Openthe "Favorite Font Templates"

You can open the "Favorite Font Templates" settings page in the project tree or by clicking the menu command "Setup/System Settings/Favorite Font Templates".





<b>3</b>	HMI settings Communication Settings		uuuuuuuuuuuuuuuuuuuuuuuuuuuuuuuuuuuuu
	System Settings	•	👌 Global Settings
55	Options		<ul> <li>Extended Properties</li> <li>Language Settings</li> </ul>
		1	T Favorite Font Templates
			User Level
		6	Task Schedule
		1	д Data Sampling
			🚦 PLC Control
		4	Alarm And Event

#### 4.10.2.3.2 Add Font Templates

First, click the button "Add(A)". Then give a name for the current font template in the "Description". The font style need to be set, referred to: <u>Detailed manual/General</u> <u>functions/Drawing/Font settings</u>. At last, click the button "OK" to confirm and save the settings



User	Privilege	Task Schedule	Data Sampling	PLC Control	Alar	m And Event		
Global	Settings	Extended Settings	Laguange Settings					
ont Ten	nplates List		Font Te	mplates Settings	2			
No.	Template	Description	Descrip	otion: Font1				
1	Font1(Gra	aphic Arial 16)	Vect	or Font O Gr	aphic Fon	t		
			Font:	Arial		•		
			Size:		I			
				Arial				
				3				
	1	Add(A) De	lete(D)					

### 4.10.2.3.3 Usea font template

For example, a font template is used in the property settings of a Static Text component.



s Static Text				823	
General Display					$I  \underline{\mathbf{A}} \bullet   \equiv 1$
□ Language Independent Languages: 1-English (United S ▼) 🌒	Position Fixed Po		Y: (	) ¢	
O Use Text Library Text Library	Fs Import	t from Favorite Font Templates			×
	Please	select Font Template:		Edit	t Template(E)
Ose Labels	No.	Template Description			
Tag Contents	1	Font1(Graphic Arial 16)			
Copy Current Text to All Languages Import from Favorite Font Templates.(I) Vector Font  Graphic Font Font: Microsoft Sans Serif  Size: 16  B I  VI  Advanced	- Previe		vrial		
Microsoft Sans Serif Copy Current Properties to All Languages				ОК	Cancel
Help Description:			ОК	Cancel	· · · M

First, click the button "Import from Favorite Font Templates" in the property window of a Static Text component to open the "Import from Favorite Font Templates" dialog. Then select the required font template and click the OK button. The result is shown as below.

									٠.				•				
•	•		•	•	•		•	•	•		•	•	•		•	•	•
•	•			•	•			•	•			•	•	•		•	•
		1	F	ę	n	n	n	1	at	tre	3						
•	•	•	١.	ç		1	μ	IC		L C	•	•	•	•	3	•	1
•	•	•	•	•	•		•	•			•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	3		•		13	•	1		3	•	•		13	•	1
•	•	•		•			•	•	•	•			•		•	•	•

#### 4.10.2.4 Alarm And Event

You can preset the attributes of the alarms or events such as the conditions and contents in the "Alarm And Event" settings page. The "Alarm And Event" settings page can be opened by clicking the menu command "Setup/System Settings/Alarm And Event".



Global Settings	Extended Settings	Laguange Settings	Favorite Fo	nt Templates	User Level
User Privilege	Task Schedule	Data Sampling	PLC Contr	ol Alar	m An <mark>d Even</mark> t
Group: All[0]	•		Language:	1-English (Unit	te <mark>d Stat</mark> es) 🔻
Group ID Urgend	y Level Trigger Condition	on		Content	
Create	nsert Clear Current	Group Delete	Edit	Сору	
Historical Event S					
O Unsave 🔘 H	MI 🔘 SD Card 🔘 USB:	1			
Power-off sustai	n.				
		Ĩ			
Power-off sustai Subdirectory Na	me: EVENT	Day			
Power-off sustai Subdirectory Na Maximum Saving	me: EVENT	Day			
Power-off sustai Subdirectory Na Maximum Saving On Cache Full: [	me: EVENT g Limit:(No Limit) 0	Day			
Power-off sustai Subdirectory Na Maximum Saving On Cache Full: [	me: EVENT g Limit:(No Limit) 0 💭 Delete Old Records 🔹 ace is less than: 128KB	Day			

### 4.10.2.4.1 Group

The alarms and events can be viewed by groups. The users can customize the groups. Here, the option "Group" can be set any one of "All, 1, 2, 3 …32".



# HCTDesigner SOFTWARE MANUAL

<b>Global</b> Set	ttings	Extended Settings	Laguange Settings	Favorite Fo	ont Templates	User Level
User Priv	vilege	Task Schedule	Data Sampling	PLC Cont	rol Ala	arm And Event
Group:		<b>v</b>		Language:	1-English (Ur	nited States) 🔻
Group IC 2 3 4 5 6 7	Ali[0] L[0] 2[0] 3[0] 4[0] 5[0] 5[0] 7[0] 3[0]	gger Conditi	on		Content	
Create 1 Historica	L1[0] L2[0]	ear Current		Edit	Сору	
Maximur On Cach	ff sustain tory Na m Saving e Full: [[					
🔲 Clear F	Record F	Register:				

### 4.10.2.4.2 Language

Global Settings	Extended Settings	Laguange Settings	Favorite Font Templates         User I           PLC Control         Alarm And Ev		User Leve
User Privilege	Task Schedule	Data Sampling			m And Event
Group: All[0]			Language:	1-English (Unit 1-English (Unit	

The alarm content can be displayed in different languages. So you need select a language for the option "Language" to view the alarm content.

### 4.10.2.4.3 Create and set



After selecting a Group, then click the button "Create", the "Alarm and Event Detailed Setting" window will pop up. It is shown as below.

Group ID

If you select "All" for the "Group" in the settings page, the "Group ID" can set any one of 1~32 here. If you select any one of 1~32 for the "Group" in the settings page, the "Group ID" is same to the "Group". It refers to the group of the alarm or event waiting for be set here.

Urgency Level

The "Urgency Level" can be set "High", "Medium" or "Low". You can set it according to the priority level of the alarm or event.

• TriggerCondition

The trigger condition of the alarm or event can be set here by using the button "Add", "Modify" or "Delete". The details can be referred to: <u>Detailed manual/General</u> <u>functions/Address editor/Standard Bit Address Input</u> and <u>Detailed manual/General</u> <u>functions/Address editor/Standard Byte Address Input</u>.



- Text and Record
- Description: Text Lib

You can input the description for the current alarm or event in the edit box here. Or you can check the "Text Lib" and use a text of the Text Lib as the description. The "Text Lib" is referred to:<u>Detailed manual/Libray/Text Library</u>.

Language

You can select a language for the current display language here. If you check the "Text Lib" and use a text in the Text Lib as the description, the content in the edit box will only be viewed and not be edited. It can be viewed in different language by switching the Language.

Background Color:	Background Color:			
	Audio			
Audio		imeout 10	🗘 (s)	
Audio	Audio		Timeout 10	Timeout 10 (s)

If the option "Trigger Buzzer" is checked, the internal buzzer of HMI will beep when an alarm occurs. If the option "Buzzer Timeout" is checked, you can set the beeping time of the buzzer. If the option "Audio" is checked, you can select an audio from the Audio Library as the sound of the alarm or event.



Action

There are three kinds of actions according to the status of the alarm or event. They are "Triggering", "Confirming" and "Recovery Action". You can set the actions in different status for the alarm or event by clicking the title of the setting page "Triggering", "Confirming" or "Recovery Action".

Triggering	Confirming	Recovery Actio	on
Macro:	InitialSys 🔻	Macro Code	Edit
🔽 Bit Add	ress: ON	OFF	
	LBO		
Vord 4	۸ddress: ۸	/alue	0
	LW0		
Popup	Window: B_2	Base Window:	2) 🔹
Print In	formation to I	Printer	

The actions of "Triggering" refers to the actions that they will be executed when the alarm or event occurs. The actions of "Confirming" refers to the actions that they will be executed when the alarm or event is acknowledged by manual. The actions of "Recovery Action" refers to the actions that they will be executed when the alarm or event exists.

Macro

Select aMacro to execute as an action.You can also open the Macro Editor by clicking the button "Macro Code" or edit the Macro by clicking the button "Edit".

Bit Address

Set a bit register ON or OFF.

WordAddress

Write a value to a specified word register.



Popup Window

Pop up a specified window.

Print Information to Printer

Make the printer to print the corresponding information.

#### 4.10.2.5 Extended Settings

User Privilege	Task Schedule	Data Samplin	g PLC Control	Alarm	And Event
Global Settings	Extended Settings	Laguange Settir	ngs Favorite Font Te	emplates	User Level
Public Window Posit Performance: Disable Vect Processing Operate Log Save S	or Font Bordline Blurrin	g [	ndow Default Settings Slow In Slow Out Switch Window by Ho Note: Only for capacitive		ng
Unsave: Data will I Max Items 1000 If is "Auto Stop", r when the maximum	II SD Card USB1 lost upon power off or n Carl Auto Stop new entries will not be a m number of entries rea and add new entries.	restart. dded			

#### 4.10.2.5.1 PublicWindow Position

The attribute of "Public Window Position" can be set "Below Basic Window" or "Above Basic Window". The option "Below Basic Window" is selected by default.



Public Window Position:	Below Basic Windows 👻
	Below Basic Windows
	Above Basic Windows

The effect of the "Below Basic Window" is shown as below.

# This is the Basic Window.

The effect of the "Above Basic Window" is shown as below.



#### 4.10.2.5.2 Performance

If you check the option "Disable Vector Font Bordline Blurring Processing", the display effect of the fontswill have some burr. It does not look smooth and good, but the display speed is faster. You can use this optionto get higher display speed when less display quality is demanded.

Note: the speed difference is not obvious for the hardware which the version is above A8. So you need notcheck this option generally.

If you don't check the option "Disable Vector Font Bordline Blurring Processing", the display effect is shown as below.

# Static Text

If you check the option "Disable Vector Font Bordline Blurring Processing", the display effect is shown as below.



# Static Text

#### 4.10.2.5.3 Window Default Settings

There are three options for the "Window Default Settings". They are "Slow In", "Slow Out" and "Switch Window by Horizontal Sliding". The three options are valid only for the capacitive screen.

Window Default Settings	
Slow In	
Slow Out	
Switch Window by Horizontal Sliding	
Note: Only for capacitive screen.	

• "Slow In" and "Slow Out"

After the "Slow In" or "Slow Out" is checked, the new window will have a fade effect. You can find the "Fade in" option is checked by defaultin the "Basic" property TABof the new window. Another window effect is "Fade out". The fade effect is only valid for the capacitive HMI device.



New Window					
Basic Background ar	nd Border	Action and Function	Timer	Timing Data Transmission	
Window Description:	Base Wind	ow(2)		Print Page	
Insert at: 💿 Blank	🔘 Last 🏾 🔇	User-defined 🔘 In	sert win	low serial num(The No. of all the windo	ws after will be added by 1)
Window No. (By Type	):		2 ‡	Window number (used for windo	w switching)2
Width: 800 🗘	Height:	480 🗘		Window Type: Base Window	
Window Orientation:	Horizon	tal 💿 Vertical			
Popup Window				Safety	
				User Level: 0:	-
				Switch to user level	when window closed:
Overlapped Windo				Window Effect	
Bottom Layer:			-	🔽 Fade in	
Middle Layer	None		-	🔲 Fade out	
Top Layer:	None		<u>×</u>	Note: fade is only vali	d for the capacitive screen.
Help					OK Cancel

#### Note:

The fade effect will produce an effect on the speed of switching windows obviously. The economicHMI models are not suggested to be used.

• Switch Window by Horizontal Sliding

Window Defa	ult Settings
Slow In	
Slow Ou	t
🔽 Switch V	Vindow by Horizontal Sliding

After the "Switch Window by Horizontal Sliding" option is checked, the windows can be switchedby horizontal sliding action. This function is only supported by the capacitive HMI devices.

You can set the operation for this function in the "Action and Function" property TAB of the basic window.



asic Background an	d Border Action a	nd Function Timer Timing Data Transmission	
Action/Condition	Execute	Operation Target	
Slide to the left	Switch Page	Next Window	
Slide to the right	Switch Page	Previous Window	
			Add
			Move Up
			Move Down
			Delete
			Edit

### 4.10.2.6 Data Sampling

The "Data Sampling" is the data source of these components such as the "Trend Curve", the "Historical Data Display", and so on. You must create the "Data Sampling" before using these components. You can open the "Data Sampling" property TAB by clicking the menu command "Setup/ System Settings/Data sampling". It is shown as below.



Glo	bal Settings	Extende	ed Settings	Lag	guange Setti	ngs	Favorite	Font Ter	mplates	User Leve	el
U	ser Privilege	Task	Task Schedule		Data Samplir	ng	PLC Cor	ntrol	Alar	m And Event	
No.	Description		Address		Sampling I		Trigger Ac	Pause	Address	Clear Addr	R
	Temperature_H	Humidity	LW0		Cyclic	1S	12				0

# 4.10.2.6.1 Property Setting

After clickingthe button "New" in the "Data Sampling" property TAB, the "Data Sampling Property" dialogwill pop up. It is shown as below.



Data Sampling Property	
Property Setting () Channel Setting ()	
Property Setting       Channel Setting         Description:       Image: Channel Setting         Data Sampling Starting Address       Image: Channel Setting         Image: Use Address Tag       Image: Channel Setting         Deivce:       LOCAL:[Local Register]         Address       Type:         Address:       Image: Channel Setting         System Register	Sampling Mode
Format(Range) DDDDDD(0~799999) Occupy: 1 • Word	Data Record
Control Setting  Pause Control  Clear Control	Max Items 1000 💭 Mato Stop If is "Auto Stop", new entries will not be added when the maximum number of entries reached. Or delete old entries and add new entries.
Execute on Designated Window Openned	
Help	OK

#### • Description

The "Description" is used as the name of the "Data Sampling". It is a required the attribute. If it is null, there will be a red exclamation mark to indicate that a name is needed here. The "Description" can be a text which is easy to understand, such as "Level of Tank 1", "Temperature of Main Motor", and so on.

#### • Data Sampling StartingAddress

Aword register is needed to specify as the start address of the data sampling here. It is can be an internal address of the HMI and the register address of the controller which is connected to the HMI.

#### Control Setting

Three attributes of the Control Setting are optional. They are not be checked by default. You can check or not check them according to the actual needs.

#### > Pause Control



If the "Pause Control" is checked, you can set a bit address to control the data sampling. When this bit address is ON, the data sampling is paused. When it is OFF, the data sampling will continue.

# > Clear Control

If the "Clear Control" is checked, you can set a bit address to clear the sampling data. When this bit address is ON, all the samplingdata in the memory is cleared.

# > Execute on Designated Window Opened

After checking this attribute, you can specify a window when the window is set to open, the above "Pause control" and "clear control" to be effective.

If the "Execute on Designated Window Opened" is checked, you can specify a window. When this window is opened, the settings of "Pause Control" and "Clear Control" are valid.

# • SamplingMode

The Sampling mode can be "Cyclic" or "Triggered". The default is "Cyclic".

> Cyclic

The unit of the Sampling Cycle can be "s" or "0.1 s". The default is 1 s.

> Triggered

If you select the "Triggered" option, the data sampling will be done according to the "Trigger Condition". The Trigger Mode includes "Bit" and "Word". The "Address" is needed to specify according to the Trigger Mode. The "Trigger Condition" of Bit Trigger Mode can be "OFF $\rightarrow$  ON", "ON $\rightarrow$ OFF" or "OFF $\leftrightarrow$ ON".For WordTrigger Condition, you can refer to:<u>Detailed manual/General functions/Drawing/Logic Control</u>.



Data Sampling Prop	perty		<u></u>
Operty Setting Description: Data Sampling Sta Use Address Deivce: LOCAL:[ Address Type: Address: 0	Tag Local Register]	♥ ▼ System Register	Sampling Mode © Cyclic © Triggered Address: Trigger Mode: © Bit © Word Trigger Condition: ON<->OFF ON->OFF OFF->ON
Control Setting Pause Control		Channel Setting	Data Record © Unsave © HMI © SD Card © USB1 Unsave: Data will lost upon power off or restart. Max Items 1000 🐑 🖾 Auto Stop If is "Auto Stop", new entries will not be added when the maximum number of entries reached. Or delete old entries and add new entries.
Help			OK Canc

#### Data Record

You can save the sampling data to the HMI or other peripherals. The default is "Unsave". That is, the sampling data is not saved.

#### > Unsave

When you select "Unsave", there will be a "Max Items" setting for the memory occupation. The default is 1000. The maximumis 99,999. The "Auto Stop" is not checked by fault. If the "Auto Stop" is checked, the new items will not be added when the maximum number of items reached. Or delete the oldest items and add the new items. It is shown as below.



Note:



All the sampled data will be lost if you select "Unsave". After powering on, you need to sample the data again.

#### ≻ HMI

When you select "HMI" for the Data Record, the "Subdirectory Name" is required.

Power-off sustain	/I ◎ SD Card ◎ USB1
Subdirectory Nan	ne: SAMPLE
Maximum Saving	Limit:(No Limit) 0 🚔 Day
On Cache Full: D	elete Old Records 🔻
🔲 When free spac	e is less than: 128KB 🔹
Clear Record Re	

The "Maximum Saving Limit" optionis set "0" Day by default. That means that there is no limit to save. However, there is a limit because of the limited capacity of the HMI Flash. It is suggested that the "Maximum Saving Limit" optionis setseveraldays when you select HMI to save data, such as 15 days, 30 days, and so on.

The default action is "Delete Old Records" when the Flash memory of the HMI is full. This is a cycle record mode. You can also select "DiscardNew Records" option. It is a fixed-saving mode which the new records are no longer savedwhen the Flash memory is full.



OUnsave OF	HMI 🔘 SD Card 🔘 USB1
Power-off susta	in.
Subdirectory N	ame: SAMPLE
	ng Limit:(No Limit) 0 ♀ Day Delete Old Records ▼
The second s	
When free sp	Delete Old Records Discard New Records
Ľ	

If you check the option "When freespace is less than", the action of "Notify Register" will be done when the free space is less than the specified capacity. The capacity range is 16KB ~ 2MB. You can set a bit register to notify. The bit register will be ON when the free Flash capacity is less than the specified.

If you check the option "Clear Record Register", you can specify a "bit register". When the "bit Register" is ON, all the saved history records will be cleared.

For example, you want to save the data record to the "SAMPLE" folder in the HMI. The bit register LB0 will be ON to indicate insufficient space when thefree space is less than 128KB. All saved history records will be deleted when the bit register LB1 is set ON.The settings are shown as below.

O Unsave Power-off	● HMI ◎ SD Card ◎ USB1 sustain.	
Subdirecto	ry Name: SAMPLE	
	Saving Limit:(No Limit) 0 🚔 Day Full: Delete Old Records 🔻	
✓ When fre Notify Reg	ee space is less than: 128KB 🔹	
Clear Re	cord Register: LB1	]

> SD Card and USB1



You can choose to save the data records to SD card or USB disk. The settings are referred to the "HMI".

#### 4.10.2.6.2 Channel Setting

The "Channel Settings" property TAB is shown as below.

Data Sa	mpling Pr	roperty				8
roperty	Setting	Channel Setting				
Chan	Address	Туре	Word Count	Number	Notes	
						Samples Each Time:
						Add
lease a	add at lea	st one channel informatio	n.			Delete
Help	1					ОК Сапсе

There will be a red exclamation mark here due to no channel.

#### • Add channel

After clicking the button "Add", an item will be added. It is shown as below.



	ampling Pr	Channel Se	etting				
	Address		ype	Word Count	Number	Notes	
1	LW0	1	6-bit Unsigned 🔻	1	1		
							Samples Each Time:
							Add
Help							Delete OK Cance

The "Address" refers to the start address of the data record. The "Type" of data record can be "16-bit Unsigned", "16-bit Signed", "32-bit Unsigned", "32-bit Signed", "16-bit BCD", "32-bit BCD", "Single-precision Floating-point Number" or "Character String". The maximum memory occupied is 64 word registers for the type of "Character String".

Propert	y Setting Chan	nel Setting				
Chan	Address	Туре	Word Count	Number	Notes	
1	LW0	16-bit Unsigned 🔻	1	1		
		16-bit Unsigned 16-bit Signed 32-bit Unsigned 32-bit Signed 16-bit BCD 32-bit BCD Single-precision Flo Character String	ating-point Num	iber		Samples Each Time:

You can create many channels by clicking the button "Add". The addresses of the data recordare continuous and specified automatically. It is shown as below.



		Туре	Word Count	Number	Notes	
	LW0	16-bit Unsigned 🔻	1	1		
2	LW1	32-bit Unsigned 🔻	2	2		
ł.	LW3	Single-precision •		2		
_						Samples Each Time:
						1
						Add
						Add
						Add
						Add
						Add

### • Samples Each Time

The default value of "Samples Each Time" is 1. That means that one data is sampledeach time. When this parameter is set a value larger than 1, the addresses which each channel occupies will multiply. For example, the option "Samples Each Time" is set 3. Then the number of address occupied by each channel is shown as below.



	Data Sa	mpling Property					? 🛃
1         LW0         16-bit Unsigned •         1         3           2         LW3         32-bit Unsigned •         2         6         3           3         LW9         Single-precision •         2         6         Samples E	roperty	Setting Chann	el Setting				
2       LW3       32-bit Unsigned       2       6         3       LW9       Single-precision       2       6	Chan	Address	Туре	Word Count	Number	Notes	
3 LW9 Single-precision  2 6 Samples E	1 1	LWO	16-bit Unsigned 🔻	1	3		
Samples E	2 L	LW3	32-bit Unsigned ▼	2	6		
	3 L	LW9	Single-precision 🔻	2	6		
			P				Samples Each Time:
							3 🖨
Del							Add
Del							
							Delete
Help	Hele						OK Cancel

In this example, LW0 ~ LW2 is occupied by the first channel, LW3 ~ LW8 is occupied by the second channel, and LW9 ~ LW14 is occupied by the third channel. The number of addresses is three times as the number which the "Samples Each Time" is set 1.

#### • Delete channel

You can delete the selected channel by clicking the button "Delete ".

#### • Notes

In the "Notes" column of each channel, you can give a description. The "Notes" makes it easy to read and it will display in the "Historical Data" table. For example, the first channel is "Liquid level", the second channel is "Pressure", and the third channel is "Flow". It is shown as below.



		hannel Setting				
	Address	Туре	Word Count	Number	- 460 (1997)	
1	LW0	16-bit Unsigned		1	Liquid level	
2	LW1	32-bit Unsigned	- 2	2	Pressure	
	LW3	Single-precision	2	2	Flow	
			_1			Samples Each Time:
						1
						1 v
						Add
						Add
						Delete
						Delete

#### 4.10.2.7 User Privilege

The "User Privilege" is used to provide security for the user operations. The different privilege is given when the user enter the different user name and the corresponding password.

#### 4.10.2.7.1 Add

The "User Privilege" settings pagecan be opened by double-clicking the "User Privilege" option in the System Settings of the project tree or click the menu command "Setup/ System Settings /User Privilege".



	Global	Settings E	xtended Settings	Laguange Settings	Favorite Font Templat	tes	User Leve
0 S <sub>1</sub> S <sub>2</sub> S <sub>3</sub> Status0 ▼ L1 L2 L3 L4 1-Eng	User I	Privilege	Task Schedule	Data Sampling	PLC Control	Alarm A	And Event
월 - ♀ - 123 - 🔛 - ⊘ - 🏽 - 🖄 - 🚥 - 📰	No.	User Name	Predefined Passwo	rd Logout Time(min)	Permission		
1200100 200	1	Admin	888888	10	16:Admin		
Project       ▼ I= X         ↓ Local HMI F007       ↓         ↓ HMI Settings       ↓         ↓ Window       ↓         ↓ System Settings       ↓         ↓ Global Settings       ↓         ↓ Extended Settings       ↓         ↓ Loss Privilege       ↓         ↓ User Privilege       ↓         ↓ User Privilege       ↓         ↓ User Privilege       ↓         ↓ Data Sampling       ↓         ↓ Data Sampling       ↓         ↓ Data Sampling       ↓         ↓ Data Sampling       ↓         ↓ Data Ser Level       ↓         ↓ Data Sampling       ↓         ↓ Add Graphics       ↓         ↓ Browse Graphics Library       ↓         ↓ Add Graphics       ↓         ↓ Addo Library       ↓         ↓ Audio Library       ↓         ↓ Create Macro       ↓	-						
C DrawingPic.c							

After clicking the button "Add", the "User Privilege Settings" dialog will pop up.



User Name:	user2	Initial Password	888888
Logout Time:	10 🖍 n	nin(0 indicates never logout)	
Check	Permission No.	Description	
J	1	Permission1	
V	2	Permission2	
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		
	13		
<b>1</b>	14		
	15		
	16	Admin	
	17		
	18		
	19		
	20		
	21		
	22		

# 4.10.2.7.2 Set

You can set different User names, Initial Password and Logout Time for different privileges in the "User Privilege Settings" dialog. The login state of the current user will exit if the login time is more than the Logoff Time.



User Name:	user2	Initial Password	888888	
Logout Time	e: 10 🔷 n	nin(0 indicates never logout)		_
Check	Permission No.	Description	•	
	1	Permission1		
	2	Permission2		
	3			
	4			
	5	0		

#### 4.10.2.7.3 Use

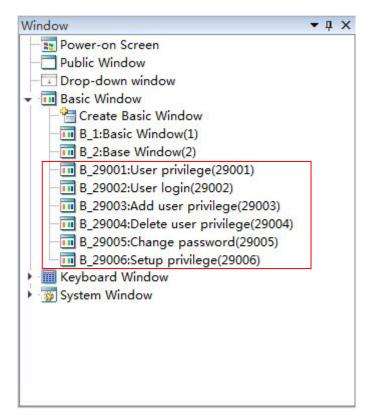
You can use the "User Privilege" in many situations, such as the control settings, the window switch, the value input, and so on.

Control Settings Display
Security Settings Minimum Press Time: 0 (X0.1S) Require confirmation prior to execution Waiting Time 100 (X0.1S) Records Operation
Minimum Operation Interval: 0 (X0.1S)
Notification Settings
Before Writing After Writing Notify Bit Address: Notify Byte Address:
Trigger Macro:

#### 4.10.2.7.4 Call

You can findsome windows which the system provides in the project tree, such as the User privilege window, the User login window, and so on. These windows make it easy to use for the users.





#### 4.10.2.8 User Level

You can set the levels and the level passwords for the users in the "User Level" settings page. The settings of the "User Level" are valid in the whole HMI system. The higher the level is, the greater the range which can be operated is. The higher user level can access the screen windows which the lower user level can access. But it is not prohibited that the lower user level accesses the higher user level.

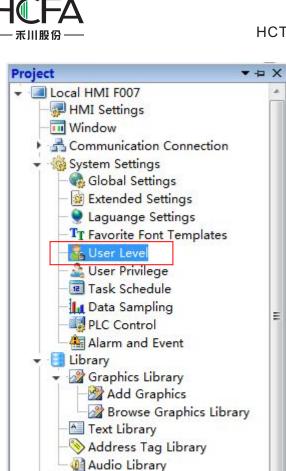
#### 4.10.2.8.1 Open

The "User Level" settings pagecan be opened by double-clicking the "User Level" option in the System Settings of the project tree or click the menu command "Setup/ System Settings /User Level".



.

Ξ

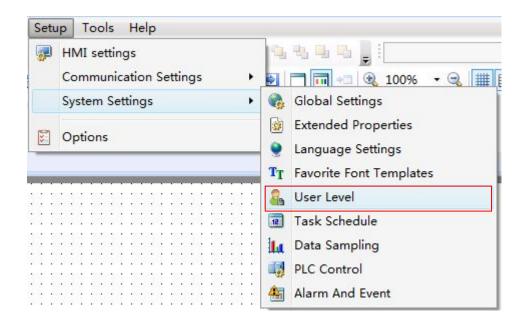


C Macro

II Recipe

Create Macro C DrawingPic.c C InitialSys.c C TransData.c

TT Craata Parin





#### 4.10.2.8.2 Edit

The "User Level" settings page is shown as below.

s System Settings				? 🗙
User Privilege	Task Schedule	Data Sampling	PLC Control	Alarm And Event
Global Settings	Extended Settings	Laguange Settings	Favorite Font Tem	plates User Level
User Level Count:	3 •	]		
Password Level	Predefined Password	Grade Description		
OLevel Password	None			
1Level Password	888888	Level1		j.
2Level Password	888888	Level2		
Please use system reg	gister SRW to realize the a	operation like password	l input and modificat	ion etc.
Help			0	OK Cancel

You can set the number of the user level in the "User Level Count" by using the list. And you can edit the information of every user level in the table, such as the Predefined Password and the Grade Description.

#### 4.10.2.8.3 Use

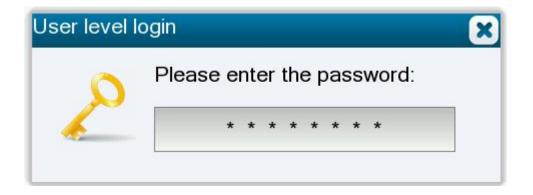
For example, set the user level function for the "Bit Switch" component.

Open the property window of the "Bit Switch" component and select the option "Conditional" in the property TAB of "Control Settings". Check the option "Level User" and select the level from the list. It is shown below.



witch	Indicator Light	Lable	Graphics	Dynamic Graphics	Control Settings Display
<ul> <li>Alw</li> <li>Cor</li> <li>Lev</li> <li>Priv</li> </ul>	ditional 🕅 Hide Non-op 📝 Autor	when co perable	when the pa	r meet. art is hidden. vord window.	Security Settings Minimum Press Time: 0 (X0.1S) Require confirmation prior to execution Waiting Time 100 (X0.1S) Records Operation Minimum Operation Interval: 0 (X0.1S) Notification Settings Before Writing After Writing Notify Bit Address: Notify Byte Address:
Keybo	ay Audio				Trigger Macro:

Run the project.A "User level login" window will pop up when you click the component. It is shown as below.You can operate the component only by entering the correct password in the "User level login" window.



4.10.2.9 Language Settings



Global Set			Data Sampling	PLC Control	Alarm And Event
Ciobai Set	tings	Extended Settings	Laguange Settings	Favorite Font Tem	plates User Level
anguage Language No. 1 2	Count: Langu Englisł	2	- Default		nt Templates.(I)
			Us	Microsoft Sa	
Default Lar 1 : English		States)			
SRW10050	. When t	<ol> <li>by using system regises project is downloaded</li> <li>be restored.</li> </ol>			

# 4.10.2.9.1 Language

• Language Count

You can select the number of the languages in the list of the "Language Count" option. Then you set the languages in the table. The languages should be different in the table. You can modify the languages by the lists in the table.



User Priv	ilege	Task Schedule	Data Sampling	PLC Control	Alarm And Event		
Global Set	tings	Extended Settings	Laguange Settings	Favorite Font Ten	nplates User Level		
an <mark>guage</mark>			Default	Font			
Language	Count:	8	• Imj	po <mark>rt</mark> from Favorite Fo	nt Templates.(I)		
No.	Langu	lage	◯ Vect	or Font 🧕 Graphic F	ont		
1	Englis	h (United States)	Font:	Arial 🔻			
2	Chines	e (Simplified, PRC)	Size:		*		
3	Turkis	h (Turkey)	5126.				
4	Frenc	h (France)	-				
5	Frenc	h (France)		<b>*</b>			
6		n (Italy)		Arial	8		
7		sh (Spain) guese (Portugal)		Allai			
8	-	an (Germany)					
	Vietna	amese (Vietnam)					
		Thailand) rian (Bulgaria)		rent Font for Al	Languages(F)		
		an (Catalan)					
		(Czech Republic)					
	1000	h (Denmark)					
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	c (Greece) h (Finland)					
Default La	Usha	ew (Israel)					
	Hung	arian (Hungary)		*			
1 : English			•				
SRW10050	. When t	O. by using system regi the project is download ill be restored.					
derdant lan	gaage w	and the restored					

Default Language

You can select a language from the list as the "Default Language". After downloading the project, the specified default language will be as the display language. You can switch the display language by changing the value of SRW10050. The No.1 language will be displayed when SRW10050 is 0. The No.2 language will be displayed when SRW10050 is 1. The No.3 language will be displayed when SRW10050 is 2. And so on. The display language will be changed to the specified "Default Language" when the project is downloaded again.

# 4.10.2.9.2 Default Font

Refer to: Detailed manual/ General functions/ Drawing/ Font settings.

4.10.2.10 PLC Control



The "PLC Control" attribute is used to execute an action according to the change of the address of the local HMI or the controller connected to the local HMI. This is a global Attribute. That is, the action of the "PLC Control" will be executed regardless of which onethe current screen window is, as long as the conditions aremet.

After clicking the menu command "Setup / System Settings / PLC Control", the "PLC Control" settings page will be opened. It is shown as below.

System Settings						8
Global Settings	Extended Settings	and the second second	inge Settings	Favorite Font Ten		User Level
User Privilege	Task Schedule	Dat	a Sampling	PLC Control	Alar	rm And Event
IO. Address		Туре	Content			
			Add	Delete	Clear	Edit
Help				1	OK	Cancel
Help					OK	Cano

Click the button "Add" in the "PLC Control" settings page, the "PLC Control Details" settingsdialog will pop up. It is shown as below.



E PLC Control Details		23
Control Type: Switch Basic Window  Valid on Window Opened Trigger Address Use Address Tag Deivce: LOCAL:[Local Register]  Address Type: LW Address: 0  System Register Format(Range) DDDDDD(0~Occupy: 1  Word Data Type: 16-bit Unsigne Address Index	Property Turn on Back Light Clear Address on Switched Window	
	OK	el

The "Control Type"refers to the action of the "PLC Control". It includes "Switch Basic Window", "Report Current Window No.", "Back Light Control", "Execute Macro Instruction", "Audio Control", "Sheet Print", and "Force Buzzer off".

E PLC Control Details	
Control Type:       Switch Basic Window         Switch Basic Window         Switch Basic Window         Valid on Wind         Report Current Window No.         Trigger Address         Back Light Control         Execute Macro Instruction         Auido Control         Deivce:       LOCAL:         Sheet Print         Force Buzzer off    Address Type: LW          Address:       0         System Register         Format(Range)       DDDDDDD(0~Occupy:         Data Type:       16-bit Unsign         Address Index       Intervention	Property Turn on Back Light Clear Address on Switched Window
	OK Cancel

#### 4.10.2.10.1 Switch Basic Window

You can switch the basic window of the HMI by changing the value of a register.



F PLC Control Deta	ils		8
Valid on Window Trigger Address Use Address Tag Deivce: LOCAL:[Loc Address Type: LW Address: 0	,	Property Turn on Back Light Clear Address on Switched Window	
		OK	ncel

• Valid on Window Opened

The "Valid on Window Opened" is a public attribute of the "PLC Control". By default, it is not checked. After checking this attribute, you can select a base window. The action defined in the "PLC control" will be executed when the specified base window is switched to open.

Trigger Address

You can select a word register to trigger the "Switch Basic Window" action. For example, if the "Trigger Address" is set LW100, the HMI will display the Basic Window(1) when the value of LW100 is 1, and the HMI will automatically switch to the Basic Window(20) when the value of LW100 is 20. And so on.

• Property

There are two optional attributes in the "Property"box. They are not checked by default.

♦ Turn on Back Light

If you check the option "Turn on Back Light", the back light will be turned on automatically when the action of "Switch Basic Window" is executed and the back light is closed.

♦ Clear Address on Switched Window



If you check the option "Clear Address on Switched Window", the value of the word register will be cleared to zero automatically after the action of "Switch Basic Window" is finished.

After click the "OK" button, the "PLC Control" action will be added in the "PLC Control" settings page.

	bal Settings	Extended Settings	Lagua	inge Settings	Favorite Font Ter	mplates	User Level
Us	er Privilege	Task Schedule	Dat	a Sampling	PLC Control	Alarr	n And Event
NO.	Address		Туре	Content			
	LOCAL:[Loca	al Register]:LW100	Word	Switch Basic V	Vindow		

#### Note:

The "Switch Basic Window" action will be triggered only when the value of the trigger address changes. You can also use a Bit Set component to switch the base window in the Flexem Studio software. But the switch basic window action may not be executed if you use the two switch window methods. For example, after you input a value to the trigger address to switch the basic window, you switch another basic window by using the Bit Set component. Then you input the same value to the trigger address to switch the first basic



window. But it does not act because the value of the trigger address does not change. To avoid this situation, you should check the option "Clear Address on Switched Window".

#### 4.10.2.10.2 Report Current Window No.

The current window number can be recorded to a register.

🖪 PLC Control Details	×
Control Type: Report Current Window No.  Valid on Window Opened Trigger Address Use Address Tag Deivce: LOCAL:[Local Register]	Property
Address Type: LW  Address: 0 System Register Format(Range) DDDDDD(0~Occupy: 1 Word Data Type: 16-bit Unsigne Address Index	
	OK Cancel

• Trigger Address

You can select a word register to trigger the "Report Current Window No." action. For example, if the "Trigger Address" is set LW200, the number of the current basic window will be moved to LW200 when the HMI displays a window. If the HMI device displays the Basic Window (18), then the value of LW200 is equal to 18.

#### 4.10.2.10.3 Back Light Control

You can define a trigger condition to control the state of the back light if you select the "Back Light Control" as the control type.



E PLC Control Details	
Control Type: Back Light Control   Valid on Window Opened  Trigger Address Use Address Tag Deivce: LOCAL:[Local Register]  Bit-index within a Byte Register Address Type: LB Address: 0 System Register Format(Range) DDDDDDD(0~ Address Index	Property             Back Light on
	OK Cancel

Back Light on

The option "Back Light on" is selected by fault. If this option is selected and the trigger condition is satisfied, the back light will be turned on when the back light is closed or in the lowest lightness.

Back Light off

If the option "Back Light off" is selected and the trigger condition is satisfied, the back light will be turned off.

• Adjust to LowestBrightness

If the option "Adjust to LowestBrightness" is selected and the trigger condition is met, the back light of the HMI will be adjusted to the lowest lightness.

• Trigger Address

The "Trigger Address" can be a word or bit register. It depends on the setting of the "Trigger Condition".

• Trigger Condition

You can select "Bit", "Word" or "Condition" for the "Trigger Condition". If you select "Bit" or "Word", the condition is determined by the register which is given in the "Trigger



Address". If you select "Condition", the condition needs to be given by the logic control editor box.

Fs PLC Control Details	<b>X</b>
Control Type: Back Light Control 🔻	Property Back Light on Back Light off Adjust to Lowest Brightness Trigger Condition Bit Word Ocondition
	Condition Add Modify Delete
	OK Cancel

The detailed of "Condition" setting is referred to:<u>Detailed manual/ General functions/</u> <u>Drawing/ Logical Control</u>.

# 4.10.2.10.4 Execute Macro Instruction

E PLC Control Details	
Control Type: Execute Macro Instruction  Valid on Window Opened Trigger Address Use Address Tag Deivce: LOCAL:[Local Register] Bit-index within a Byte Register Address Type: LB Address: 0 System Register Format(Range) DDDDDD(0~ Address Index	Property Execute Macro    Macro Code Edit Trigger Condition Bit    Word    Condition Trigger Mode: OFF->ON         Auto Reset
	OK Cancel

Execute Macro



You can select a Macro from the list. The selected Macro will be executed when the TriggerCondition is achieved. If you have not created aMacro, there will be a red exclamation mark to prompt that any one macro has not been established. Click the button "Macro Code", you can open the Edit Macro window.

• Trigger Address

The "Trigger Address" can be a word or bit register. It depends on the setting of the "Trigger Condition".

• Trigger Condition

You can select "Bit", "Word" or "Condition" for the "Trigger Condition". If you select "Bit" or "Word", the condition is determined by the register which is given in the "Trigger Address". If you select "Condition", the condition needs to be given by the logic control editor box.

The detailed of "Condition" setting is referred to:<u>Detailed manual/ General functions/</u> <u>Drawing/ Logical Control</u>.

#### 4.10.2.10.5 Audio Control

You can control the internal buzzer of the HMI or the audio from the "Audio Library" by using the control type of "Audio Control". This function is invalid if the audio output is not supported by the HMI device.

E PLC Control Details	
Control Type: Auido Control	Property             Buzzer Buzzer Time:          1          (s)         0 represents buzzer sounds permanently.          Use Audio Audio Library          )         Trigger Condition          Ø Bit  ♥ Word  ♥ Condition         Trigger Mode: OFF->ON ▼ ■ Auto Reset
	OK



Buzzer

The option "Buzzer" is selected by default. If it is selected, the internal buzzer of the HMI will ring when the trigger condition is satisfied. The "Buzzer Time" is used to set the time of buzzer ringing. It is 1 second by default. The max value of the "Buzzer Time" is 100 seconds. When the "Buzzer Time" is set "0", the buzzer will continue ringing until the trigger condition is not satisfied.

Use Audio

If the option "Use Audio" is selected, you can select anaudio from the "Audio Library". When the "Trigger condition" is satisfied, the audio will be played.

• Trigger Address

The "Trigger Address" can be a word or bit register. It depends on the setting of the "Trigger Condition".

• Trigger Condition

You can select "Bit", "Word" or "Condition" for the "Trigger Condition". If you select "Bit" or "Word", the condition is determined by the register which is given in the "Trigger Address". If you select "Condition", the condition needs to be given by the logic control editor box.

The detailed of "Condition" setting is referred to:<u>Detailed manual/ General functions/</u> <u>Drawing/ Logical Control</u>.

# 4.10.2.10.6 Force Buzzer off

You can specify a bit register to force the buzzer off by using the control type of "Force Buzzer off". When the state of the buzzer is ON, it will be forced to OFF if the specified bit register is ON.



E PLC Control Details	×
Control Type: Force Buzzer off  Valid on Window Opened Trigger Address Use Address Tag Deivce: LOCAL:[Local Register] Bit-index within a Byte Register Address Type: LB Address: 0 System Register Format(Range) DDDDDD(0~ Address Index	Property
	OK Cancel

## 4.10.3Communication Settings

### 4.10.3.1 Service

Servicerefers to that the HMI device provides the data requested by other devices. The HMI is a slave device. The portis static. All communication operations should be initiated by other master devices.

The type of Service includesSerial Port Service and Network Service.



(	COM1	COM2	(	сомз	0	OM4	R	emote HMI
R	emote PLC	Ethe	rnet P <mark>L</mark> C	Ser	vice	Printer		Keyboard
ID	Protocol Ty	pe	Service T	уре	Port/CO	M Port	Slave	Device NO.
1	Modbus TC	P Server	Network	Service	502		1	
2	Modbus RT	U Server	Serial Por	rt Service	COM1		1	
Pleas	e add the ser	vice of seri	al port fror	m corresp	ondent C		ettings	Update

4.10.3.1.1 Serial Port Service



Remote PLC	Ethernet F	LC Serv	rice	Printer	Keyboard
COM1	COM2	COM3	COM	4	Remote HMI
Unused	© C4	onnect Device(M	aster) (	Provide	Service(Slave)
Device Typ	e: Modbus RTU	J Server	•	]	
Device Alia	s: Service			]	
Server Station No	o.: Constant 🔻		1	}	
Communication S Communication Baud Rate: Data Bit: Stop Bit: Parity Bit: Reset Inst	-	• Mo	npatible Mo dbus RTU Se		

The Device Type can be Barcode, FLEXEMSLAVE and Modbus RTU Server. The Barcode refers to the bar code gun. It can scan information and display it by using a continuous 100 characters saved in the area which LW8900 is the start address. LB8999,which is as a flag bit, is set ON after scanning is finished (it will not be reset automatically). The FLEXEM SLAVE device is supported and the HMI can work as a slave or a master device. The Modbus RTU Server is referred to:Detailed\_manual/Setup/Communication Settings/Local Connection/Provide Service (Slave).

Device Type:	Modbus RTU Server	•
	Barcode	
Device Alias:	FLEXEM SLAVE	
	Modbus RTU Server	
Server Station No.:	Constant 🔻	1 V



### 4.10.3.1.2 Network service

•
Service Protocol Type(Slave Device Protocol):
Server   Instruction
.168.0.200 Port No.: 502 🜩
No.: Constant • 1
OK Cance
No.: Constant • 1

The Service ProtocolType supports Modbus TCP Server. It is referred to:Ethernet Service

### 4.10.3.2 Local Connection

The command "Local Connection" in the "Communication Settings" menu is used to set the communication parameters of the COM ports.

Select the corresponding COM port (COM1, COM2, COM3, or COM4) property TAB to set the communication parameters.



### HCTDesigner SOFTWARE MANUAL

Device Alias: re-set Station No.:	FLEXEM	COM3 nect Device(M US	aster) (		Remote HMI Service(Slave)
Manufacturer: Device Type: Device Alias: re-set Station No.:	FLEXEM		aster) ( •	) Provide S	Service(Slave)
Device Type: Device Alias: re-set Station No.:	FLEXEM MODB	US	•		
Device Alias: re-set Station No.:		US	•		
re-set Station No.:	Device1				
	Constant 🔹	1	Syr	ichronize S	tation No.
Broadcast Station:		Maste	r Station No.:	1	
Baud Rate: Data Bit: Stop Bit: Parity Bit: Reset Instruct	115200 8 1 None Advance	•			

### 4.10.3.2.1 Unused

The option "Unused" is the default. It means the selected COM port is not used to communicate.

### 4.10.3.2.2 Connect Device (Master)

The option "Connect Device (Master)" needs to be selected when the touch screen is as master device. Then you need to set communication parameters for the corresponding PLC.

Manufacturer



The option "Manufacturer" is used to set the manufacturer of the connectedPLC.

COM1	COM2			
	COIVIZ	COM3	COM4	Remote HMI
Unused	Connect	t Device(Mast	er) 🔘 Pr	ovide Service(Slave)
Manufacturer:	FLEXEM		•	
Device Type:	FLEXEM MODBUS Compati	ible		
Device Alias:	SIEMENS PANASONIC			
re-set Station No.:	MITSUBISHI FATEK		≡ ichr	onize Station No.
Broadcast Station:				1 🗘
Communication Set	DELTA Inovance_H2u		del	
Communication Ty	MEGMEET MIKOM		s	
Dauu Mate.	KeWei KINCO			
	HCFA			
Stop Bit:	Yaskawa 1	•	•	
Parity Bit:	None	•		
Reset	Advance			
Instruct	ions			

• Device Type

The Device Type refers to the corresponding type of the connected PLC.



Remote PLC	Ethernet P	LC	Service	Printer	Keyboard
COM1	COM2	COM3		COM4	Remote HMI
Unused Manufacture	<u></u>	nnect Devic	e(Master)	O Provide	Service(Slave)
Device Type Device Alias	FLEXEM MOD	(MISTUBIS			
re-set Station No	.: Constant 🔹		1 🚔	Synchronize	Station No.
Communication Baud Rate: Data Bit: Stop Bit: Parity Bit: Reset Instru	Type: RS232 115200 8 1 None Advar		FLEXEM M	ODBUS	
		J			

• Pre-set Station No.

The option "Pre-set Station No." is used to set the PLC station number. You can set it byConstant orVariable.

You can input a fixed station number of the connected PLC by Constant way. It is the default station number for the new address. The station number which is already set will not change if you modify the preset station number. You can use the button "Synchronize Station No." to unify the station number.

You can set the "Pre-set Station No." by variable. It means the preset station number will depend on the value of a variable which you can input by a numeric value input component. The method to input the variable address is referred to:<u>Detailed</u> <u>manual/General functions/Address editor/Standard ByteAddress Input</u>.



• Synchronize Station No.

After clicking the button "Synchronize Station No.", the station number will be modified and saved for all addresses of this PLC used in the current project.

- Communication Setting
  - Communication Type: RS232, RS485-2 and RS485-4 are optional.

Baud Rate:
 110,300,600,1200,2400,4800,9600,14400,19200,38400,56000,57600,115200
 and 187500 are optional.

- > Data Bit: the number 7 and 8 are optional.
- Stop Bit: the number 1 and 2 are optional.
- > Parity Bit: None, Odd andEven are optional.
- > Reset: the default settings will be restored if you click the button "Reset".

Advance: more communication protocol parameters can be modified if you click the button "Advance". The settings are shown as below.



Timeout(ms):	300 🔷	Bit Register Interval:	64	~
Protocol Timeout1:	30 🜲	Protocol Timeout2:	3	Ŷ
Word Register Interval:	16 🗘	Max Bit Registers:	128	*
Max Word Registers:	60 🌲	Time Interval:	5	*
Retry Stop Word and Byte Port Orde				
Word and Byte Port Orde	r	and the second		
	•	32-bit Integer: 4321		•
16-bit Integer: 21				

The parameters in the Advanced Communication Settings should not be modified, unless the professional guidance is given. The optional modification may result in a communication failure or unexpected events occur. You can consult the factory technical staff to modify the advanced parameters based on your needs. In most cases, the default parameters are the bestand neednot to be changed.

### 4.10.3.2.3 Provide Service (Slave)

The touch screen is used as the slave device.



## HCTDesigner SOFTWARE MANUAL

Remote PLC	Ethernet F	PLC Se	rvice	Printer	Keyboard
COM1	COM2	COM3	co	DM4	Remote HMI
Unused	© Ca	onnect Device(N	Master)	Provide	Service(Slave)
Device Type:	Barcode			•	
Device Alias:	Service				
Server Station No.:	Constant •		1	×	
Communication Ty Baud Rate: Data Bit: Stop Bit: Parity Bit: Reset Instruct	9600 8 1 None Adva	•	rial Bar Co	de Scanner	

• Device Type

The Device Type includes Barcode, FLEXEM SLAVE and Modbus RTU Server. It is shown as below.

Device Type:	Barcode	-
	Barcode	
Device Alias:	FLEXEM SLAVE	
	Modbus RTU Server	
Server Station No.:	Constant •	1 V

• Device Alias



"Serve" is the default name of theDevice Alias.

• Server Station No.

You can set the "Server Station No." by Constant or Variable. It is the station number of the touch screen as a slave device.

Server Station No.:	Constant 🔻	1
	Constant	
	Variable	

> Constant

The user can input a constant as the fixed station number.

> Variable

You can set the "Server Station No." by variable. It means the server station number will depend on the value of a variable which you can input by a numeric value input component. The method to input the variable address is referred to:Detailed manual/General functions/Address editor/Standard ByteAddress Input.

- Communication Setting
  - Communication Type: RS232, RS485-2 and RS485-4 are optional.
  - Baud Rate:

110,300,600,1200,2400,4800,9600,14400,19200,38400,56000,57600,115200 and 187500 are optional.

- > Data Bit: the number 7 and 8 are optional.
- Stop Bit: the number 1 and 2 are optional.
- > Parity Bit: None, Odd andEven are optional.
- > Reset: the default settings will be restored if you click the button "Reset".

Advance: more communication protocol parameters can be modified if you click the button "Advance". The settings are shown as below.



## HCTDesigner SOFTWARE MANUAL

Timeout(ms):	200	Bit Register Interval:	2
Protocol Timeout1:	0		0
Protocol limeouti:	0	Protocol limeoutz:	0
Word Register Interval:	2	Max Bit Registers:	32 🖨
Max Word Registers:	64	Time Interval:	0
Retry Stop     Word and Byte Port Order	j r		
16-bit Integer: 21	•	32-bit Integer: 4321	•
32-bit Float: 4321	•		

The parameters in the Advanced Communication Settings should not be modified. The optional modification may result in a communication failure or unexpected events occur. You can consult the factory technical staff to modify the advanced parameters based on your needs.

### 4.10.3.3 Remote Connection

The Remote connection containsthree connection modes: "Remote HMI", "Remote PLC" and "Ethernet PLC".

### 4.10.3.3.1 Remote HMI

After click the menu "Setup / Communication Settings / Remote Connection", the "Remote HMI" settings page is opened as the default. It is shown as below.



### HCTDesigner SOFTWARE MANUAL

R	emote PLC	Ethernet	PLC	Servi	ce	Printer	Keyboard
C	COM1	COM2	cc	DM3	C	OM4	Remote HMI
ID	Device Alias	s IP		Port	Dev	vice Type	
				et. Using (	device a	alias, local HIV	1I can easily visit th
		e connected vi of the remote		et. Using (	device a		

For one of the HMI device, anyone of other HMI devices in the same Ethernet network of the LAN is the Remote HMI. For example, there are two HMI: one named HMI1, another one named HMI2. These two HMI devices are connected in an Ethernet network.For HMI1 device, HMI2 is the "remote HMI" of HMI. For HMI2 device, HMI is the "remote HMI" of HMI2.

After clicking the button "Add" in the "Remote HMI" settings page, the "Remote HMI" settingsdialog will pop up. It is shown as below.



Fs Remote HMI				X
Remote HMI Addr	ess:			
🔘 Use IP				
Fixed •	192.168.0.1	Port No.:	Constant 🔹	3000 🜩
<b>0</b> 7 - 112 - 2				
Device Type:	FE4070			-
Device Alias:	Alias cannot be null, Defa	ault:Device1		
				KCancel
				Cancel

### Use IP

You can set the IP address of the remote HMI by Fixed or Variable. The default setting mode is "Fixed". And the default fixed IP address is "192.168.0.1". For example, the IP address of HMI1 is "192.168.0.10" and the IP address of HMI2 is "192.168.0.20". For the project of HMI1, you need set the IP address of the remote HMI "192.168.0.20".

When you set the IP address of the remote HMI by Variable, a word register address needs to be given as the start address. There are 4 word registers which is from the start word register. They are used to save the 4 segments of the IP address. It is shown as below.



Remote HMI		3
Remote HMI Add	ress:	
Use IP		
Variable	▼ RW0 Port No.: Constant ▼	3000 🗘
	RW0~RW3: correspond to the 4 segments of IP address	(and and
Device Type:		•
A STATE OF A		•
and the second second	FE4070	•

You can input the IP address of the Remote HMI to the4 word registers by the numeric value input component. Then you can access the desired HMI device.

## • Port No.

You can set the "Port No." of the remote HMI by Constant or Variable. The default setting mode is "Constant" and the default port number is 3000. You need to set the "Port No." by Variable if you want to change the port number of the remote HMI by a word register. The default port number is suggested usually. It is noted that all the port numbers of the connected HMI devices must be the same. Otherwise, the connection may fail.

## • Device Type

The Device Type refers to the type of the remote HMI device which the HMI needs to access.

### • Device Alias

The default of the Device Alias is "Device1". It cannot be null. You can set a device alias which is easy to understand, such as "HMI for Machine 3".

Click the button "OK" to confirm the settings. And the "Remote HMI" settings page is shown as below.



## HCTDesigner SOFTWARE MANUAL

	emote PLC	Ethernet	t PLC	Servi	ce	Printer	Keyboard
C	COM1	COM2	C	OM3	co	DM4	Remote HMI
D	Device Alia	s IP		Port	Dev	се Туре	
	HMI of Dev	ice 3 192.168.	0.20	3000	FE40	70	
m	ote HMI can l	be connected v	ia Ethern	net. Using	device a	ias, local HM	1I can easily visit
		be connected v		net. Using (	device a	ias, local HN	1I can easily visit
				net. Using (	device a		

Click the button "OK" in the "Remote HMI" settings page to save, and then you can find the remote HMI device in the Device list of the register address.For example, it is shown as below.



Numeric	: Input							?
eneral	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
		Numeric Display 🍥 ddress Is Different	Numer	ric Input 《	) Characters Display rd	© Characters Inp	ut	
Read A	ddress:							
🔲 Use /	Address Tag			-				
Deivce:	LOCAL:[Local Reg	jister]	•					
F	LOCAL:[Local Reg							
		[Remote HMI:FE407	0]					
Address	RECIPE:[recipe re	gister]		1				
Addres		System R	enister	2				
	Range) DDDDDD(		Wor					
ronnau	(Range) DDDDDDD(		VVOI	u				
🔲 Addr	ress Index							
								_
Help	Description:						OK	Cancel

After finishing setting the "Remote HMI", the local HMI can access all the registers of the "Remote HMI", including theLW, RW, SRW, LB, SRB and other registers.

If you need to add other remote HMIs, you can add them by referring to the above.

### 4.10.3.3.2 Remote PLC

The Remote PLCrefers to the device which is connected with the remote HMI, including the PLC, the inverter, the servo, the instrument, and so on.

After clicking the menu "Setup / Communication Settings / Remote Connection", the "Remote HMI" settings page is opened as the default. Click the "Remote PLC" tab to open the "remote PLC" settings page. It is shown as below.



(		COM2	CC	DM3	CON	14	Rem	ote HMI
R	emote PLC	Ethernet	PLC	Serv	ice	Printer	1	Keyboard
ID	Device Alias	IP		Port	COM Port	Device Ty	/pe	Default St
cce	ote PLC is a de ss to remote Pl g the device alia	.C registers th	hrough th					
cce		.C registers th	hrough th				of rem	

After clicking the button "Add" in the "Remote PLC" settings page, the "Remote PLC" settingsdialog will pop up. It is shown as below.



Remote PLC	
Remote HMI Addre	ess:
<b>O</b> Use IP	
Fixed •	192.168.0.1 Port No.: Constant • 3000 •
At COM port:	COM1 •
Manufacturer:	
	Instructions
Device Type:	FLEXEM FL2N(MISTUBISHI FX2N COMPATIE -
Device Alias:	Alias cannot be null, Default:Device1
Default Station	No.: Constant • 1 Synchronize Station No. Advance
	OK Cancel

### Remote HMI Address

### > Use IP

You can set the IP address of the remote HMI by Fixed or Variable. The default setting mode is "Fixed". And the default fixed IP address is "192.168.0.1".

### ➢ Port No.

You can set the "Port No." of the remote HMI by Constant or Variable. The default setting mode is "Constant" and the default port number is 3000.

The detailed settings of "Use IP" and "Port No." can be referred to the settings in the "Remote HMI" settings page.

### • COM

> At COM port



The "At COM port" refers to the number of COM port which the "Remote PLC" device is connected to. The default is COM1. For example, the "At COM port" is set COM2 if the accessed controller is connected to the COM2 port.

## > Manufacturer

The "Manufacturer" refers to the manufacturer of the connected "Remote PLC" device.

## > Device Type

The Device Type refers to the type of the remote PLC device which is connected to the remote HMI.

## > Device Alias

The default of the Device Alias is "Device1". It cannot be null. You can set a device alias which is easy to understand, such as "HMI for Machine 3".

## > DefaultStation No.

The "Default Station No." refers to the station number of the Remote PLC device. It must be consistent with the actual station number of the Remote PLC device.

## > Advance

Please refer to the "Advance" settings of the "Local Connection".

For example, the "Remote PLC" device is connected to the "Remote HMI" which the IP address is "192.168.0.20". The type of the remote PLC is Siemens S7-200 and the COM1 of the remote HMI is used to connect with the PLC. The station number of the PLC is 2. The settings are shown as below.



Use IP	192.168.0.20 Port No.: Constant • 3000 •
At COM port:	
Manufacturer:	SIEMENS    Instructions
Device Type:	Siemens S7-200
Device Alias:	PLC of Device 3
Default Station	No.: Constant

Click the button "OK" to confirm the settings and the "Remote PLC" device is added to the "Remote PLC" settings page.



(	COM1	C	OM2	(	COM3	C	DM4	Ren	note HMI
R	emote PLC	10	Ethernet	PLC	Se	ervice	Printer	-	Keyboard
ID	Device Alia	s	IP		Port	COM P	ort Device	е Туре	Default St
1	PLC of Devi	ce 3	192.168.0	.20	3000	COM1	Siemer	ns S7-200	2
acces	ote PLC is a d ss to remote g the device a	PLC r	egisters th	rough			port num		

You can find the remote PLC device in the "Device Type" of the component. For example, it is shown as below.



Numerio	: Input							? 🔀
General	Number Format	Keyboard Setting	Font Gra	phics Dynamic	Graphics	Control Setting	s Display	
		lumeric Display 🍥 ddress Is Different		out © Characte	ers Display	◎ Characters In	put	
Read A	ddress:		7					
🔲 Use	Address Tag							
Deivce:	LOCAL:[Local Reg	ister]	•					
Addres Formati	PLC of Device 3:[F RECIPE:[recipe re	Remote HMI:FE407( Remote PLC:COM1:S gister] System R	iemens S7-2	001				
Help	Description:						0	K Cancel

After finishing setting the "Remote PLC", the local HMI can access all the registers of the "Remote PLC" which is connected to the "Remote HMI".

If you need to add other remote PLCs, you can add them by referring to the above.

### 4.10.3.3.3 Ethernet PLC

The "Ethernet PLC" refers to the PLC which is connected with the HMI by the Ethernet communication mode. The network communication protocols which the HMI and the PLC support are used to complete the communication.

After clicking the menu "Setup / Communication Settings / Remote Connection", the "Remote HMI" settings page is opened as the default. Click the "Ethernet PLC" tab to open the "Ethernet PLC" settings page. It is shown as below.



## HCTDesigner SOFTWARE MANUAL

	munication Co	onnection						8
C	COM1	COM2	CC	DM3	CC	DM4		Remote HMI
Re	emote PLC	Ethernet	t PLC	Servi	ce	Print	ter	Keyboard
ID	Device Alia	s IP		Port	Device	Туре	Defau	lt Station No.
		PLC device whic						
		PLC device whic ess Ethernet Pl			ough IP	addres	s and p	ort directly.
						addres		

After click the button "Add" in the "Ethernet PLC" settings page, the "Ethernet PLC" settingsdialog will pop up. It is shown as below.



	of Ethernet PLC	_	[		
Fixed •	192.168.0.2	Port No.: C	Constant •	502 👻	
	(				
Manufacturer:	MODBUS Compatible	e	•	Instructions	
Manufacturer: Device Type:	MODBUS Compatible	e	•	Instructions	
				Instructions	
Device Type: Device Alias:	Modbus TCP			Instructions onize Station No.	Advance

### • The IP address of Ethernet PLC

The IP address of Ethernet PLC refers to the IP address of the PLC which is connected with the HMI through the Ethernet network.

### • Port No.

The "Port No." is the number of the communication port between the Ethernet PLC and the HMI. The "Port No." is different for the different network. There is a default "Port No." for your selected network. Generally, it is ok to use the default port number. For example, the default port number is 502 for the "Modbus TCP".

The "Manufacturer", "Device Type", "Device Alias," "DefaultStation No." are same as the settings in the "Remote PLC".

### Broadcast Station

After checking the "Broadcast Station", you can set a number for the broadcast station. The default is that the "Broadcast Station" is not checked. You can determine to use this function or notaccording to the actual situation.



Click the button "OK" to confirm the settings and the "Ethernet PLC" device is added to the "Ethernet PLC" settings page. For example, the "Modbus TCP" is selected as the device type. The result of settings is shown as below.

C	COM1 COM2			COM3 COM4			Remote HMI	
Re	emote PLC	Ethernet	PLC	Se	vice	Prir	nter	Keyboard
ID	Device Alias	IP		Port	Device	Туре	Defau	It Station No.
	Device1	192.168.0.	.21	502	Modbu	s TCP	1	
	net PLC is a PL HMI can acce							

If you need to add other EthernetPLCs, you can add them by referring to the above.

You can realize the connections by using the "Ethernet PLC" mode, such as multi HMIs, multi HMIs and one PLC, multi HMIs and multi PLCs, and other connections.

### 4.10.4 Options

The command "Options" in the "Setup" menu opens the Options dialog. You can view and modify some settings such as the Flexem Studio software interface display. There are two catalogs: General and HMI.



### 4.10.4.1 General

The General has only one option: Auto Update. If the "Check for Updates" is checked in the Auto Update sub catalog, the Flexem Studio software will be checked for updates automatically when it is opened. A message will be popped up to remind you to update if the software detects update packages.

<b>F</b> Options		
General	Auto Update	
	L	OK Cancel

### 4.10.3.2 Hmi

The catalog of "Hmi" includes "General", "Auto Recover" and "Window".

### 4.10.3.3.1 General

If you check the "Automatically load the previously closed project" option, the last closed project will be opened automatically when the Flexem Studio software is opened.



E Options	
Caral Carale Carale Auto Recover	General Automatically load the previously closed project.
Window	
	OK Cancel

### 4.10.3.3.2 Auto Recover

You can set the "Recover Time Interval" here. For example, the "Recover Time Interval" is set as 2 minutes means that the project will be saved automatically every two minutes. This setting can reduce the project information losing when the software accidentally shutdown or the power failure is occurred.



C Options		
E Options General General Auto Recover Window	Auto Recover Recover Time Interval: 2 CMinute View backup project	
		OK Cancel

You can open the file folder "Backup Projects" by clicking the button "View backup project".

1合到库中	▼ 共享 ▼ 电子邮件 刻录 新建	文件夹			-	
-	名称	修改日期	类型	大小		
	길 Original-2015-04-26-09-57-18-污水泵	2015/4/26 9:57	文件夹			
	Driginal-2015-06-17-22-18-27-007	2015/6/17 22:18	文件夹			
	퉬 Original-2015-06-18-08-44-02-007	2015/6/18 8:44	文件夹			
=	퉬 Original-2015-07-16-10-41-17-中	2015/7/16 10:41	文件夹			
	퉬 Original-2015-07-19-20-10-54-中	2015/7/19 20:10	文件夹			
	闄 Original-2015-07-21-10-23-50-中	2015/7/21 10:24	文件夹			

### 4.10.3.3.3 Window

The sub catalog "Window" includes two options: General and the Designer. The option of "General" is blank.

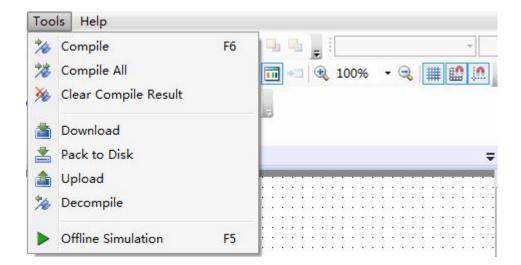
If you check the "Use pipeline animation effect" in the "Designer" option, you can see the dynamic liquid flow effect in the pipeline component during the project editing process.



<b>F</b> Options	
General General Auto Recover	Designer Use pipeline animation effect
	OK Cancel

# 4.11 Tools

In the FlexemStudio software, the Toolsmenuincludes many tools in the shortcut tool bar. It includes" Compile, Compile All, Clear Compile Result, Download, Pack to Disk, Upload, Decompile, and Offline Simulation".



## 4.11.1 Compile



The project will be saved automatically and the system will generate a bin directory and other files if no errors.

## 4.11.2Compile All

The project will be saved automatically andall the files are forced to compile.

### 4.11.3Download

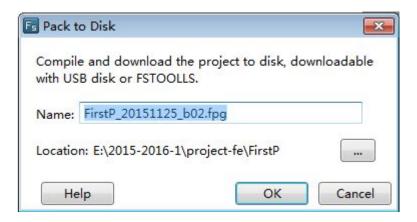
The system will compile the project automatically and generate a directory of upload and some relevant files for decompiling. Then the relevant files are packaged and the download tool dialog is popped up. Before clicking the button "Download", you need to select the communication mode (USB or Ethernet) and the data source (Project orFpgFile). You can check the deleteoptions and check the download options (Batch Mode or Force Mode) according to demands.

nload Upload System	
Protocol © USB © Ethernet 0 . 0 . 0 . 0 Data Source © Project © Fpg File © RW Data © Recipe	Delete Option (Project Valid) V Delete RW Data Delete Recipe Data Delete Sampling and Alarm History Data Delete HMI Memory Block Delete User's Info
○ R₩ Data ○ Recipe E:\2015-2016-1\project-fe\FirstP\bin	Download Option (Project Valid)

### 4.11.4 Pack to Disk

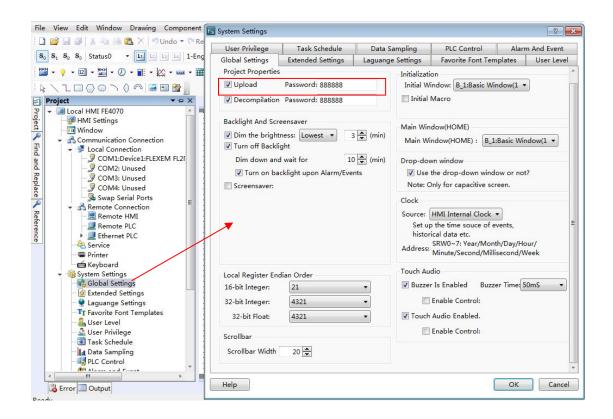
The tool of "Pack to Disk" can realize compiling the project and packaging it to the disk. The package file is named Fpg File. Then you can download it by the USB disk or the FlexemStudio software.





### 4.11.5 Upload

If you check "Upload" to enable upload in the Global Settings of the System Settings, the configuration information downloaded in the HMI device can be uploadedby the USB or Ethernet communication mode. The configuration information can be Project, RW Data, Recipe or Logs.





Tools v1.4.4	
nload Upload System	
© USB	
OEthernet Scan	
Upload Data Source	
Decompile	
Choose a file to be decompiled(*.fpg)	
Choose a folder to save decompiled files	
Decompi	le

# 4.11.6 Decompile

The Fpg File can be decompiled to project if you check "Decompilation" to enable decompile function in the Global Settings of the System Settings

File View Edit Window Drawing Component	System Settings				? 🔀
🗋 🚰 🔄 🎒 👗 💫 🐏 🎘 🗙 🗂 Undo 🕶 🥍 Re	User Privilege	Task Schedule	Data Sampling	PLC Control	Alarm And Event
S <sub>0</sub> S <sub>1</sub> S <sub>2</sub> S <sub>3</sub> Status0 • L L L L L 1-Eng	Global Settings	Extended Settings	Laguange Settings	Favorite Font Tem	plates User Level
Image: State of the state	Project Properties VUpload Decompilation Backlight And Scr Dim the bright Turn off Backl Dim down and	Password: 888888 Password: 888888 eensaver tness: Lowest V	Initializat Initializat Initial W Initial W Initial Initial Main Wir Main W Main W M Main W M Main W M Main W M Main W M M M M M M M M M M M M M M M M M M M	Macro Macro indow(HOME) indow(HOME) : B_1:t wn window the drop-down windo Dnly for capacitive scre HMI Internal Clock = the time souce of ev rical data etc. SRW0~7: Year/Montt Minute/Second/Millis	dow(1 Basic Window(1 wo or not? sen. E (Dow/Hour/
System Settings Global Settings Extended Settings Tr Favorite Font Templates User Level User Level User Schedule Task Schedule PLC Control Templates Output	Local Register En 16-bit Integer: 32-bit Integer: 32-bit Float: Scrollbar Scrollbar Width	dian Order 21 4321 4321 20 •	▼ ■ ▼ Touch		r Time(50mS • • OK Cancel



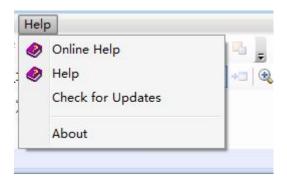
Tools v1.4.4 nload Vpload System	
Protocol © USB © Ethernet Scan	
- Upload Data Source	
Decompile Choose a file to be decompiled(*.fpg)	
Choose a folder to save decompiled files	mpile

### 4.11.7 Offline Simulation

The tool of the "Offline Simulation" is used to simulate the project running in offline.

## 4.12 Help

In the FlexemStudio software, the Help menu includes: Online Help, Help, Check for Updates, and About(software version).



### 4.12.10nline Help

You can find the online help when you click the command "Online Help".

## 4.12.2Check for Updates



The FlexemStudio software will be updated by using the internet when you click the menu command "Check for Updates".

		Information 🛛 🕅
Help	p	
۲	Online Help	Already up to date.
۲	Help Check for Updates	
	About	ОК

## 4.12.3About

The current HCTDesigner software version information and copyright declaration will be displayed when you click the menu command "About".



# 4.13 General functions

4.13.1 Address editor

### 4.13.1.1 Standard Bit Address Input

In the softwareFlexem Studio,the "Standard Bit Address Input" function will be used frequently. By this function, you can input the bit address which is connected with a device, and the value of the bit address will be displayed.The function can easily realize the



connectionwith each PLC. The "Standard Bit Address Input" window is as shown as below.

tation No.: 1 😴 🗌 Index Bit-index within a Byte Register address Type: M 🔹 address: 0 🛸 System Register ormat(Range) DDDD(0~7999) tate: Normal 🔹		FL2N(MISTUBISHI FX2N + •
	Bit-index within a Byte Register	▼ System Register
Address Index	ate: Normal 🔹	
	Address Index	

In the FlexemStudio software, the corresponding bit addresssymbolsare given according to the various connected devices. For theFlexem FL2N series PLC, X represents the input address, Y represents the output address, M represents the middle register address, SM represents the system special bit address, and S represents the state address. As shown as below.

Use Addres	s Tag	
eivce: Device	1:[LocalCOM1:FLEXEM F	L2N(MISTUBISHI FX2N + 🔻
tation No.: 1	🗘 🔲 Index	
Bit-index wit	hin a Byte Register	
ddress Type:	M	•
ddress: 0	М	System Register
ormat(Range)	Y	
ate: Normal	X	
Address Ind		
T_bit		
	SM	



If the address is not connected with the device after you input a specific address number, you should check whether the parameters (such as Device, Station No. and Address) are set correctly. For example, these parameters areset as follows.

tation No.: 1			
ddress Type: M	byte neglater	•	
ddress: 0	▲ ▼		System Register
ormat(Range) DDDI	D(0~7999)		
late: Normal	-		
Address Index			

If you find the data refresh rate is a little slow, you can change the communication rate as follows.

Use Address Tag	
Deivce: Device1:[LocalCOM1:FLEXEM	FL2N(MISTUBISHI FX2N + -
Station No.: 1 🚔 🔲 Index	
🗏 Bit-index within a Byte Register	
Address Type: C_bit	•
Address: 0	System Register
Format(Range) DDD(0~255)	
Rate: Normal 🔹	
🗐 Ad Normal	
High Speed	
Low Speed	

Certainly, you can use the address tag library. You need to prepare the data addresses in the address tag library before using them. Check the "Use Address Tag" in



the "Standard Bit Address Tag" window and click the button "<sup>So</sup>" to open the "Address Tag Library" window. Select the bit address you need in the address tag library, as shown as follows.

😰 Standard Bit Address Input	A 🗊	ddress Ta	ag Library						×
🗌 Use Address Tag 🔷 🗸 📎 🤪	B	eference	Tag Name		Device Alias	s	Station No.	Address Type	Address
Deivce:	0		Y10		Device1:[Loo	calCOM1:FLEXE	. 1	Y	10
Station No.:									
Bit-index within a Byte Register									
Address Type:	N.								
Address: System Register									
Format(Range)									
Rate:									
Address Index									
OK Cancel									
ter and the second s	1								
		New Bit	New Wo	rd D	elete C	Delete All	Edit	Cancel Sel	ect and Exit

The "Bit-index within a Byte Register" function can be used. You need to check the "Bit-index within a Byte Register", as shown as below.

Deivce: Device Station No.: 1	1:[LocalCOM1:FLEXEM	FL2N(MIS	TUBISHI FX2N ( 🔻
Bit-index wit	hin a Byte Register		
Address Type:	D	•	
Address: 0	D	-	System Register
Format(Range)	C_dword		
Rate: Normal	C_word T_word		
Address Ind	124 To 124 To 124 To 124	4.	

You can use the Address Index function. This function can change the bit address which is connected with the current componentaccording to the value of a word address. For example, the bit address LB0 is connected with the current component. If you check the AddressIndex and set the address as LW0, as shown as below, the bit addresswhich is connected with the current component will be LB (0 + LW0).



Use Address Ta Deivce: LOCAL:[Lo	-		•
Bit-index within	a Byte Register		
Address Type: LB		•	
Address: 0	*		System Register
Format(Range) DD	DDDD(0~79999	99)	
Address Index	LW0		

In addition, you can use the System Register in the Standard Bit Address Input window. When you click the System Register button, the System Special Function Register window will pop up. There are many system special function register addresses in this window, as shown as follows. You can quickly select one to use.

-	E System Special Function Register	×
Image     Control     Control     Total     Total       Image     Image     Image     Image     Image     Image       Image     Image     Image     Image     Image     Image   <	System Special Function Register  Ust Information  HMI OPLC  SRB0:Network connection status  SRB0:Reset the static IP/Receltain dynamic IP  SRB0:Obcorbarlan IP address automatically  Hardware  keyboard	Description SRB1=1Aeset IP address immediately/Re-obtain dynamic IP address immediately
Action: Press   Execute Setting: On   Address Use Address Tag Deivce: [LOCAL:[Local Register] Bit-index within a Byte Register Address Type: [LB	<ul> <li>Vec(remote monitoring)</li> <li>Voc(remote monitoring)</li> <li>Communication</li> <li>User authority</li> </ul>	
Address: 0 System Register Format(Range) DDDDDD(0-799999) Ø Address Index LW0 mm Help(H) OK Cancel Help Description:		Select Cancel

Certainly, the screen is connected with multiple slaves at sometime. The station number is varied. At this moment, you need to use the Index function. This function uses a word address to provide a variable station number. The setting process is shown as follows.



🖪 Standard Bit Address Input	
Use Address Tag	
Deivce: Device1:[LocalCOM1:FLEX	EM FL2N(MISTUBISHI FX2N + 🔻
Station No.: 0 🚔 🔲 Index	
Bit-index within a Byte Register	
Address Type: C_bit	•
Address: 0	System Register
Format(Range) DDD(0~255)	
Rate: Normal 🔻	
Address Index	
	OK Cancel
🖪 Standard Bit Address Input 🔯	🕼 Standard Byte Address Input
🔲 Use Address Tag	🔲 Use Address Tag
Deivce: Device1:[LocalCOM1:FLEXEM FL2N(MISTUBISHI FX2N +  V Index LW0	Deivce: LOCAL:[Local Register]
Bit-index within a Byte Register	
Address Type: C_bit  Address: 0  System Register	Address Type: LW  Address: 0  System Register
Format(Range) DDD(0~255) Rate: Normal	Format(Range) DDDDDD(0~799999) Occupy: 1 v Word Data Type: 16-bit Unsigned v
Address Index	·;r [ <del>g</del>
OK Cancel	OK

#### 4.13.1.2 Standard ByteAddress Input

**禾川股份** 

In the softwareFlexem Studio, the "Standard ByteAddress Input" function will be used frequently. By this function, you can input thebyte or word address which is connected with a device and the value of this address will be displayed. The function can easily realize the connection with each PLC. The "Standard Byte Address Input" window is as shown as below.



eivce: L	OCAL:[Loca	Register]			•
	ype: LW		•		
Address:	0	V	655 <b>655</b> 000	System I	
Format(Ra	inge) DDDI	DDD(0~799999) Data	) Occu Type: 16-bi		→ Word d →
Addres	s Index				

In the FlexemStudio software, the corresponding byte or word addresssymbolsare given according to the various connected devices. For theFlexem FL2N series PLC,D represents the data register,SD represents the special address, represents the timer,C\_word represents the 16-bits counter which saves the current value, and C\_dword represents the 32-bits counter which saves the current value. As shown as below.

Station No.: 1	1:[LocalCOM1:FLEXE	M FL2N(MIST	UBISHI FX2N (
Address Type: Address: 0 Format(Range) Rate: Normal Address Inc	D C_dword C_word T_word		System Register y: 1 - Wor Unsigned

If the address is not connected with the device after you inputting a specific address number, you should check whether the parameters (such as Device, Station No. and Address) are set correctly. For example, these parameters are set as follows.





eivce: Device1:[LocalCC	M1:FLEXEM FL	2N(MISTUBISHI FX2N + 🔻
tation No.: 1 🗘 🔲	Index	
ddress Type: C_word		•
ddress: 0		System Register
ormat(Range) DDD(0~2	55)	Occupy: 1 - Word
ate: Normal	<ul> <li>Data Type</li> </ul>	e: 16-bit Unsigned 🔹
Address Index		2

If you find the data refresh rate is a little slow, you can change the communication rate as follows.

Lice	Address T	20					
1.000			FLEXEM FL2	NUMICI		I EVO	NL -
	No.: 1				001011		
Addres	s Type: C	_word		•			
Addres	s: 0	*			Syster	n Re	gister
Format	(Range) D	DD(0~255)	_	Occup	oy: 1	Ŧ	Word
Rate:	Normal	•	Data Type:	16-bit	Unsig	ned	•
-	Normal						
Ad I							
	High Speed	20 million - 10 mi					

Certainly, you can use the address tag library. You need to prepare the data addresses in the address tag library before using them. Check the "Use Address Tag" in

the "Standard Byte Address Tag" window and click the button "



Tag Library" window. Select the byte or word address you need in the address tag library, as shown as follows.

		🖪 Address Ta		Land and the second sec			
Use Address Tag	- 📎 🔕	Reference	Tag Name	Device Alias	Station No.	Address Type	Addre
Deivce:	*	0	d10	Device1:[LocalCOM1:FLEXE	1	D	10
Station No.: 🔶 🗌 Index							~
Address Type:	-						
Address:	System Register						
Format(Range)	Occupy: - Word						
Rate: 🗾 🗸 Data Ty							
Address Index	•						
	OK Cancel						
1		4					
		1					
		1					
		New Bit	New Word	Delete Delete All	Edit	Cancel	ect and
		New Bit	New Word	Delete Delete All	Edit	Cancel Sel	ect and

You can use the Address Index function. This function can change the byte or word address which is connected with the current componentaccording to the value of a word address. For example, the word address D0 is connected with the current component. If you check the AddressIndex and set the address as LW0, as shown as below, the word addresswhich is connected with the current component will beD (0 + LW0).

				NI -
ation No.: 1 🚔 🔲 I	ndex			
ddress Type: D		•		
ddress: 0		Sj	stem Reg	gister
ormat(Range) DDDD(0~3	7999)	Occupy:	1 -	Word
ate: Normal	<ul> <li>Data Type</li> </ul>	e: 16-bit Ur	nsigned	•
Address Index LW0				

In addition, there are many system special function register addresses. You can quickly select one by clicking the button "System Register", as shown as follows.



S3 Status0 - L1 L2 L3 L4	Switch/Indicator Light	🖪 System Special Function Register	
123 - 📸 - 🕖 - 🎬 - 🚧 - 📷	Switch Indicator Light Lable Graph	List Information	Description
□ () () () () 🖾 🖄 asic Window(1)* ×	Use Indicator	HMI O PLC     System Time	System date, Format as: 20xx
Station No.: 1 💽 🗆 Index	Display Mode: Register Control •	SRW2/Dayar SRW2/Day SRW2/Day SRW3/Hour SRW5/Minute SRW5/Second SRW5/Wilescond SRW5/Wilescond SRW5/Wilescond	
Address Type: D Address: 0 + Format(Range) DDDD(0~7999) Rate: Normal + D Address Index	System Register Occupy: 1 - Word ata Type: 16-bit Unsigned • OK Cancel	<ul> <li>System Registers</li> <li>Communication</li> <li>user level password</li> <li>User Permission</li> <li>VNC authority password</li> <li>Input keyboard</li> <li>File browsing</li> </ul>	
	Illegal Input: © Show Error Status © Error Notification Help Description:		Select Cancel

Certainly, the screen is connected with multiple slaves at sometime. The station number is varied. At this moment, you need to use the Index function. This function uses a byte or word address to provide a variable station number. The setting process is shown as follows.

tation No.: 1 I Index ddress Type: D V ddress: 0 System Register prmat(Range) DDDD(0~7999) Occupy: 1 Vorc ate: Normal V Data Type: 16-bit Unsigned V
ddress: 0 System Register ormat(Range) DDDD(0~7999) Occupy: 1 v Word
ormat(Range) DDDD(0~7999) Occupy: 1 - Word
ate: Normal 🔹 Data Type: 16-bit Unsigned 💌
Address Index



Standard Byte Address Input	Standard Byte Address Input	×
■ Use Address Tag Deivce: Device1:[LocalCOM1:FLEXEM FL2N(MISTUBISHI FX2N + ▼ ✓ Index D0 Address Type: D Address: 0 ♥ Format(Range) DDDD(0~7999) Occupy: 1 ♥ Word Rate: Normal ♥ Data Type: 16-bit Unsigned ♥ ■ Address Index	Use Address Tag Deivce: Device1:[LocalCOM1:FLEXE Station No.: 0 2 Index Address Type: D Address: 0 2 Format(Range) DDDD(0~7999) Rate: Normal V Data	System Register Occupy: 1 + Word Type: 16-bit Unsigned +
OK Cancel		OK Cancel

## 4.13.2 Drawing

#### 4.13.2.1 Border settings

After double-click the figure you have drawn, you can view and select border color and style.

📕 Line Color 💌 🍠	)
Line Width	
Line Type	

You can select the line width and the line type from the lists.

You can change the border color by using the list or the button "

L	ine C	olor	•)	)	
	_	H		$\mathbf{H}$	
H		H		Н	
		П			
_		1 1			
1	Jser l	Define	ed Co	lor	



#### 4.13.2.2 Filling settings

After double-click the figure you have drawn, you can view and select the fill type and the fill color.

There are three fill types: SolidColor, Pattern and Gradient.

Background Color 👻 🍠	Fill Type	SolidColor 🔹
		SolidColor
		Pattern
		Gradient

#### 4.13.2.2.1 SolidColor

📕 Background Color 👻 🍠	Fill Type	SolidColor

In this fill type, you can select a kind of color for the background of the figure from the

listor by using the tool button "

4.13.2.2.2 Pattern



📕 Background Color 💌 📝	Fill Type	Pattern	•
Foreground Color 💌 📝			
attern Filling Effect			

In this fill type, you can select a kind of color for the background and another kind of color for the foreground. You can set the pattern filling effect, too.

#### 4.13.2.2.3 Gradient

Background Color 👻 📝	Fill Type Gradient 🔹
Foreground Color 💌 📝	Gradual Approach Vertical 🔻
adient Filling Effect	
radient Filling Effect	The second se
adient Filling Effect	

In the gradientfill type, you can select the background color, the foreground color, gradual approach and gradient filling effect.

4.13.3Font settings



Static Text						8
General 🥑 Display						
Language Independent	Position Fixed Point:	<b>X</b> :	0 🗘	<b>Y</b> :	0	\$
Languages:     1-English (United S •)       O Use Text Library     Text Library	Cocked	Width:	50 \$	Height:	50	×
• Use Labels     Tag Contents	- 🔲 Marquee					
Copy Current Text to All Languages	Left F			state separat	ely.	
Import from Favorite Font Templates.(I) Vector Font  Graphic Font Font: Microsoft Sans Serif  Size: 16  B I  T Advanced						]
Microsoft Sans Serif						
Copy Current Properties to All Languages	1					
Help Description:				OK		Cancel

#### 4.13.3.1 Vector Font

According to the font attributes setting, change the characters of the text into a TrueType font file (ttf format) for HMI.

- Disadvantages
- Only support the TrueType font type (ttf format) which the current operating system has installed.

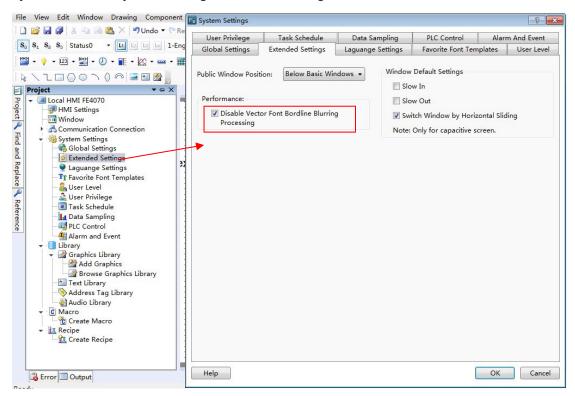
• The below is the font effect comparison between the tows that the "Disable Vector Font Bordline Blurring Processing" is not checked and the "Disable Vector Font Bordline Blurring Processing" is checked.

# Static Text



# Static Text

Note: the "Disable Vector Font Bordline Blurring Processing" can be set in the path: Project/Local HMI/System Settings/Extended Settings.



Advantages

• OccupyLess memory. The same character in the same font type uses one font data regardless of size, color, bold, or italic.

- Full size and can be set freely without distortion.
- Supports multi-line text alignment.
- Text Library supports the use of vector fonts.

#### 4.13.3.2 Graphical Font

Regard the string as a whole and save it as a bitmap to the project.

- Disadvantages
  - Occupymore memory because of the bitmap storage format.
- Advantages
  - Supports all the fonts installed in the current operating system.
  - Display effect is good.

#### 4.13.3.3 Equivalent width



Each single fontdisplays in the max width size. The max width of the font is greater if the font size is greater.

• For example, the max width of a single digit is 17 and the max width of a single character is 22 if the font size is 16,

## 4.13.3.4 Font

You can set the font type from the list. It supports all font types installed in the current operating system, such as Microsoft Sans Serif.

#### 4.13.3.5 Size

You can set the current font size. The range is from 8 to 144. The font supports bold and italic, and you can modify the font color from the

list or by using the tool button " $\square$ ".

#### 4.13.3.6 Multi-line Alignment

It is only valid for multiple lines text. You can set the multiple lines text align to the left, center or right.

#### 4.13.3.7 Advanced

You can set the Horizontal Scaling, Space, and Shadow Effects after clicking the button "Advanced".

*
*
el

#### 4.13.3.8 Position



You can set thefont position of the current components.

## 4.13.4 Graphic edit

Switch/Indicate	or Light	57		9			de la companya de la		?
Switch Indicat	tor Light Lable	e Graphics	Dynamic Gr	aphics Co	ntrol Settings	Display			
Use Graph Current Projec			12				Status	Preview	
	-				$\bigcirc$		E		
backgro	backspace	button	button002	button1	circle dot		St	atus0	Status1
Enter	flowblock	forbidden	Frame002	frame003	indicatorI	1	•		
Import	Add a new Gra	phic					Favo	orites	Edit Graphics
Shadow E	ffect								
✓ Change the Chang	ne border colo ne Filling	r: 🔳	Frame Cold	or <b>v 📝</b> [	Reset the Def	fault Color			E
Help De	escription:								• OK Cancel

#### 4.13.4.1 The Current Project Graphics Library

For some components, you can find the property TAB of "Graphics". In this TAB, you can view the component graphics in the Current Project Graphics Library.Select one, then you can preview the status of it in the StatusPreview window.

## 4.13.4.2 Import

The system graphics library can be opened by clicking the button "Import". You can select a system graphic into the current project graphicslibrary here.

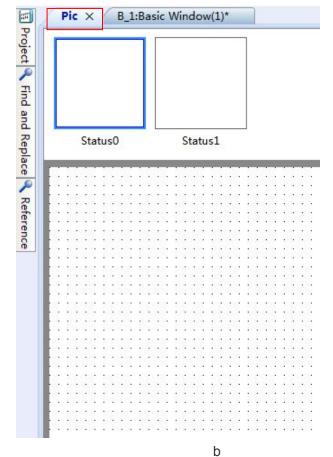
#### 4.13.4.3 Add a new Graphic

Click the button "Add a new Graphic" to pop up the window "Add New Graphics" (see Figure a). Then you canset the properties of the new graphic, such as "Name", "Status Count", "Width", "Height" and other information. After clicking the button "OK" to confirm it and closing all the pop-up windows, you can see that an editable window with the same name is already opened (see Figure b). Youcan edit the new graphic in this window. Refer to: **Detailed manual/Library/Graphics Library/Add graphics.** 



Add New Graphics	
Name: Pic	
Status Count: 2 \$ Width: 300 \$ Height: 300 \$ Modify on current graphics library Preview	Select Graphics
	ОК
	Cancel

а







#### 4.13.4.4 Favorites

After clickingthe button "Favorites", you can add the current selected graphic to a specifiedFavorites Category. The Favorites Category can be selected, added and renamed (see Figure a).Click the button "OK"to confirm the addition to the FavoritesCategory. You can view the graphics collected in the Favorites Category by the path: **Project/ Library/Graphics Library/Browse Graphics Library** (see Figure b).

	×
	Add Category
ОК	Cancel

а

Collapes Branches			B.H. C. P.
	Shape:	Only Vector Graphics Only E	ditable Graphics
Current Project Favorites Test Caphics Library S.IndicatorLight S.Frame A.Arrow 5.Sensor	Test	AirConditi oner015	
- 8.Reactor			Import
- 🤤 9.Safety	=		
– 😽 a.CommonIcon – 😽 b.Treater	-		Add To Favorites Category
			Add New Graphics
leg d.Pump leg e.Chimney			Edit Graphics
			Rename Graphics
- las h.AirConditioner - las i.Pipeline			Delete Graphics
i,Edit k,Natural J,Dial a m.Computer n,Language J,Valve	Status:	Status1 Status2	
Add Rename Delete			Exit

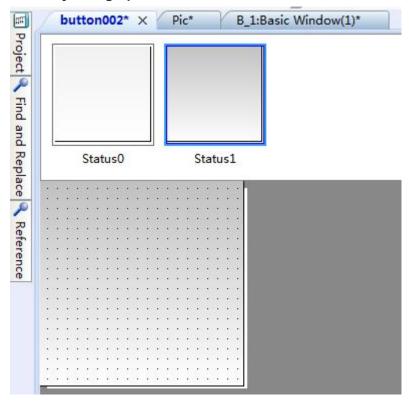
#### b

#### 4.13.4.5 Graphics Edit

After clickingthe button "Edit Graphics" and closing all the pop-up windows, you can see that an editable window with the same name of the graphic is already opened

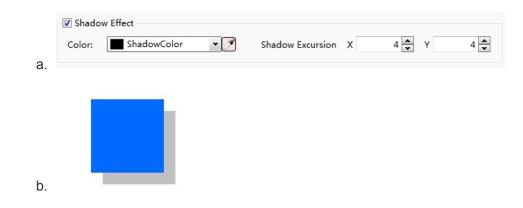


(see Figure a). The graphic can be edited in this window. Refer to: **Project/Library**/ **Graphics Library**/Add graphics.



#### 4.13.4.6 Shadow Effect

Double click the graphic you have drawn in the Graphics Edit window to modify the properties of it. After checking theShadow Effect (see Figure a), you can add the shadow effect for the selected graphic (see Figure b).



## 4.13.4.7 Border

You can change the outer border color of the current selected graphic. Note: Only when the elected graphic is vector graphic and this attribute can be modified, this option is valid to change the outer border color (see Figure a)!



	nt Library Macro Recipe Setup Tools Help	
🗋 📴 🛃 🐉 👗 🚇 📇 🗙 🍤 Undo 🕶 💟		
S <sub>0</sub> S <sub>1</sub> S <sub>2</sub> S <sub>3</sub> Status0 + L1 L2 L3 L4 1	Fe Rectangle	<u>२ ×</u>
1 1 - 9 - 123 - 11 - 10 - 11 - 10 - 10 - 10 - 10	General	
Test* × B_1:Basic Window(1)*       Reference       Project       Status0       Status1	Rectangle	
ereng	Border	Position
	Line Color 👻 🖉 🔲 User change	Fixed Point: X : 140 <b>\$</b> Y : 138 <b>\$</b>
Pro	Line Width	Locked Width: 163 C Height: 130 C
Status0 Status1	Line Type	Rotation Fix Point
Find	Chamfer	
a		
Re		RotationAngle 0 🔷 NonRotation
		NonKotation
		·
	▼ Fill	
	Background Color 👻 📝 Fill Type	SolidColor 🔹 🔲 User changeable Filling
	Shadow Effect	
	Color: ShadowColor 💌 🖉 Shado	w Excursion X 4 🗙 Y 4 🐱
	Help Description:	OK Cancel

#### 4.13.4.8Fill

You can change the filling effect of the current selected graphic (see Figure a). Note: Only when the elected graphic is vector graphic and this attribute can be modified, this option is valid (see Figure b)!

Foreground Color 👻 🧭 Gradual Approach Horizontal 💌

а



File View Edit Window Drawing Comp	onent Library Macro Recipe Setup Tools Help	
🗄 🗋 📂 🛃 🥔 👗 🛍 🎘 📉 🌖 Undo 🕯	Fs Rectangle	8 ×
S <sub>0</sub> S <sub>1</sub> S <sub>2</sub> S <sub>3</sub> Status0 - L1 L2 L3 L4	General	
Project	General      Rectangle      Border     Une Color     User change     Une Width     •     •     Chamfer     Fill     Background Color        Fill        Fill           Fill              Help                                    Help Description:	Position Fixed Point: X: 140 ¢ Y: 138 ¢ Locked Width: 163 ¢ Height: 130 ¢ Rotation Fix Point RotationAngle 0 ♠ NonRotation SolidColor • User changeable Filling
	Theip Description.	OK Calicer

b

## 4.13.5Control settings

For some components, there is a property TAB of "Control Settings".

①Activation Settings

Always

The current component can always be operated if you use the option "Always".



witch Indicator Light Lable Graphics Dynamic Graph	ics Control Settings Display
Activation Settings Always Conditional	Security Settings Minimum Press Time: 0 (X0.1S) Require confirmation prior to execution Waiting Time 100 (X0.1S) Records Operation Minimum Operation Interval: 0 (X0.1S) Notification Settings Before Writing After Writing Notify Bit Address: Notify Byte Address:
Audio	Trigger Macro:
Keyboard	

• Conditional

# IndicatingInvalid Mark

Activation Settings Always Indicating Invalid Mark Conditional Hide when condition not meet. Non-operable when the part is hidden. Automatic pop-up password window. Level User Min Level: 1:Level1 Privilege User Logic Control	Security Settings Minimum Press Time: 0 (X0.1S) Require confirmation prior to execution Waiting Time 100 (X0.1S) Records Operation Minimum Operation Interval: 0 (X0.1S) Notification Settings Before Writing After Writing Notify Bit Address: Notify Byte Address:
Audio	Trigger Macro:
Keyboard	



After checking the option "IndicatingInvalid Mark", the prohibited markwill display on the component if the operating conditions are not met. Theprohibited markis shown as below.

OPen	Close

Hide when conditions arenot met.

Activation Settings Always Indicating Invalid Mark Conditional Ano-operable when the part is hidden. Automatic pop-up password window. Level User Min Level: 1:Level1 Privilege User Logic Control	Security Settings Minimum Press Time: Require confirmation prior to execution Waiting Time 100 (X0.1S) Records Operation Minimum Operation Interval: Notification Settings Before Writing After Writing Notify Bit Address: Notify Byte Address:
Audio	Trigger Macro:
Keyboard	
🔲 Use Keyboard	

When you check the option "Hide when conditions arenot met", the component will hide if the operating conditions are not met.

Automatic pop-up password window



Indicator Light     Lable     Graphics     Dynamic Graphic       Activation Settings     Indicating Invalid Mark       Always     Indicating Invalid Mark       Conditional     Hide when condition not meet. Non-operable when the part is hidden.       Image: Always     Automatic pop-up password window.       Image: Level User     Min Level:       Image: Privilege User     I:Level1       Image: Logic Control	ss Control Settings Display Security Settings Minimum Press Time: 0
Audio Play Audio Keyboard Use Keyboard	Trigger Macro:

If you check the option "Automatic pop-up password window", the user login window will pop up when you click the component. It is shown as below.

Emulator	170,000	-
Open	Close	
User level l	ogin	×
0	Please enter the password:	
	* * * * * * *	



Level User

Activation Settings Always Indicating Invalid Mark Conditional Hide when condition not meet. Non-operable when the part is hidden. Automatic pop-up password window. Level User Min Level: Privilege User Logic Control Audio Play Audio Keyboard Use Keyboard	Switcen	Indicator Light	Lable	Graphics	Dynamic Graphics	Control Settings	Display		
Play Audio       Keyboard   Trigger Macro:	Activation Settings Activation Settings Always I Indicating Invalid Mark Conditional Hide when condition not meet. Non-operable when the part is hidden. Automatic pop-up password window. Level User Privilege User I:Level1		Minimum Press T Require confirm Waiting Time Records Operation Minimum Operation Notification Setting Before Writing Notify Bit Add	mation prior t 100 😧 ( ation ion Interval: gs After Writing dress:	to execution X0.1S)				
		y Audio				🔲 Trigger Macr	ro:		
Use Keyboard	Keybo	ard							
	📃 Us	e Keyboard							

After checkingthis function, you need to enter the appropriate user level password to operate the device. It is shown as below.

Emulator	170,000	
Open	Close	
User level l	ogin	
0	Please enter the password:	
	* * * * * * *	



• Privilege User

Switch/Indicator Light	8 <del>x</del>
Switch Indicator Light Lable Graphics Dynamic Graphics	Control Settings Display
Activation Settings Always I Indicating Invalid Mark Conditional Hide when condition not meet. Non-operable when the part is hidden.	Security Settings Minimum Press Time: 0 (X0.1S) Require confirmation prior to execution Waiting Time 100 (X0.1S) Records Operation Minimum Operation Interval: 0 (X0.1S)
✓ Privilege User Privilege: 16:Admin ▼	
Logic Control	Notification Settings Before Writing After Writing Notify Bit Address:
	🔲 Notify Byte Address:
Audio	Trigger Macro:
Keyboard	
🔲 Use Keyboard	
Help Description:	OK Cancel

After checkingthis function, you need tologin by using the corresponding user privilege to operate the component. It is shown as below.

🔍 Emulator	Stated [Andrews Sight ] and [ Station ] Reserve Station   Lower Lettings   Harley	
Open	Close	
	Login X	
	User: A d m i n	
	Password: 8 8 8 8 8 8	
	Cancel	



Logic control

Switch Indicator Light Lable Graphics Dynamic Graphic Activation Settings Always Indicating Invalid Mark Conditional Hide when condition not meet. Non-operable when the part is hidden. Level User Privilege User Logic Control Logic Condition LB0 ON AND  LW0 > 1 AND  LB1 ON	s Control Settings Display Security Settings Minimum Press Time: 0 ◆ (X0.1S) Require confirmation prior to execution Waiting Time 100 ◆ (X0.1S) Records Operation Minimum Operation Interval: 0 ◆ (X0.1S) Notification Settings Before Writing After Writing Notify Bit Address: Notify Byte Address:
Add Modify Delete Audio Play Audio	Trigger Macro:
Keyboard Use Keyboard	

After checkthis function, the component can be operated when the specified conditions are satisfied. The conditions can be multiple logical operations.

0 Security Settings

MinimumPress Time



Switch Indicator Light Lable Graphics Dynamic Gra	aphics Control Settings Display
Activation Settings	Security Settings
Always     Alw	Minimum Press Time: 10 🗢 (X0.1S)
Conditional	<ul> <li>Require confirmation prior to execution</li> <li>Waiting Time 100 (X0.1S)</li> <li>Records Operation</li> <li>Minimum Operation Interval: 0 (X0.1S)</li> </ul>
	Notification Settings
	Before Writing           Image: Before Writing
Audio	Notify Byte Address:
Play Audio	Trigger Macro:
Keyboard	
🔲 Use Keyboard	
Help Description:	OK Cance

You need to hold the button component for a specified time to perform actions. The function is used to avoid the action due to touching the screen by mistake.

• Require confirmation prior toexecution



<ul> <li>Always</li> <li>Conditional</li> <li>Minimum Press Time: 10 (x0.15)</li> <li>Require confirmation prior to execution Waiting Time 100 (x0.15)</li> <li>Records Operation Minimum Operation Interval: 0 (x0.15)</li> <li>Notification Settings</li> <li>Before Writing After Writing</li> <li>Notify Bit Address:</li> <li>Notify Byte Address:</li> <li>Notify Byte Address:</li> <li>Trigger Macro:</li> </ul>	witch Indicator Light Lable Graphics Dynamic Graphi	ics Control Settings Display
<ul> <li>Conditional</li> <li>✓ Require confirmation prior to execution Waiting Time 100  (X0.15)</li> <li>□ Records Operation Minimum Operation Interval: 0  (X0.15)</li> <li>Notification Settings</li> <li>Before Writing After Writing</li> <li>□ Notify Bit Address:</li> <li>□ Notify Bit Address:</li> <li>□ Notify Byte Address:</li> <li>□ Trigger Macro:</li> </ul>	Activation Settings	
Minimum Operation Interval: 0 (X0.15)   Notification Settings   Before Writing After Writing    In Notify Bit Address:     In Notify Byte Address:     In Notify Byte Address:     In Notify Byte Address:     In Trigger Macro:	Conditional	Require confirmation prior to execution
Before Writing       After Writing         Notify Bit Address:       Notify Bit Address:         Notify Byte Address:       Trigger Macro:         Keyboard       Keyboard		
Before Writing       After Writing         Notify Bit Address:       Notify Bit Address:         Notify Byte Address:       Trigger Macro:         Keyboard       Keyboard		Notification Settings
Audio Play Audio Keyboard Trigger Macro:		Before Writing After Writing
Play Audio Trigger Macro: Keyboard		Notify Byte Address:
-		Trigger Macro:
Use Keyboard	Keyboard	
	Use Keyboard	

If this function is checked, a confirmation dialog box will pop up automatically. It will keep the display status for the "Waiting Time" if you don't confirm orcancel it. It is shown as below.

🕵 Emulator		
Open	Close	
	Login Confirm execution Are you sure to perform the operation? OK Cancel	



Records Operation

Switch Indicator Light Lable Graphics Dynamic Grap	phics Control Settings Display
Activation Settings Always	Security Settings Minimum Press Time: 10 🔷 (X0.1S)
Conditional	Require confirmation prior to execution       Waiting Time       100       (X0.15)
	Records Operation Open the pump
	Minimum Operation Interval: 0 📡 (X0.1S)
	Notification Settings
	Before Writing After Writing
	🔲 Notify Bit Address:
	Notify Byte Address:
Audio	
Play Audio	Trigger Macro:
Keyboard	
🔲 Use Keyboard	
Help Description:	OK

If you check this function, you can record the operations of the component and display the records in the operator Log. It is shown as below.

	Serial No.	Date	Time	User Name	Operation Log	
Open Valve	3	10/01/16	11:32:02		Open the valve	
	2	10/01/16	11:31:33		Open the valve	
	1	10/01/16	11:31:20		Open the valve	
	0	10/01/16	11:31:17		Open the valve	-

• MinimumOperation Interval



vitch Indicator Light Lable Graphics Dynamic Graphi	ics Control Settings Display
Activation Settings Always O Conditional	Security Settings Minimum Press Time: 0 (X0.1S) Require confirmation prior to execution Waiting Time 100 (X0.1S) Records Operation
	Minimum Operation Interval: 10 🗭 (X0.1S) Notification Settings Before Writing After Writing Notify Bit Address: Notify Byte Address:
Audio I Play Audio Keyboard	Trigger Macro:
🔲 Use Keyboard	

By using the "MinimumOperating Interval" function, continuous actions can be avoided in a short time due to touching the screen continuously by mistake.

# 4.13.6Display

1 Position



Switch/Indicat	or Light						? <mark>×</mark>
Switch Indica	tor Light	Lable	Graphics	Dynamic Graphics	Control Settings	Display	
Position							
Position:	<b>X</b> :	85	\$	Y: 170 😴			
🔲 Locked	Width:	70	t Hei	ght: 50 🗘			
Always Di Condition							
Help D	escriptior	1:					OK Cancel

• Position and size

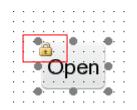
You can set X and Y coordinate values of the component to change the display position of it. You can modify the width and the height of the component to change the size of it.

Locked



Switch/	/Indicator Light						? <mark>*</mark> *
Switch	Indicator Light	t Lable	Graphics	Dynamic Graphics	Control Settings	Display	
Positi	ion						
Posit	ion: X :	85	÷	Y: 170 🗘			
<b>√</b> Lc	ocked Width:	70	‡ Hei	ight: 50 🗘			
Alv	ways Display						
© Co	nditional Displa	ay					
Help	Descriptio	on:					OK Cancel

The position and size of the component cannot be changed if you check the "Locked" function. And there is a small lock icon on the component in the editing window. It is shown as below.



2Always Display



Switch/Indicat	tor Light									3	?
witch Indica	tor Light	Lable	Graph	hics	Dynan	nic Graphics	Control Settings	Display			
Position											
Position:	<mark>X</mark> :	85	\$	١	(: [	170 😴					
Locked	Width:	70	\$	Heig	jht:	50 🗘					
Always Di	splay										
Condition	al Display										
		1500									
		1									
		1									
		f - 100									
		f - 100									

If you select the "Always Display" function, the component will always be visible when the project is running. It is the default setting.

3 ConditionalDisplay

• Level User



Switch/Indicator	r Light						8
witch Indicato	r Light	Lable	Graphics	Dynamic Graphics	Control Settings	Display	
Position							
Position:	<b>X</b> :	85	\$	Y: 170 🗘			
Locked V	Nidth:	70	🗘 Hei	ght: 50 🗘			
Always Disp	olay						
Conditional		6					
<b>V</b> Level User	Min	Level:	1:Level1				
Privilege Us	ser						
📃 Logic Contr	rol						
-							
Help Des	scription	1:					OK Cance

If you check this function, the component will be visible after youentering the appropriate user level password.

• Privilege User



	or Light						-? <u>-</u>
witch Indica	tor Light	Lable	Graphics	Dynamic Graphics	Control Settings	Display	
Position							
Position:	<mark>x</mark> :	85	\$	Y: 170 🗘			
Locked	Width:	<mark>7</mark> 0	🗘 🛛 Hei	ght: 50 🗘			
🔘 Always Di	splay						
Condition							
🔲 Level Use	r						
✓ Privilege	User Priv	ilege:	16:Admin	•]]			
		5 (					
Logic Cor	ntrol						

If you check this function, the component will be visible after you login by using the correspondinguser privilege.

• Logic Control



witch	Indicator Light	Lable	Graphics	Dynar	nic Graphics	Control Settings	Display	
Positi	on							
Posit	ion: X :	85	\$	Y :	170 🗘			
C Lo	ocked Width:	70	≎ Hei	ght:	50 🗘			
Co	vays Display nditional Display vel User vilege User	r -						
Logi	gic Control c Condition							
Logi	LB0 ON				-			
AND					m			
AND		odify	Delete		Ŧ			

If you check this function, the component can be controlled to display according to the logic condition. The condition can be multiple logical operations.

## 4.13.7Keyboard setting

For some components, there is a property TAB of "Keyboard Setting".



Numeri	c Input							8 23
General	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
Mode:	Touch Control	O Bit control						
Keyboa	ard settings							
	pop-up keyboard		_					
Keybo	ard Type: K_3:Hex	numeric keyboard	•					
Auto	o adjust position	Pop-up posit	ion		© Specified	Position:		
O Don	i't use pop-up keyt	poard						
1. An ex	ternal USB keyboa							
2. Prefe	r to use a user-def	fined <mark>keyboard</mark> rath	er than	the pop-u	o keyboard.			
Use	input order functio	on						

#### $\textcircled{1}\mathsf{Mode}$

Touch Control

The keyboard will be popped up if you click the HMI input component.

Bitcontrol

A bit register is used to controlthe keyboard to pop up or close.

②Keyboard Settings

• Use pop-up keyboard

You can select the Keyboard Type from the system-provided keyboard types.



Numerio	: Input							? 🗙
General	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
Mode:	Touch Control	Bit control						
Keyboa	ard settings							
🖲 Use	pop-up keyboard		_					
Keyboa		numeric keyboard						
Auto	adjust por K_2:Deci	imal numeric keybo imal numeric keybo numeric keyboard i keyboard			Specified	Position:		
O Don	't use pop-up keyk							
1. An ex	ternal USB keyboa	keyboard" under the ird is used. ined keyboard rath						
Use Use	input order functio	n						

> Auto adjust position

The position of the pop-up keyboard is adjusted automatically according to the position of the HMI input component.



Numeric	: Input							8 8
Gene <mark>ra</mark> l	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
Mode:	Touch Control	Bit control						
Keyboa	rd settings							
🖲 Use	pop-up keyboard	<u> </u>						
Keyboa	ard Type: K_3:Hex	numeric keyboard	•					
Auto	adjust position	Pop-up posit	ion		© Specified	Position:		
O Don	't use pop-up keyb	poard						
Select "I	Don't use pop-up	keyboard" under the	e cond	itions listed	below:			
	ternal USB keyboa r to use a user-def	ird is used. ined keyboard rath	er than	the pop-u	o keyboard.			
Use	input order <mark>funct</mark> ic	on						
Help	Description:						OK	Cancel

Pop-up position

Arelative region in HMI is specified to pop up the keyboard.

	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display
Mode:	Touch Control	Bit control					
Keyboa	ard settings						
🖲 Use	pop-up keyboard						
Keybo	ard Type: K_3:Hex	numeric keyboard	•				
			(	0 0 0			
O Auto	adjust position	Pop-up posit	ion		Specified	Position:	
		L					
O Don	't use pop-up keyb	ooard					
		ined keyboard rath	er than	the pop-u	p keyboard.		
Use	input order functio	n					



Specified Position

The position to pop up the keyboard is specified by the X and Y coordinates.

Numeric	: Input							-?
ieneral	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
Mode:	Touch Control	Bit control						
Keyboa	ard settings							
🖲 Use	pop-up keyboard							
Keyboa	ard Type: K_3:Hex	numeric keyboard	•					7
						X :	0	
O Auto	adjust position	Pop-up posit	ion		Specified			
						Υ:	0	
O Don	't use pop-up keył	ooard					n	
Select "I	Don't use pop-up	keyboard" under the	e cond	itions listed	below:			
	ternal USB keyboa							
2. Preter	r to use a user-det	ined keyboard rath	er than	the pop-up	o keyboard.			
Use	input order functio	on						
Help	Description:						ОК	Cancel
Theip	Description:						UK	Cancel

• Don't use pop-up keyboard:

If you need to use an external keyboard or a keypad which is designed by using the FS software, you should select the option "Don't use pop-up keyboard

③Use input order function

This function can be used to input the values into multiple input components continuously according to a specified order. You can check it when there are many input components.



🖥 Numeric Input	? ×
General Number Format Keyboard Setting Font Graphics Dynamic Graphics Control Settings [	Display
Mode:      O Touch Control      O Bit control	
Keyboard settings	
Our See pop-up keyboard	
Keyboard Type: K_3:Hex numeric keyboard 💌	
X: 0	▲ ▼
Auto adjust position Pop-up position Specified Position:	
Y: 0	×
On't use pop-up keyboard	
Select "Don't use pop-up keyboard" under the conditions listed below:	
<ol> <li>An external USB keyboard is used.</li> <li>Prefer to use a user-defined keyboard rather than the pop-up keyboard.</li> </ol>	
Vse input order function	
Input without order after input finished	
Input Order: 1 Group:	
Help Description:	OK Cancel

• Input without order after input finished

The function of "Use input order function" will be canceled after you finish the input of multiple input components.

Input Order

You can set the input order for the current input component here. The multiple components in one group can be input according to the order number, from small to large.

• Group

You can divide the input components into several groups and finish the input according to the input order in the current group.

## 4.13.8 Label

Adding a label for a component can be increased readability. You can setthe properties of the label such as the language, the content, the font type and other settings. The display text will change when the status is switched if you set different text for different status.



Switch/Indicator Light	? <mark>×</mark>
Switch Indicator Light Lable Graphics Dynamic Graphics	Control Settings Display
□ Language Independent Language: 1-English (United States)  Use Text Library  Use Label ✓ Use Label ✓ Adaptive label size Tag Content Save Content To Text Lib	Import from Favorite Font Templates.(I) Vector Font  Graphic Font Font: Microsoft Sans Serif  Size: 16 • B Z  Multi-line Alignment: Tr Advanced Microsoft Sans Serif
Copy Text To: All Status All Languages All Set label position by language state separately. Pos.: Left Right: All All Top Bottom: All All Marquee	Copy Attr. To: All Status All Languages All Status Content 0 1
Help Description:	OK Cancel

#### 4.13.8.1 Language

Select a language for label edit. The settings will only take effect in the selected language.

#### 4.13.8.2 Language Independent

When you change the language, the label content is not affected.

#### 4.13.8.3 Use Text Library

After the "Use Text Library" is checked, the label contentwill be filled by the selected text entry in the text library. Some common text can be ready in the text library.

#### 4.13.8.4 Use Label

You need to check this option when you want to set a label for the component.

#### 4.13.8.5 Tag Content

You can edit a label for the current status here. So you edit the label in the tag content edit box, you should select the status first on the lower right corner. Then, click the next status to edit the next status label.



Switch/Indicator Light	?
Switch Indicator Light Lable Graphics Dynamic Graphics C	Control Settings Display
Language Independent Language: 1-English (United States) Use Text Library Use Label Adaptive label size Tag Content Close	Import from Favorite Font Templates.(I) Vector Font  Graphic Font Font: Microsoft Sans Serif  Size: 16  B  I Multi-line Alignment:  I I Advanced Microsoft Sans Serif
Copy Text To: All Status All Languages All Set label position by language state separately. Pos.: Left Right: AA Top Bottom: AA Marquee	Copy Attr. To: All Status All Languages All Status Content 0 Open Close
Help Description:	OK Cancel

The text in the Tag Content edit box can becopied to all languages, all status or all languages and all status.

Switch/Indicator Light	
Switch Indicator Light Lable Graphics Dynamic Graphics (	Control Settings Display
Language Independent Language: 1-English (United States) Use Text Library Use Label Adaptive label size Tag Content Close	Import from Favorite Font Templates.(I) Vector Font  Graphic Font Font: Microsoft Sans Serif  Size: 16  B I  VIII-line Alignment: I Advanced Microsoft Sans Serif
Copy Text To: All Status All Languages All Set label position by language state separately. Pos.: Left Right: AA Top Bottom: AA Marquee	Copy Attr. To: All Status All Languages All Status Content 0 Open 1 Close
Help Description:	OK Cancel



#### 4.13.8.6 Label attributes

You can set the attributes for each Tag Content such as the font type, the size, the color, the alignment type, the Advanced Settings (Scaling, Space, and Shadow Effects) and other attributes. The function of "Copy text to" can avoid duplication of work. And you can also import from favorite font template to simplify label attributes editing. It is efficient and convenient.

#### 4.13.8.7 Vector Font and Graphic Font

• Vector Font

According to the font attributes setting, change the characters of the text into a TrueType font file (ttf format) for HMI.

> Disadvantages

• Only support the TrueType font type (ttf format) which the current operating system has installed.

• The below is the font effect comparison between the tows that the "Disable Vector Font Bordline Blurring Processing" is not checked and the "Disable Vector Font Bordline Blurring Processing" is checked.

# Static Text Static Text

Note: the "Disable Vector Font Bordline Blurring Processing" can be set in the path: Project/Local HMI/System Settings/Extended Settings.

- > Advantages
- OccupyLess memory. The same character in the same font type uses one font data regardless of size, color, bold, or italic.
  - Full size and can be set freely without distortion.
  - Supports multi-line text alignment.
  - Text Library supports the use of vector fonts.
- Graphical Font

Regard the string as a whole and save it as a bitmap to the project.

- Disadvantages
  - Occupymore memory because of the bitmap storage format.



- > Advantages
  - Supports all the fonts installed in the current operating system.
  - Display effect is good.

#### 4.13.8.8 Marquee

In the FlexemStudio software, every label of the component can be set to display by scrolling the fonts. The scrolling direction, step length, speed, etc. can be set separately.

witch Indicator Light Lable Graphics Dynamic Graphics (	Control Settings Display
Language Independent         Language:       1-English (United States)         Use Text Library       Text Library         Use Label       Adaptive label size         Tag Content       Save Content To Text Lib         Close       *	Import from Favorite Font Templates.(I) Vector Font  Graphic Font Font: Microsoft Sans Serif  Size: 16 B I I I Advanced Multi-line Alignment: I Advanced Microsoft Sans Serif
Copy Text To: All Status All Languages All Set label position by language state separately. Pos.: Left Right: [A][A]	Copy Attr. To: All Status All Languages All Status Content 0 Open
Top Bottom: 👔 🎍	1 Close

#### 4.13.9 Marquee

The function of "Marquee" is to display text by scrolling the fonts. The components such as "Label" and "Static Text" have the "Marquee" function.

When you check the "Marquee" option for the label or the static text ,the fonts willdisplay by scrolling. You can set the attributes such as the Moving Direction, Step Length and PixSpeed.The setting is shown as below.



E Static Text	? 💌
General Display	
<ul> <li>Language Independent</li> <li>Languages: 1-English (United S          <ul> <li>Use Text Library Text Library</li> </ul> </li> </ul>	Position         Fixed Point:       X :       0 ◆       Y :       0 ◆         □ Locked       Width:       50 ◆       Height:       50 ‡
Ise Labels       Tag Contents       Valve	Moving Direction RightToLeft Step Length 10 PixelSpeed 10 x0.1S
Copy Current Text to All Languages Import from Favorite Font Templates.(I) Vector Font (a) Graphic Font Font: Microsoft Sans Serif V	Set label position by language state separately. Left Right: Top Bottom:
Size: 16 • B I I • I • I Advanced	
Copy Current Properties to All Languages	
Help Description:	OK Cancel



Switch/Indicator Light	? 🔀
Switch Indicator Light Lable Graphics Dynamic Graphics O	Control Settings Display
<ul> <li>□ Language Independent</li> <li>□ Language: 1-English (United States)  <ul> <li>□ Use Text Library</li> <li>□ Use Label</li> <li>☑ Adaptive label size</li> <li>Tag Content</li> <li>□ Save Content To Text Lib</li> </ul> </li> <li>Close</li> </ul>	Import from Favorite Font Templates.(I) Vector Font  Graphic Font Font: Microsoft Sans Serif  Size: 16  B Z  V Advanced Microsoft Sans Serif
Copy Text To: All Status All Languages All Set label position by language state separately. Pos.: Left Right: Ala Al Top Bottom: A A	Copy Attr. To: All Status All Languages All Status Content 0 Open 1 Close
✓ Marquee         Moving Direction         LeftToRight         Step Length         10         PixSpeed         10         × x0.1S	
Help Description:	OK Cancel

#### 4.13.9.1 Moving Direction

There are four moving direction: Left To Right, Right To Left, Top To Bottom and Bottom To Top. Select one to be the moving direction of fonts scrolling.

#### 4.13.9.2 Step Length

The fonts scroll step by step. The distance of two steps is Step Length. The unit of Step Length is pixel. For example, setting Step Length 10 means that the fonts move 10 pixels per second.

#### 4.13.9.3 PixSpeed

The option "PixSpeed" is used to set the moving speed of fonts scrolling. The unit of PixSpeed is 0.1 seconds. The range of PixSpeed is from 1 to 255. For example, setting PixSpeed10 means that the moving speed of fonts scrolling is 1 second. The process will be circulated after all fonts move out in the component size range.

#### 4.13.10Logic Control

You can find the function of "Logic Control" if you select the option "Conditional" in the "Control Settings" property TAB of some component. Or you can find it if you select the option "Conditional Display" in the "Display" property TAB. You can also find it if you select



the option "Condition" in the "Trigger and Stop" property TAB of the Timer component. This function can realize all kinds of logic operations or judgment easily and can reduce using macros.

vitch Ir	ndicator Light	Lable	Graphics	Dynamic Graphics	Control Settings 🕖 Display			
) Always Condit	tional 🕅 Hide Non-op	when co	valid Mark ondition no when the p	t meet. art is hidden.	Security Settings Minimum Press Time: 0 (X0.1S) Require confirmation prior to execution Waiting Time 100 (X0.1S) Records Operation Minimum Operation Interval: 0 (X0.1S) Notification Settings			
/ Logic	Control				Before Writing After Writing			
Condition Add Modify Delete			Delete	•	Notify Bit Address:			
Audio	Audio				Trigger Macro:			
Keyboar	d Keyboard							



				-				
witch	Indicator Light	Lable	Graphics	Dynai	mic Graphics	Control Settings 🧿	Display 🥥	
Posit	ion							
Posit	tion: X :	0	\$	Y :	0 🗘			
E Lo	ocked Width:	50	Hei	ight:	50 🗘			
O Al	ways Display							
	onditional Displa	iy						
🔳 Le	vel User							
🔲 Pr	ivilege User							
🗸 Lo	ogic Control							
Con	dition							
					0			
			6	-				
	Add	odify	Delete					

Timer Trigger and Stop Timer Function Timing and Execution Execution Period: 10 - x 0.1S Delay	 8_ 
Trigger Condition: Bit Word Condition Trigger when the window is open Trigger when the window is closed Condition Add Modify Delete	Condition for stop <ul> <li>Timer will stop when the window closed.</li> <li>If need to end, please choose the end condition.</li> <li>Stop when specified count value reached</li> <li>Condition Judgement <ul> <li>Trigger Condition not satisfied</li> </ul> </li> </ul>
Help	OK

There is a red exclamation mark due to no logic condition. Now click the button "Add", you can pop up the Condition Setting dialog.



E Condition Setting		x
Module:      Bit Register	) Word Register	
Address:		
Condition: 💿 ON 🔘 O		
	OK Cancel	

There are two address types: Bit Register and Word Register. The default selection is Bit Register. The logic condition judgment for Bit Register is "ON" or "OFF". The default

selection is "ON". Click the tool button " 阃 "or double-click the "Address" blank box,

you can edit and select a "bit register". For example, set theaddress of "Bit Register" LB0, andset the Condition "ON". It is shown as below.

Condition S	Setting				×
Module: 🧕	Bit Register 🔘	Word R	legister		
Address:	LB0				
Condition:	ON OFF				
			ОК	Cancel	
				Cancer	

The red exclamation mark will disappear after you select an address for the condition. Click the button "OK" and the condition will be added to the Logic Control list. It is shown as below. It means the current component will be valid when the bit register LB0 is ON.



witch Indicator Light Lable Graphics Dynamic Graphic	s Control Settings Display
Activation Settings Always Indicating Invalid Mark Conditional Hide when condition not meet. Non-operable when the part is hidden. Level User Privilege User Logic Control Condition LB0 ON Add Modify Delete	Security Settings Minimum Press Time: 0 (X0.1S) Require confirmation prior to execution Waiting Time 100 (X0.1S) Records Operation Minimum Operation Interval: 0 (X0.1S) Notification Settings Before Writing After Writing Notify Bit Address: Notify Byte Address:
Audio	Trigger Macro:
Keyboard □ Use Keyboard	

If the condition is not enough, you can continue to add. For example, the condition "LW0 > 1" need to be added. You can click the button "Add" to go on the operation. The Word Register is selected and the address is set LW0. The condition is set "LW0 > 1". The setting is shown as below.

Condition Setting	
Module: 🔘 Bit Register	Word Register
Address: LW0	
Condition:	
Read Value >	▼ A(1) None ▼
A Constant 🔻	1
	OK Cancel

There are two pop-down lists in the Condition setting area. The first list is used to select the compare relationship. The compare relationship symbols include "<", ">", "<="



"> =", "==" and "! =". The second list is used to add the next condition of the word register LW0. The default of the second list is "None". It means that there is not the next condition any more. You can select "AND" or "OR" in the second list. It means the relationship between the current condition and the next condition.

Condition Setting		- I Paulia	
Module:  Bit Regination: Module:  Bit Regination:	ster 🔮 wo	ra Kegiste	er 🗐
Read Value	> <b>*</b>	A(1)	None •
A Constant	> <= >= !=		1 💌
		0	K Cancel

E Condition Setting		
Module: 🔘 Bit Regist	er 💿 Word Regist	er
Address: LW0		
Condition:		
Read Value		None AND OR
		DK Cancel

The setting is shown as below if you select "AND" in the second list.



Condition Setting	
Module: 🔘 Bit Register	Word Register
Address: LW0	
Condition:	
Read Value >	▼ A(1) AND ▼
Read Value <	▼ B(1)
A Constant •	1 💌
B Constant 💌	1 💌
	OK Cancel

If the conditions you need is "LW0> 100" and "LW0 <LW1", then the condition of the second is not "constant" but "variable" and the address is LW1. The setting is shown as below.

Es Condition S	Setting				×
Module: 🤇	) Bit Regist	ter 🧿 Wo	ord Registe	er	
Address:	LWO				
Condition:					
Rea	d Value	> •	A(100)	AND	•
Rea	d Value	< •	B(LW1)		
A	Constant	•			100
B	Variable 🔹	LW1			
			0	к	Cancel

After click the button "OK", you can add this condition to the Logic Control list. It is shown as below.



witch       Indicator Light       Lable       Graphics       Dynamic Graphics         Activation Settings       Indicating Invalid Mark       Indicating Invalid Mark         Always       Indicating Invalid Mark         Conditional       Hide when condition not meet. Non-operable when the part is hidden.         Level User       Indicating Invalid Mark         Privilege User       Indicating Invalid Mark         Logic Control       Indicating Invalid Mark         LB0 ON       Indicating Invalid Mark         AND T       LW0 > 100 AND LW0 < LW1	s Control Settings Display Security Settings Minimum Press Time: 0 → (X0.1S) Require confirmation prior to execution Waiting Time 100 → (X0.1S) Records Operation Minimum Operation Interval: 0 → (X0.1S) Notification Settings Before Writing After Writing Notify Bit Address: Notify Byte Address:			
Add Modify Delete Audio Play Audio Keyboard Use Keyboard Help Description:	✓ Trigger Macro: macro_3 ▼ Macro Code Edit           OK         Cance			

There is a relationship option in front of the second condition in the Logic Control list. The option can be set "AND" or "OR". It means the logic relationship between the previous condition and the following condition. The component can be operated or display only if the result of all the conditions logic operation is true.



3.1.1.		D I C L	Control Control Directory
Activatio Alway Cond Level	litional Hide when condition no Non-operable when the p User ege User c Control Condition LB0 ON UW0 > 100 AND LW0 < LW1		Control Settings Display Security Settings Minimum Press Time:
Audio	/ Audio		✓ Trigger Macro: macro_3 ▼ Macro Code Edit
Keyboa	rd Keyboard		

There are the button "Modify" and the button "Delete" besides the button "Add" in the Logic Control list. Afterselecting a condition in the Logic Control list, you can click the button "Modify" to edit it again or click the button "Delete" to remove it from the Logic Control list.You can also double-click a condition in the Logic Control list to modify it.

**Note:** the conditions are executed sequentially from the top to the bottom in the Logic Control list when the conditions are more.

#### 4.13.11Shadow Effect

You can set the property "Shadow Effect "for the vector graphics, the bitmaps, the graphics, the fonts, and so on. It is shown as below.

Shadow	/ Effect						
Color:	ShadowColor	• 🖋	Shadow Excursion	x	4 🔹 Y	·	4 🔹

After checking the "Shadow Effect", the setting options such as Color and Shadow Excursion will be displayed. Otherwise the options are not visible.

Shadow Effect			



#### 4.13.11.1Color

You can use the color palette to set the shadow color.

Н	+		┢	H	
Н			t	Π	
Use	r De	fined	Col	or	

You can also use the tool " to set the shadow color.

#### 4.13.11.2Shadow Excursion

The Shadow Excursionincludes the X-axis (horizontal) direction offset and the Y axis (vertical) direction offset. The unit is pixel.

🛛 🗹 Shadow	Effect							
Color:	ShadowColor	• 🖋	Shadow Excursion	x	4 🔹	Υ	4 🔹	

#### Note:

- The coordinates in this software refer to:<u>Detailed manual/General</u> <u>functions/Drawing/ Position</u>.
- The range of Shadow Excursion is: -16 to 16.The positive number for X-axis represents the shadow direction is to the right.The positive number for Y-axis represents the shadow direction is downward. The negative number represents the contrary direction.

The display results are shown as below.



4.13.12Position



Every component has the property of "Position". You can find it in the "General" property TAB or the "Display" property TAB of the component.



Static Text	?
General Display	
<ul> <li>Language Independent</li> <li>Languages: 1-English (United S          <ul> <li>Use Text Library Text Library</li> </ul> </li> </ul>	Position         Fixed Point:       X :       230 \$       Y :       320 \$         Locked       Width:       312 \$       Height:       312 \$
Ose Labels Tag Contents	Marquee
\$hadow Effect	Eft Right:
Import from Favorite Font Templates.(I)  Output Vector Font O Graphic Font	Top Bottom:
Font:       Microsoft Sans Serif ▼         Size:       36 ▼ B ⊥       ■ ▼         Multi-line Alignment:       ■ ■       T	
Microsoft Sa ns Serif	
Copy Current Properties to All Languages Help Description:	OK Cancel



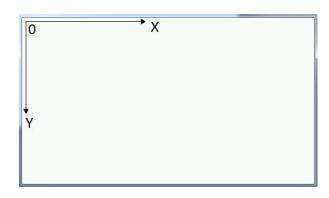
Switch/	Indicator Light							-?
witch	Indicator Light	Lable	Graphics	Dynamic Gra	phics	Control Settings	Display	
Positio	on							
Positi	on: X:	85	\$	Y: 170	2			
🔳 Lo	c <mark>ked Wi</mark> dth:	70	t Hei	ght: 50	2			
Cor Lev Priv	vays Display nditional Display vel User vilege User gic Control							
Logic	Condition							
	LB0 ON			* H				
AND								
AND		dify	Delete	•				
Help	Description							OK Cancel

The "X" and "Y" in the Position property are used to set the x coordinate and the y coordinate of the start point of the current component in the window. The title of the "X" and "Y" is "Fixed Point" or "Position". The title of "Fixed Point" decides a fixed point as the start point of the component. The detail is referred to:<u>Detailed manual/ General functions/</u> <u>Drawing/ Rotation</u>. The title of "Position" decides the point in the upper left corner of the component as the start point.

#### Note:

In this software, the coordinate system is shown as below. The origin point is in the upper left corner. The X-axis is horizontal direction. The positive direction of the X-axis is to the right. The Y-axis is vertical direction. The positive direction of the Y axis is downward.





The properties of "Width" and "Height" are used to set the width and the height of the component. If the option is grey and not editable, it represents the attribute is not available. It is shown as below.

Position				
Fixed Point:	<b>X</b> :	230 🗘	<b>Y</b> :	320 🗘
Locked	Width:	312 🗘	Height:	312 🗘

If you check the option "Locked", the position of the component will be locked. Its position and size cannot be edited. A lock mark will display in the upper left corner of the component when you select it in the configuration window.

	E Ellipse	8
•	General Dynamic Graphics Indicator Li	ght Display
	Ellipse Circle	
	V Border	Position
	Line Color 👻 🍠	Fixed Point: X : 126 🗘 Y : 351 🗘

## 4.13.13 Rotation

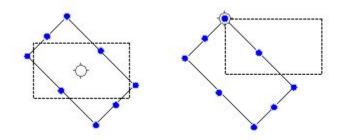
Fix Point	<b>♀</b> ──♀
	• •
	6
RotationAngle	45 🚔 NonRotation



The function of "Rotation" can adjust the display angle of the components such as static graphics, vector graphics and other components. This function is a static function. That is, the display angel is not adjusted in the HMI if you set the display angle in the "Rotation" property. If you want to dynamically adjust the display angle of the graphics, please refer to: <u>Detailed manual/General functions/Dynamic Graphics</u>.

## 4.13.13.1 Fix Point

Each figure has nine fixedpoints. The middle fixed point is selected as the default by the system. You can change the fixed point. The result is different after the figure rotates around the different fixed point. For example, a rectangle rotates the center fixed point and another rectangle rotates the upper left fixed point. It is shown as below.



## 4.13.13.2 Rotation Angle

The Rotation Angle is used to set the clockwise rotation angle of the component. This angle range is 0-360 degrees.

## 4.13.13.3 Non Rotation

You can quickly set the display angle to zero by clicking the button"Non Rotation".

## 4.13.14Dynamic Graphics

There is a property TAB of "Dynamic Graphics" for some component such as the static picture component, the vector graphics, and so on.



eneral Dynamic Grap	hics Indicator Light Display	
Use Dynamic Graphic	is (	]
Control Address:	LWO	
Control Position:	X: LW0 Y:LW1 Coordinate of the top-left point	
☑ Control Size:	Width : LW2 Height : LW3 For square and circle, only width is valid, height is not applicable.	
Control Rotating:	Angle: LW4 Increase anti-clockwise, 0~360 degree	
	Note: Location, size and rotating is set based on fixed reference point.	

You can use the function of "Dynamic Graphics" if you want to adjust the position, the size and the rotation angle of the figure dynamically during running the HMI.

The function of dynamic graphics is realized by using the registers to controlthe position, the size, and the rotation angle of the figuredynamically.

## 1 Use Dynamic Graphics

You need to check the option "Use Dynamic Graphics" in the property TAB of "Dynamic Graphics" if you want to use the dynamic graphics function.

## 0 Control Address

The start address of the control registers is selected here. The start control registeraddressediting isreferred to:<u>Detailed manual/General function/Address</u> <u>editor/Standard ByteAddress Input</u>.

## ③Control Position

The option of "Control Position" needs to be checked if you want to adjust the position of the component dynamically. Two registers are used. The addresses will be set and displayed automatically after the "Control Address" is given. These two registers will control the absolute coordinates of the fixed point of the component on the screen window. The touch screen coordinate system is referred to: Detailed manual/General function/Drawing/Position.

## 4 Control Size

The option of "Control Size" needs to be checked if you want to adjust the size of the component dynamically. Two registers are used. The addresses will be set and displayed automatically after the "Control Address" is given. These two registers will control the width



and the height of the component. The register to control the width is valid for the components which the width and the height are equal, such as the square and the circle.

## **5**Control Rotating

The option of "Control Rotating" needs to be checked if you want to adjust the rotation angle of the component dynamically. One registers is used. The address will be set and displayed automatically after the "Control Address" is given. The register will control the clockwise rotation angle of the component. This angle range is 0-360 degrees.

## Note:

The position, size, and rotating controlare based on the "fixed point" of the component. The fixed point is referred to:<u>Detailed manual/General</u><u>function/Drawing/Rotation</u>.

## 4.13.15Table Drawing

You can find the property TAB "Table".

🖪 Operate Log Display	? 🔀
General Table Checking Display	
Ceneral Table   Checking Display   Table Background Color:   Background   Title Bar Background Color:   Background   Outline Style:   Ine   Unine Width:   Ine   Outline Boar   Split Line Style:    Display Grid Line:   Row Split Line   Column Split Line	
Help Description: OK	Cancel





	Time	Date	Serial No.
admin	08:40:23	08/12/15	1
2			
			•
	adm	08:40:23 adm	08/12/15 08:40:23 adm

You can change the background color and the title bar background color.

Table Background Color: 📃 Background 💌 🍠	
Title Bar Background Color : 📃 Background 💌 🍠	

You can change the outlinestyle, the split line style, the line width and the line color.

Outline Style:	 Line Width:	Outline Boar 👻 📝
Split Line Style:	 Line Width:	Split Line Co 👻 📝

You can display the grid line after check the "Row Split Line" and the "Column Split Line". It is shown as below.

Serial No.	Date	Time	User Name
		08:40:23	admin

You can hide the grid line if you don't check the "Row Split Line" and the "Column Split Line". It is shown as below.





Serial No	Date	Time	User Name	<b></b>
1	08/12/15	08:40:23	admin	
•		_		► E

## 4.13.16 Export CSV

You can use the function of "Export CSV" if you want to export the list data to a CSV format file. You can find the option "Export CSV" in the "Search" or "Checking" property TAB of the list component, such as the Historical Data Display component and the Operator Log component.



eneral Table Search Display         Enable Search Eunction         Enable Search Eunction         Export CSV         Trigger Registrator:       LB0         Export to designated location:         Export to designated location:         Sub directory name:         CSV_EVENT         Export progress indicator register:         Export CSV method : • Export by day         Single File         This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries         Help       Description:	Historical Data Display	? <mark>&gt;</mark>
<ul> <li>Export CSV</li> <li>Trigger Registrator: LB0 Export records when it is ON.</li> <li>Export to designated location: HMI SD USB1</li> <li>Register Setting Location:</li> <li>Sub directory name: CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : Export by day Single File</li> <li>This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li> </ul>	General Table Search Display	
Trigger Registrator:       LB0       LB0 Export records when it is ON. <ul> <li>Export to designated location:</li> <li>HMI</li> <li>SD</li> <li>USB1</li> <li>Register Setting Location:</li> <li>Sub directory name:</li> <li>CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : <ul> <li>Export by day</li> <li>Single File</li> </ul>            This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li></ul>		
Trigger Registrator:       LB0       LB0 Export records when it is ON. <ul> <li>Export to designated location:</li> <li>HMI</li> <li>SD</li> <li>USB1</li> <li>Register Setting Location:</li> <li>Sub directory name:</li> <li>CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : <ul> <li>Export by day</li> <li>Single File</li> </ul>            This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li></ul>		
Trigger Registrator:       LB0       LB0 Export records when it is ON. <ul> <li>Export to designated location:</li> <li>HMI</li> <li>SD</li> <li>USB1</li> <li>Register Setting Location:</li> <li>Sub directory name:</li> <li>CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : <ul> <li>Export by day</li> <li>Single File</li> </ul>            This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li></ul>		
Trigger Registrator:       LB0       LB0 Export records when it is ON. <ul> <li>Export to designated location:</li> <li>HMI</li> <li>SD</li> <li>USB1</li> <li>Register Setting Location:</li> <li>Sub directory name:</li> <li>CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : <ul> <li>Export by day</li> <li>Single File</li> </ul>            This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li></ul>		
Trigger Registrator:       LB0       LB0 Export records when it is ON. <ul> <li>Export to designated location:</li> <li>HMI</li> <li>SD</li> <li>USB1</li> <li>Register Setting Location:</li> <li>Sub directory name:</li> <li>CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : <ul> <li>Export by day</li> <li>Single File</li> </ul>            This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li></ul>		
Trigger Registrator:       LB0       LB0 Export records when it is ON. <ul> <li>Export to designated location:</li> <li>HMI</li> <li>SD</li> <li>USB1</li> <li>Register Setting Location:</li> <li>Sub directory name:</li> <li>CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : <ul> <li>Export by day</li> <li>Single File</li> </ul>            This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li></ul>		
Trigger Registrator:       LB0       LB0 Export records when it is ON. <ul> <li>Export to designated location:</li> <li>HMI</li> <li>SD</li> <li>USB1</li> <li>Register Setting Location:</li> <li>Sub directory name:</li> <li>CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : <ul> <li>Export by day</li> <li>Single File</li> </ul>            This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li></ul>		
Trigger Registrator:       LB0       LB0 Export records when it is ON. <ul> <li>Export to designated location:</li> <li>HMI</li> <li>SD</li> <li>USB1</li> <li>Register Setting Location:</li> <li>Sub directory name:</li> <li>CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : <ul> <li>Export by day</li> <li>Single File</li> </ul>            This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li></ul>		
Trigger Registrator:       LB0       LB0 Export records when it is ON. <ul> <li>Export to designated location:</li> <li>HMI</li> <li>SD</li> <li>USB1</li> <li>Register Setting Location:</li> <li>Sub directory name:</li> <li>CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : <ul> <li>Export by day</li> <li>Single File</li> </ul>            This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li></ul>		
Trigger Registrator:       LB0       LB0 Export records when it is ON. <ul> <li>Export to designated location:</li> <li>HMI</li> <li>SD</li> <li>USB1</li> <li>Register Setting Location:</li> <li>Sub directory name:</li> <li>CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : <ul> <li>Export by day</li> <li>Single File</li> </ul>            This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li></ul>		
Trigger Registrator:       LB0       LB0 Export records when it is ON. <ul> <li>Export to designated location:</li> <li>HMI</li> <li>SD</li> <li>USB1</li> <li>Register Setting Location:</li> <li>Sub directory name:</li> <li>CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : <ul> <li>Export by day</li> <li>Single File</li> </ul>            This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li></ul>		
<ul> <li>Export to designated location: HMI SD USB1</li> <li>Register Setting Location:</li> <li>Sub directory name: CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method : Export by day Single File</li> <li>This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li> </ul>	Export CSV	1
<ul> <li>Register Setting Location:</li> <li>Sub directory name: CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method :          <ul> <li>Export CSV method :</li></ul></li></ul>		
<ul> <li>Sub directory name: CSV_EVENT</li> <li>Export progress indicator register:</li> <li>Export CSV method :          <ul> <li>Export CSV method :              <li>Export by day              </li></li></ul> <li>Single File</li> </li></ul> <li>This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li>		
<ul> <li>Export progress indicator register:</li> <li>Export CSV method :          <ul> <li>Export CSV method :              <li>Export by day              <li>Single File</li> </li></li></ul> </li> <li>This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries</li> </ul>	Register Setting Location:	
Export CSV method :  Export by day Single File This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries	Sub directory name: CSV_EVENT	
This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all entries	Export progress indicator register:	
be derived, without the use of query, export all entries	Export CSV method :      Export by day     Single File	
be derived, without the use of query, export all entries		
		uery, the query results will
Help Description	be derived, without the use of query, export all entries	
	Hala Decembra	



Operate Log Display	? 🗙
General Table Checking Display	
Enable Search Function	
V Export CSV	
Trigger Registrator: LBO 📓 LBO Export records when it is ON.	
Export to designated location: HMI OSD USB1	
Sub directory name: CSV_EVENT	
Export progress indicator register:	
Export CSV method : 💿 Export by day 💿 Single File	
This operation will all entries are in line with the current condition. If you use a query, the query results will be derived, without the use of query, export all	
Help Description:	OK Cancel

## $\textcircled{1}\mathsf{Trigger}\ \mathsf{Registrator}$

A bit register is used to trigger the action of exporting data to a CSV file. Exporting is triggered when the bit register changed from OFF to ON. You can use a bit toggle switch to control the bit register. The method to input the trigger register address isreferred to:Detailed manual/General function/Address editor/Standard Bit Address Input.

## 2 Export to designated location

The function of "Export to designated location" supports exporting the CSV file to HMI, SD card or USB disk.The corresponding options are: HMI, SD, USB1.

#### ③Subdirectory name

You can give a sub directory name for the exportinglocation.

Sub directory name: CSV\_EVENT

The contents saved in the designated registers will provide the sub directory name if you check the option "Sub directory name" and give the start register address.

Sub directory name: LW0



#### Note:

Please use the character component to input the sub directory name if you use registers to provide it. The method to input the register is referred to:<u>Detailed</u> <u>manual/General function/Address editor/Standard ByteAddress Input</u>.

④Export progress indicator register

A register can be given to display the exporting progress if the data is large. It is shown as below.

Export progress indicator register:	LW20	(0-100, Reflect the current export schedule)
E suber brediene unerer reduced	20020	(* 200),

The exporting progress uses the percentage of completion (0-100) to represent. You can use anumeric value display component or a bar graph component to display.

#### ⑤Export CSV method

The Export CSV method can be "Export by day" or "Single File". If you select the "Export by day", the exported data will be saved in different files by date. If you select the "Single File", the exported data will be saved ina single file.

If you select "Single File", you can use the function of "User-defined File Name". The system will name the exported file according to the default name rules when the option "User-defined File Name" is not checked. A register address needs tobe specified to save the file name which is input when it is needed.

Export CSV method :	Export by day	Single I	File	
☑ User-defined File Na	me: LW100		LW1 cha	LOO Specify a file name with maximum 32 ASCII raters or 16 Chinese characters, suffix is not

Please use the character input component toinput the user-defined file name. The file name length is limited to 32 ASCII characters or 16 Chinesecharacters.

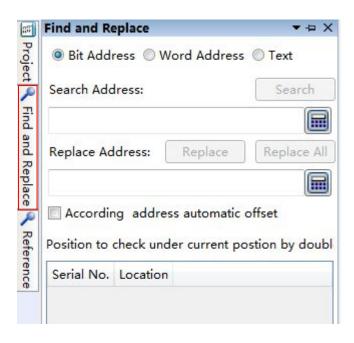
#### Note:

This operation will export all entries in the current condition. If you use the function of "Enable Search Function", the current result of searching will be exported.

# **5 Use topic**

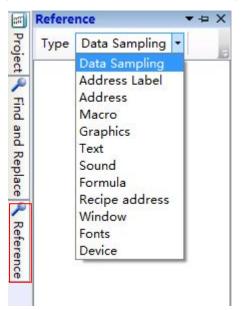
## **5.1 Findand Replace**





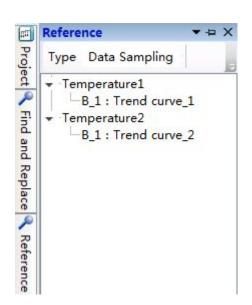
# 5.2 Reference

The types of Reference include "Data Sampling", "Address Label", "Address", "Macro", "Graphics", "Text", "Sound", "Formula", "Recipe address", "Window", "Fonts", and "Device".

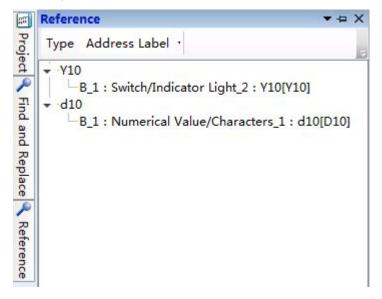


For example, all the uses of "Data Sampling" in the current project are listed in the following after select it.





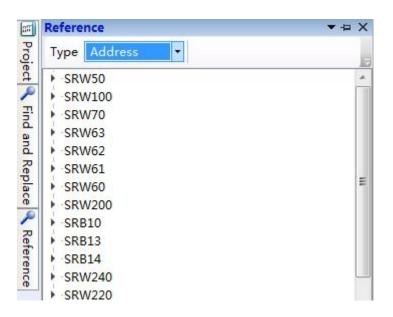
For example, all the uses of "Address Label" in the current project are listed in the following after selecting it.



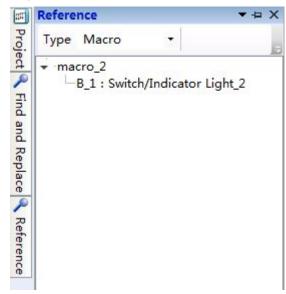
For example, all the uses of "Address" in the current project are listed in the following after selecting it.





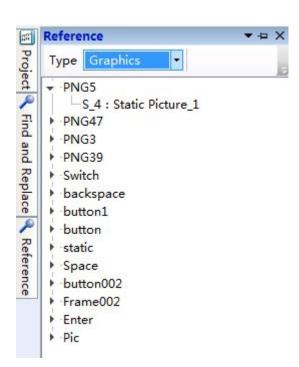


For example, all the uses of "Macro" in the current project are listed in the following after selecting it.

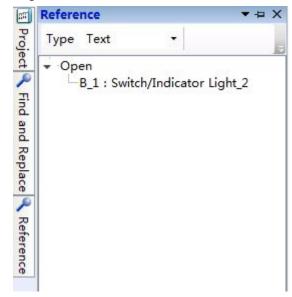


For example, all the uses of "Graphics" in the current project are listed in the following after selecting it.



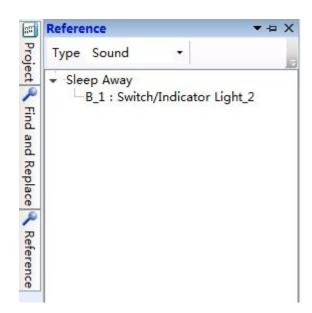


For example, all the uses of "Text" in the current project are listed in the following after selecting it.

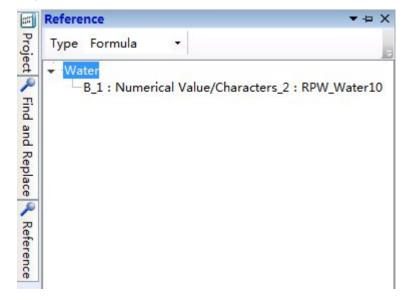


For example, all the uses of "Sound" in the current project are listed in the following after selecting it.



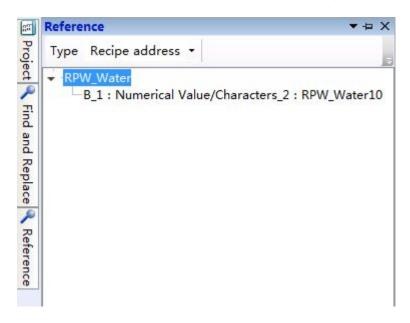


For example, all the uses of "Formula" in the current project are listed in the following after selecting it.

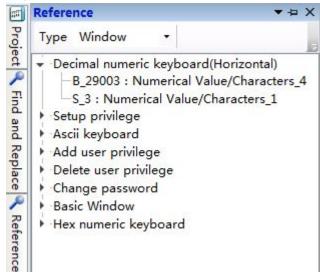


For example, all the uses of "Recipe Address" in the current project are listed in the following after selecting it.





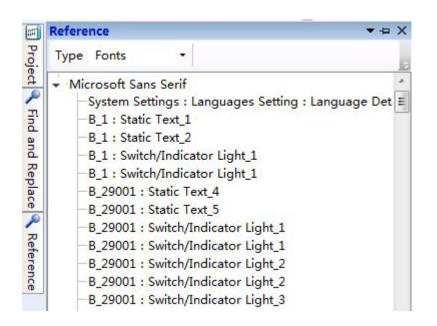
For example, all the uses of "Window" in the current project are listed in the following after selecting it.



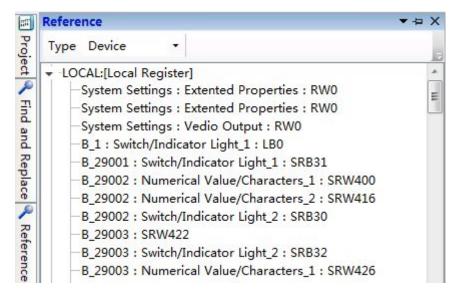
For example, all the uses of "Fonts" in the current project are listed in the following after selecting it.







For example, all the uses of "Device" in the current project are listed in the following after selecting it.



# 5.3 Outline

It will display all components of the current work windowin the "Outline" window.



Dutline	<b>•</b> 1	1 >
	۲	1
B_1:Basic Window(1)		
Static Text_1:[Static Text]	۲	0
Static Text_2:[Static Text]	۲	0
Switch/Indicator Light_1: [Bit Setting:]	LB0] 👁	0
Rectangle_1: [65,44,70,54,0]	۲	0
Rectangle_2: [218,36,37,22,0]	۲	0
Trend curve_1: [Temperature1]	۲	0
C Trend curve_2: [Temperature2]	۲	0
Switch/Indicator Light_2: [Bit Setting:]	V10 @	0
12] Numerical Value/Characters_1: [Num		0
123 Numerical Value/Characters_2: [Num	ieric 👁	0
<		)

The tool button " $\checkmark$ " on the top right corner which is used to control the display mode of the outline window. The tool button " $\overset{\blacksquare}{-}$ " is used to make the outline window show or auto hide. The tool button " $\overset{\checkmark}{-}$ " is used to close the outline window.

Outline		• 1	чx
A St	ati, Dock as Tabbed Document ati, Auto Hide		
1 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	ectangle_2: [218,36,37,22,0]	۲	0
C Tr	end curve_1: [Temperature1]	۲	0
C Tr	end curve_2: [Temperature2]	۲	0
Sv	vitch/Indicator Light_2: [Bit Setting:Y10]	۲	0
	umerical Value/Characters_1: [Numeric	۲	0
123 N	umerical Value/Characters_2: [Numeric	۲	0
			•

#### Note:

You can check "Outline" from the "View" menu and make the outline window display again after the Outline window is closed.

You can find the component by inputting the component name in the blank text box on the top of the outline window and click the "Enter" key. All the components display can be restored by clear the text box and click the "Enter" key.



Outline		<b>–</b> †	X
Switch			0
7		٩	1
-		۲	0
		۲	0
		۲	0
		۲	0
Switch/Indicator	Light_1: [Bit Setting:SRB31][S	۲	0
Switch/Indicator	Light_2: [Pop-up:29005]	۲	0
Switch/Indicator	Light_3: [Pop-up:29004]	۲	0
Switch/Indicator	Light_4: [Pop-up:29003]	۲	0
4	III		+

When you click the little eye tool "  $^{\circ}$  " except the top one, it will change to "  $^{\circ}$  " and hide the corresponding component in the window. When you click it again, it will change to "  $^{\circ}$  " and make the corresponding component show in the window. The top little eye tool "  $^{\circ}$  " will control all components hide or shown by clicking it.

B_1:Basic Window(1) Static Text_1:[Static Text]	Hide or show all			
Static Text_2:[Static Text]				
<ul> <li>Rectangle_1: [65,44,70,54,0]</li> <li>Rectangle_2: [218,36,37,22,0]</li> <li>Trend curve_1: [Temperature1]</li> <li>Trend curve_2: [Temperature2]</li> </ul>	Hide or show the corresponding component			
Switch/Indicator Light_2: [Bit Settin	ng:Y10[Y10]][Function Key:Execute Mac umeric Value Input:d10[D10],d10[D10]			
123 Numerical Value/Characters_2: [Nu	umeric Value Display:RPW_Water10]			

When you click the right tool " ° ", it will change to " 🔒 " and lock the corresponding



component in the window. When you click it again, it will change to "  $\circ$  " and unlock the corresponding component. The top tool "  $\stackrel{\circ}{=}$  " will control all components locked or unlocked by clicking it. The component will not move if it is locked.

B_1:Basic Window(1) Static Text_1:[Static Text] Static Text_2:[Static Text] Switch/Indicator Light_1: [Bit Setting]	Lock or unlock all components
Rectangle_1: [80,41,70,54,0]	0
Rectangle_2: [218,36,37,22,0] Trend curve_1: [Temperature1] Trend curve_2: [Temperature2]	Lock or unlock the or corresponding component or component or component comp
Switch/Indicator Light_2: [Bit Setting	
123 Numerical Value/Characters_2: [Nu	

You can right-click to pop up the shortcut menu and cut, copy, paste or delete the selected components. You can look at the components properties by this way.

	<b>▼</b> ậ	X
		0
Ctrl+X		0
Ctrl+C	۲	0
	۲	0
Ctrl+V	۲	0
	٩	0
Del	۲	0
in Key:Execute Ma		0
perties d10[D10],d10[D10	] ③	0
2: [INUMERIC VALUE DISPLAY:RPW_Water10]	۲	0
		•
on Key:Execute Ma operties d10[D10],d10[D10	croinstruction @ ] @	





#### 5.4.1 Macro Editor Introduction

The Macro Editor can be opened by clicking "Create Macro" or "Edit Macro" from the "Macro" menu. It is shown as below.

🐻 Macro Instruction			
Create Macro Save Save All	🔏 🗟 😤 🎦 🍽 Cut Copy Paste Undo Redo	Note         Note           Add New Address         Compiling	<i>I</i> elp
Alias Name Address	<pre>macro_3.c X 1 #include <macro.h> 2 3 int MacroMain() 4 { 5    // Here to add macro code. 6 7    return 0; 8 }</macro.h></pre>		Read Write Function System Functions Computation and Convertion Function Operator
Macro Code Ready	-	► Inj	put assistant Find and Replace
1977 TO 494 S			

#### 5.4.1.1Shortcut Tools Bar



Shortcut Tools BarcontainsCreateMacro, Save, Save All, Cut, Copy, Paste, Undo, Redo, Add New Address, Compiling and Help buttons.

Create Macro: Create a new macro.

Save: Save the current macro.

Save All: Save all macros.

Cut, Copy, and Paste: Edit the selected macro codes.



Undo, Redo: Undo /Redo the edit of the selected macro codes.

AddNew Address: Add a new address alias for the current macro.

Compiling:Compile the current macro.

Help: Open the help file.

#### 5.4.1.2Address Statement

🖪 Macro Instr	ruction										
안 Create Macr		e All	& Cut		Paste	<b>5</b> Undo	<b>(≃</b> Redo	😽 Add New Add	lress	🏇 Compiling	<i>I</i> elp
Alias Name ModeSwitch Level	0120200000		1 <b>#i</b> r 2	t Macro	<macro OMain() ere to</macro 		ro code		Þ	Read Write F System Funct Compution Operator	
Insert at C Address	Delete Edit Cursor Position s Statement ro Code		*					•	Inc	ut assistant	Find and Replace
Ready	TO CODE		<u> </u>			•	9		Tub	ut assistant	rind and Replace

Address Statement is used to create and manage the address aliases in the current macro. The address statement window shows on the left of the macro editor. You can hide

or display it by using " . You can switch to the macro code window by clicking the bottom tab"Macro Code".

5.4.1.3Macro Code

4



Create Ma	acro Save Save Al	
Name macro_1 macro_2 macro_3	Macro Code add_c sub_c mul_c	<pre>macro_3.c X macro_1.c X 1 #include <macro.h> 2 3 int MacroMain() 4 { 5 // Here to add macro code. 6 7 return 0; 8 } </macro.h></pre>
Create	Delete Edit Export	

Macro Code window is used to create or manage the macros in the current project.All macros in this project will be listed here.These macros can be edited, deleted, imported and exported. You can simply double-click a macro's name to edit the codes of the macro.

#### 5.4.1.4Code EditorWindow



Macro Instruction				
Create Macro Save Save All Cut Cop	Paste Undo Redo	Add New Address	🏂 Compiling	<i>I</i> elp ∋
macro_2         sub_c         2         3         int Mac           macro_3         mul_c         4         5         //           6         6         6         6         6	e <macro.h></macro.h>	· · · · · · · · · · · · · · · · · · ·	Operator	
Ready				

Code EditorWindow is a code editor which is compatible with C syntax. The detailed macro codesare edited here. Code Editor Window is a multi-tab window. You can open multiple macros and display one macro by clicking the corresponding tab. If a macro code has been edited but not yet saved, it will display "\*" in this macro tab. For example, it will display "macro\_1.c\*" if the codes of this macro are edited and not saved.

#### 5.4.1.5 Input assistant Window



Macro Instruction		
🐮 🛃 🥥 Create Macro Save Save All	👗 🛍 🚉 🧐 🍋 😽 🎓 Cut Copy Paste Undo Redo Add New Address Compiling	🔗 Help
Name         Macro Code           macro_1         add_c           macro_2         sub_c           macro_3         mul_c	macro_3.c X       macro_1.c X         1 #include <macro.h>         2         3 int MacroMain()         4 {         5       // Here to add macro code.         6         7       return 0;         8 }             Use direction         Read Word Register         Address Alias         Level         Address Offset</macro.h>	<ul> <li>Read Write Function         Read Bit Register: GetBit         Read Both Register: GetWord         Read Double Word Register: GetDWord         Read Consecutive Register: GetPloat         Read Consecutive Register: GetMem         Set Bit Register: SetBit         Set Word Register: SetWord         Set Dword Register: SetWord         Set Dword Register: SetDWord         Set Float Register: SetDWord         Set consecutive registers: SetMem         System Functions         Call Marco         Get Error         Delay Function: Delay         Set Com Parameters: SetComParam         Com Data Output: Outport         Com Data Import: Inport         SQL Database Access command: SqlCmd</li> </ul>
Create Delete Edit Import Export Macro Code Address Statement	Read one word from i     Parameter Type: Constant       @Address Allas@: S     Parameter Type: Constant       Address Offset: An un     Constant Value       Data Type:     Unsigned int       Code Preview     Data Type:       GetWord(@Lavel@,0);     Insert	SQL Database Select: SqlSelect SQL Data Buffer Free: SqlFree Debug Function: Debug D Compution and Convertion Function D Operator Input assistant Find and Replace
Ready		

Input assistantWindow on the right of the macro editor lists the built-in functions. It will display a detailed description of the function in the Input assistant Window at the lower middle position of the macro editor when you select a built-in function on the right window.

The Input assistant Window at the lower middle position of the macro editor gives the use direction. And you can set the parameters of this function here, too. The function with the parameters you have set will display in the Code Preview edit box. It will be inserted into the current cursor position when you click the "Insert" button.

#### 5.4.1.6 Find and Replace



🖪 Macro Instruction		- • •
🃸 🛃 🥩 Create Macro Save Save A	JI     Ea     II     C     S       III     Cut     Copy     Paste     Undo     Redo     Add New Add	ress Compiling Help ₃
Create Macro Save Save A Name Macro Code macro_1 add_c macro_2 sub_c macro_3 mul_c	<pre>macro_3.c X macro_1.c X 1 #include <macro.h> 2 3 int MacroMain() 4 { 5 // Here to add macro code. 6 7 return 0; 8 } Use directi Read Word Register unsigned Address Alias Level </macro.h></pre>	ress Compiling Help
Create Delete Edit Import Export Macro Code	Read one     Address Offset       @Address     Parameter Type: Constant       Address (     O       Ontore (     O       Other (     Data Type: Unsigned int       Code Preview     GetWord(@Level@,0);	Redirect to Selected Location
Address Statement	Input assistant Information List	Input assistant Find and Replace
Ready		

Find and Replace function can provide a more convenient method of editing the macro codes. It can perform jump between lines and you canview the macro reference here.

#### 5.4.1.7Information List



Create Macro	Save Save All	👗 🗈 Cut Copy	🖺 🧐 Paste Undo	Redo Add New Addres		🏇 npiling	<i>.</i> ₩elp
macro_1 a macro_2 s	Macro Code dd_c ub_c nul_c	macro_3.c X 1 #include 2 3 int Macro 4 { 5 // Ht 6 c = 2 7 c = 2 8 retur 9 }	<macro.h> oMain() ere to add macr a *b</macro.h>		•	•	<ul> <li>Read Write Function         Read Bit Register: GetBit         Read Bound Register: GetWord         Read Double Word Register: GetDWord         Read Float Register: GetFloat         Read Consecutive Registers: GetMem         Set Bit Register: SetBit         Set Word Register: SetWord         Set Word Register: SetWord         Set Float Register: SetWord         Set Float Register: SetDWord         Set Float Register: SetFloat         Set consecutive registers: SetMem         Isotement         System Functions         Call Marco: CallMacro         Get Error Code: GetError         Isotement         Set SetForm         Call Marco: CallMacro         Get Error Code: GetError         Set SetForm         Set Set SetForm         Set Set Set Set Set Set Set Set Set Set</li></ul>
		lana.co			Numero I.		Delay Function: Delay Set Com Parameters: SetComParam
		File	Content Alias name 'Moo	deSwitch' is unreferenced.	Row	List	Com Data Output: Outport Com Data Import: Inport
Import	Edit Export	▲ macro_3.c	Alias name 'Leve	el' is unreferenced.			SQL Database Access command: SqlCm SQL Database Select: SqlSelect SQL Data Buffer Free: SqlFree Debug Function: Debug Depution and Convertion Function Operator

Information List window displays prompts and error messages when the macro compile. You can double-click the error message entryin the list if compiling errors occur. It will quickly navigate to the position where this error occurs.

#### 5.4.2 A Macro example

In this example, we use a macro to execute a simple calculation function. The output value (saved in LW1) will be 3 times as much as the input value (saved in LW0) if the output value is less than or equal to 300, or it will be 2 times as much as the input value.

#### 5.4.2.1 Create a new project

Refer to: Detailed manual/File/Create New Project.

Build a new project.

#### 5.4.2.2 Add the components

①Add a numeric value input component.

Refer to: <u>Detailed manual/Component/Numeric Value and Character</u> <u>Display/Numeric Value Input</u>.

Add a numeric value input component in the window and set the address as LW0.



Component	Library	Macro	Recipe	Setup	Tools	Help
Jndo 🔻 🍽 Re	do 🕶 🔤			阜 辛	1 1	-0]}- <u>111</u>
a 👍 1-Eng	lish (Unite	ed Sta 🕶	9 📗 🗎	1 🕈 🔗	🔄 B_	1:Basic \
- 🔛 -	· • 123	- 🔛 -	Ø • 🖩	- 🙋 -		
	123	Numer	ic Value D	isplay		
	12)	Numer	ic Value Ir	nput 🛌		
	iii abo	Charac	ter Displa	y		
		) Charac	ter Input		$\mathbf{X}$	
			Concernent toord			

Numeric	Input							8
General	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
Operatio	on Attribute: 🔘 N	Numeric Display 🍥	Numer	ic Input	) Characters Display	Characters Inp	ut	
		ddress Is Different		Passwo	rd			
	Address:							
	Address Tag			3				
Address Format(	s Type: LW s: 0	Conception in the local division of the loca	Register - Wor	_				
Help								

②Add a value display component.

Refer to: <u>Detailed manual/Component/Numeric Value and Character</u> <u>Display/Numeric Value Display</u>.

Add a numeric value display component in the window, and set the address as LW1.



Component	Library	Macro	Recipe	Setup	Tools	Help
Jndo 🔻 🍽 Re	do 🔹 🏥	c _ 1		⊫ \$	4 17	아 표
a 14 1-Eng	lish (Unit	ed Sta •	🧕 📙 i 省	1 🖬 🔗	💽 B_:	1:Basic
s 🚽 🖓 🕶	💡 <b>-</b> 12	3 🗕 🔛 🗣	Ø • 🗈	• 🙋 •		• -
	12	3 Numer	ic Value D	isplay		
	12	Numer	ic Value Ir	nput		
	::: ] at	G Charac	ter Displa	y		
	· · · · [a	Charac	ter Input			
Max Konstan Kan		A Local A				1. A.

Rumeric Display	8 ×
General Number Format Font Graphics Dynamic Graphics Display	
Operation Attribute: 💿 Numeric Display 🔘 Numeric Input 🔘 Characters Display 🔘 Characters Input	
Password	
Read Address:	
Use Address Tag	
Deivce: LOCAL:[Local Register]	
Address Type: LW  Address: 1  Format(Range) DDDDDD(0 Occupy: 1  Word Address Index	
Help Description: OK	Cancel

③Add the text description.

Refer to: Detailed manual/Drawing/Static Text.

Add textdescription for the two numeric value components, as shown as below.





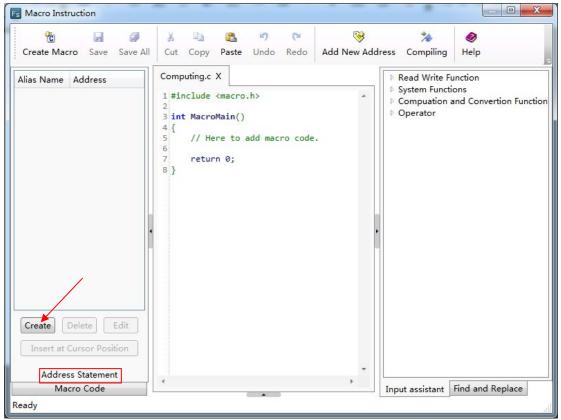
#### 5.4.2.3 Create and edit a macro

1 Create anew macro.

Refer to: <u>Detailed manual/Macro/CreateMacro</u>.

Create a new macro, named "Computing". <sup>(2)</sup>Add an address statement.

Add anaddress statement.Define the LW starting addressLWO as LW\_Start\_Addr.





Address Alias:	LW_Start_Addr		
Bit Address	Word Address		-
Use Addres	s Tag		
eivce: LOCA	L:[Local Register]		•
Address: 0		System Re	egister
Address: 0			egister Word
Address: 0			
Address: 0			

F Macro Instruction				
Create Macro Save Save All	J     Image: Imag	😽 Add New Address	🏇 Compiling	<i>⊗</i> Help
Alias Name Address LW_Start_Addr LW0	Computing.c X 1 #include <macro.h> 2 3 int MacroMain() 4 { 5 // Here to add macro code. 6 7 return 0; 8 }</macro.h>	* D	Read Write Fu System Functi Compuation a Operator	
Address Statement Macro Code	4	· .	· · · · [	Find and Replace
Ready			put assistant	

3 Edit the macro codes.



In the macro code editor window, edit the macro codes according to the logic previously defined. The syntax rules follow the C language specification. The final macro codes are as follows.

```
Computing.c* X
1 #include <macro.h>
 2
3 int MacroMain()
4 {
5
      // Here to add macro code.
      unsigned short x = 0, y = 0;
                                      //define the variables
6
 7
      x = GetWord(@LW_Start_Addr@,0);GetWord(@LW_Start_Addr@,0);//read LW0 to x
      if(x <= 300)
                                      //if x <= 300
8
9
      {
          y = x * 3;
10
                                       //y = 3x
11
      }
                                       //or
      else
12
13
      {
14
          y = x * 2;
                                       //y = 2x
15
      SetWord(@LW_Start_Addr@,1,y); //write the value of y to LW1
16
17
      return 0;
18 }
```

4 Compile and save.

Click the Compile button " <sup>2</sup> " on the shortcut toolbar to compile after finish editing the macro codes. A message box will pop up to display "Compile Successfully" if no syntax errors; otherwise the message box will display "Compile Failure".



Fs Macro Instruction				Table 1	
Create Macro Save Save All	👗 🗎 Cut Copy F	🔁 🤊 Paste Undo	Redo Add New A	🏇 ddress Compiling	<b>⊗</b> Help
Alias Name Address LW_Start_Addr LW0	<pre>8 if(x &lt;= 9 { 10 y = 11 } 12 else 13 { 14 y = 15 } 16 SetWord 17 return 18 }</pre>	EWord (@LW_Sta = 300) = x * 3; = x * 2; Com	rt_Áddr@,0);GetWo //if //y //or piling Compile Suc	rd ( Reac x Reac = 3) Reac	rite Function Bit Register: GetBit Word Register: GetWo Double Word Register Float Register: GetFloa Consecutive Registers: it Register: SetBit Vord Register: SetBit Vord Register: SetBot oword Register: SetFloat onsecutive registers: Se Functions tion and Convertion Fun r
Create Delete Edit Insert at Cursor Position Address Statement Macro Code	Toost assistant	1.6			III
Macro Code Compile Successfully	Input assistant	Information Li	st	h	nd and Replace Select And Exit Quit

8 🖬 🥔	8 B	🚨 🤊	۲ 🔇	3 %	۲
Create Macro Save Save All	Cut Copy	Paste Undo	Redo Add New	Address Compiling	Help
Alias Name Address LW_Start_Addr LW0	8 <b>if(x &lt;</b> 9 {	tWord(@LW_Sta	77	Word(( * if x ← y = 3) Read Read Read Read Read	rite Function d Bit Register: GetBit d Word Register: GetWc d Double Word Register d Float Register: GetFloa d Consecutive Registers:
	13 { 14 y 15 } 16 SetWorn 17 return 18 } 4 File	= x * 2 d(@LW_Start_A 0; Content expected ';' be		Compile Failure	Register: SetWord Register: SetDWord Legister: SetFloat cutive registers: Se ons and Convertion Fu
Create Delete Edit Insert at Cursor Position Address Statement					Input assistant
		Information Li	1.00		ind and Replace



If compiling fails, you should modify the macro codes according to the error messages of the information list until compiling is successful.

Click the Save button "

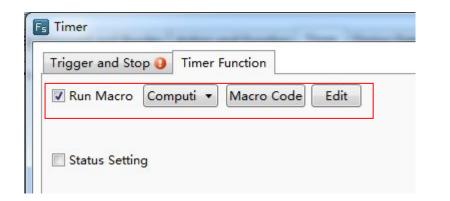
#### 5.4.2.4 Execute the macro

There are many ways to execute the macro. You can set macros for the buttons, the notification settings in the component control settings and timer function.

Action:	Press
Function Setting:	
Keyboard Function	Return
Execute Macro	Computi 🔹 Macro Code 🛛 Edit
Sysem Operation	© Touch Panel Calibration
	O Import/Export Import Project to 🔹
	O Save Screenshort to Extended Memory USB1
	Clear Event
	🔘 Clear All Formula
	Clear RW
	Clear All History Data
Print	Horizontal Print      O Print Vertically



eral Toggle Switch Graphics Dynamic Gr	raphics Control Settings Display
ctivation Settings	Security Settings
Always	Minimum Press Time: 0 🚔 (X0.1S)
Conditional	Require confirmation prior to execution
	Waiting Time 100 🔦 (X0.1S)
	Records Operation
	Minimum Operation Interval: 0 🔦 (X0.1S)
	Notification Settings
	Before Writing After Writing
	Notify Bit Address:
	Notify Byte Address:
	☑ Trigger Macro:
	Computi 🔻 Macro Code 🛛 Edit
Keyboard	
🔲 Use Keyboard	Audio
	Play Audio



In this example, execute the "Computing" macro when the input value changes by using the timer function. See settings as shown as below. The detailed using method of the timer component, please refer to: <u>Detailed manual/Component/Timer and Data</u>. <u>Transmission/Timer</u>.



Timer         Trigger and Stop         Timer Function         Timing and Execution         Execution Period:       10 🗣 x 0.1S         Delay	<u>२ ×</u>
Trigger Condition: Bit Word Condition Trigger when the window is open Trigger when the window is closed Trigger Address: LW0	Condition for stop Timer will stop when the window closed. If need to end, please choose the end condition. Stop when specified count value reached Condition Judgement Repeat Times: Constant  1
Help	OK Cancel

Timer	8	X
Trigger and Stop Timer Function		
Run Macro Computi  Macro Code Edit		
Status Setting		
🔲 Audio Play		
Неір	] C.	ancel

#### 5.4.2.5 Offline Simulation



Offline simulation can be executed to verify the correction of the functionafter theabove steps are finished.

Click the "Offline Simulation" button" on the shortcut tools bar.

Tools	Help											
희 🔟	· 10-				1	1	3	4	4	-	-	
💽 B_1	:Basic	: Win	dov	v(1)	•					+	1	100%
-	'e 🕫	*		*		*/6	Þ	]_				
						/	0	fflin	e S	im	ula	ition
			÷÷	: : :	/		::			•		:

A "Clear Records" message box will pop up. After clicking the button "OK", the project will compile.

lear Records ✔ Clean up RW d	data
Clean up recip	e data
<b>I</b> Clean up data	sampling and history alerts
🛛 Clean up speci	ial registers
	OK Cancel

Build Data	
 Build Data	
and the second	

The project compiling needs a little time. There is a progress bar to indicate the compiling progress. The simulator window (Emulator) will open automatically after the compiling is finished.



🖳 Emulator			
	LW0	LW1	
		_	
	0	0	

Input he value 100 to LW0. The output value of LW1 will be 300 according to the rules that the output value will be 3 times as much as the input value if the input value is less than or equal to 300.

Emulator	repairing when the second of	a cappi one of our all to be	
	LW0	LW1	
	100	300	
•			

Input he value 400 to LW0. The output value of LW1 will be 800 according to the rules that the output value will be 2 times as much as the input value if the input value isnot less than or equal to 300.



😟 Emulator			
	LW0	LW1	
	400	800	

# 5.5 Online software upgrade

If the user can not receive the automatic update reminders, the following solutions are given.

(1) Execute "cmd" in the administrator mode. Please input the following commands.

rmdir /s /q "%userprofile%\wc"

rmdir /s /q "%appdata%\wyUpdate AU"

(2) Reopen the Flexem Studio software.

# 6 Appendix

## 6.1The Use of Register

The Type of HMI register includes "Word" register and "bit register".

## 6.1.1 Word Register

**LW:**Aninternal "Word Register" in HMI. The data is lostwhen the power is off.The register address range is 0 - 799,999.



**RW:** An internal "Word Register" in HMI. The data can be saved if power is off. The register address range is 0 - 524288.

**SRW**: A special internal "Word Register" in HMI.The register address range is 0 - 11023. You can click the "System Register" button and open the "System Special Function Register" to get the specific function of each SRW register when you use the component such as "Numeric Display". For example, SRW0 ~ 7 saves the system time. The "Description" introduces the function of the selected register.

Numeric	c Display			-?
ieneral	Number Format	Font Graphics	Dynamic Graphics Display	
Ope <mark>r</mark> atio	on Attribute: 💿 N	Iumeric Display 🔘	Numeric Input 🔘 Characters Display 🔘 Characters Input	
			Password	
Read A	ddress:			
Use	Address Tag			
Deivce:	LOCAL:[Local Reg	ister]	•	
Addres Formati	s Type: LW s: 0		Register Word	
				OK Cance



st Information	Description	
IMI O PLC	System date, Format as: 20xx	
System Time SRW0:Year SRW1:Month SRW2:Day SRW3:Hour SRW4:Minute SRW5:Second SRW6:Millisecond SRW7:Weekday Network settings System Registers Communication user level password User Permission VNC authority password Input keyboard File browsing	Select Cancel	

## 6.1.2 Bit Register

**LB:**An internal "Bit Register" in HMI. The data is lost when the power is off. The register address is 0 - 799,999.

**SRB**: A special internal "Bit Register" in HMI.The register address range is 0 - 11023. You can click the "System register" button and open the "System Special Function Register" to get the specific function of each SRB register when you use the component such as "Bit Set". The "Description" introduces the function of the selected register. For example, SRB16 is ON when the touch screen is pressed.



Action: Press   Execute Setting: On  Address  Address Use Address Tag Deivce: LOCAL:[Local Register] Bit-index within a Byte Register Address Type: LB Address: 0 System Register
Address          Use Address Tag         Deivce:       LOCAL:[Local Register]         Bit-index within a Byte Register         Address Type:       LB
Use Address Tag Deivce: LOCAL:[Local Register] • Bit-index within a Byte Register Address Type: LB •
Deivce: LOCAL:[Local Register]
☐ Bit-index within a Byte Register Address Type: LB ▼
Address Type: LB
Address: 0 System Register
Format(Range) DDDDDD(0~799999)
Address Index



	Description
<ul> <li>HMI PLC</li> <li>Internet</li> <li>Hardware</li> <li>SRB3:Restart</li> <li>SRB4:restart and enter brush status</li> <li>SRB5:turn off the backlight</li> <li>SRB6:SD card inserting status</li> <li>SRB7~9:U-disc inserting status</li> <li>SRB1:USB downloading line connecting status</li> <li>SRB11:USB downloading line connecting status</li> <li>SRB15:clear off buzzering function compulsively</li> <li>SRB16:Press the touch</li> <li>SRB19:unmount U-disk safely</li> <li>SRB19:unmount U-disk safely</li> <li>SRB10101:buzzer mute</li> <li>SRB10011:audio mute</li> <li>SRB10031:start manu Loading displaying mark</li> <li>keyboard</li> <li>VNC(remote monitoring)</li> <li>Communication</li> <li>User authority</li> </ul>	Description When pressing the touch, SRB16 is on,simultaneously the X,Y coordinate values of the touch screen will be indicated between SRW450 and SRW451

**Note:**"Word Register" and "Bit register" in HMI are two different areas, so the address does not overlap.For example, LW0 and LB0 are two registers that they are not related. SRW0 and SRB0 are also two different special system registers. But each word register can be divided into 16bit registers.For example, LW0 can be divided into 16bit registers: LW0.0 ~ 0.15.

# 6.2 Built-in Functions

You can find the built-in functions when you create or edit Micros. They can be used by calling directly.



Fs Macro Instruction		-AU/AU 25101 - 100-43			Marine and that	
Create Macro Save Save All	👗 🗈 Cut Copy F	遇 🧐 Paste Undo	<b>₽</b> Redo	Add New Address	<b>%</b> Compiling	<i>⊗</i> Help
Alias Name Address	macro_1.c X 1 #include <m 2 3 int MacroMa 4 { 5 // Here 6 7 return 8 } • • • • • • • • • • • • • • •</m 	ain() e to add macr	ro code		Rea Rea Rea Rea Rea Rea Rea Set Set Set Set Set Call Get Dela Set Con Con SQL SQL SQL SQL Deb	Vite Function d Bit Register: GetBit d Word Register: GetWord d Double Word Register: GetDWord d Float Register: GetFloat d Consecutive Registers: GetMem Bit Register: SetBit Word Register: SetBvord Float Register: SetDWord Float Register: SetDWord Float Register: SetDWord Float Register: SetDWord Float Register: SetDWord Float Register: SetBoat consecutive registers: SetMem 1 Functions Marco: CallMacro Error Code: GetError ay Function: Delay Com Parameters: SetComParam In Data Output: Outport In Data Import: Inport Database Access command: SqlCmd Database Select: SqlSelect Data Buffer Free: SqlFree Dug Function: Debug lation and Convertion Function tor
Macro Code	Input assistant	Information Li	st		Input assis	stant Find and Replace
Ready	,					 

## 6.2.1 Read Write Function

#### 6.2.1.1 Read Bit Register: GetBit

boolGetBit( @Address Alias@,Address Offset ):

Read one bit from designated register address.

@Address Alias@: Select a bit address register

Address Offset: An unsigned integer, Read Address=The address specified by @Address Alias@+Address Offset

Return Value: BOOL, the value of the bit which was read

Error Information:

Get the error code using GetError() function.

int error=GetError();

Example:



bool power=GetBit( @power\_on@,2 ):

In this example, power\_on is the alias of LBO, so the function GetBit will read the bit value from LB2 and return to a BOOL variable power.

#### 6.2.1.2 Read Word Register: GetWord

unsigned short GetWord( @Address Alias@, Address Offset ):

Read one word from specified register address.

@Address Alias@: Select a word address register

Address Offset: An unsigned integer, Read Address=The address specified by @Address Alias@+Address Offset

Return Value: Unsigned Short Type, the value of the word which was read

Error Infomation:Get the error code using GetError() function.

int error=GetError();

Example:

unsigned short speed=GetWord( @Speed@,3 ):

The Alias @Speed@ represents the register LWO in this example, so the target word register is LW3 (LW0+3), the value of LW3 is returned to an Unsigned Short variable named "speed".

short speed = (short) GetWord(@Speed@,3): //If use signed number, you can use force conversion.

#### 6.2.1.3 Read Double Word Register: GetDWord

unsignedintGetDWord( @Address Alias@, Address Offset ):

Read a double word from a specified register address.

@Address Alias@: Select an address register (word or double word).

Address Offset: An unsigned integer, Read Address=The address specified by @Address Alias@+Address Offset.



Return Value: unsignedint type, the value of the double word which was read. If the address is word type, the function will return two consecutive words.

Error Information:Get the error code using GetError() function.

int error=GetError();

Example:

unsignedint speed=GetDWord( @Speed@,3 ):

The Alias @Speed@ represents the register LWO in this example, so the target word register is LW3 and LW4, the value of LW3 and LW4 are returned to a Unsigned int variable named "speed".

int speed = (int) GetDWord(@Speed@,3): //If use signed number, you can use force conversion.

#### 6.2.1.4 Read Float Register: GetFloat

floatGetFloat( @Address Alias@,Address Offset ):

Read a single precision float number from specified register address.

@Address Alias@: Select a address register (word or double word)

Address Offset: An unsigned integer, Read Address=The address specified by @Address Alias@+Address Offset

Return Value: float type, the value of the float number stored in the Word register or two consecutive word registers which are read.

Error Information: Get the error code using GetError() function.

int error=GetError();

Example:

float speed=GetFloat(@Speed@,3):



The Alias @Speed@ represents the register LWO in this example, so the target word register is LW3 and LW4, the double word stored in LW3 and LW4 are returned to a float variable named "speed".

#### 6.2.1.5 Read ConsecutiveRegisters: GetMem

intGetMem( Array Pointer,@AddressAlias@,AddressOffset,Byte Number ):

Read consecutive words from specified registers.

Array Pointer: pointer type, point to a pre-defined array.

@Address Alias@: select a register as the beginning address, could be a bit type or word type register.

Address Offset: an unsigned int number. The read beginning address=The address specified by @Address Alias@ + Address Offset.

Number of Bytes: an unsigned int number, specifying how many bytes should be read. Please note: Number of Bytes = sizeof (Type of the Array) \* (number of elements in the array). The upper limit of Number of Bytes is 20480.

Return Value: int type, 0-Failure, 1-Success.

Example:

unsigned short data[10];

int error = GetMem(data,@Array Data@,2,10\*sizeof(unsigned short)):

In this example, @Array Data@ = LWO, so the function will return 10 words from the address starting from LW2.

char data[5];

int error = GetMem(data,@Array Data@,2,5):

@Array Data@ = LWO, so the function will read 3 words (each word contains 2 variables of char type, the higher half of the last word is invalid) and copy to the array named "data"

#### 6.2.1.6 Set Bit Register: SetBit

intSetBit( @Address Alias@,AddressOffset,Set Value ):



Write a bool value into one bit of a designated register address.

@Address Alias@: Select a bit address register

Address Offset: An unsigned integer, Target Address=The address specified by @Address Alias@+Address Offset.

Set Value: BOOL, the value to be written into the designated bit register, 0 or 1.

Return Value: int type, 0-Failure, 1-Success.

Example:

int error=SetBit(@power@,2,1)

In this example, power is the alias of LBO, so the function SetBit will write "1" into the bit LB2.

#### 6.2.1.7 Set Word Register: SetWord

intSetWord( @Address Alias@,AddressOffset,Set Value ):

Write one 16-bit number into a designated word register.

@Address Alias@: Select a word type address.

Address Offset: unsigned int, TargetAddress=The address represented by @Address Alias@+Offset.

Set Value: short type, the value to be written into the designated register.

Return Value: int type, 0-Failure, 1-Success.

Example:

short speed;

int error=SetWord(@Speed@,3,speed);

In this example, the alias @Speed@ refers to LWO, so the function will write the value of speed into the word register LW3 .

#### 6.2.1.8 SetDWord Register: SetDWord

boolSetDWord( @Address Alias@,AddressOffset,Set Value ):



Write one 32-bit number into a designated word register, the register could be a Dword register or two consecutive word registers.

@Address Alias@: Select a word or dword type address.

Address Offset: unsigned int, TargetAddress=The address represented by @Address Alias@+Offset.

Set Value: int type, the value to be written into the designated register.

Return Value: int type, 0-Failure, 1-Success.

Example:

unsignedint speed;

int error=SetDWord(@Speed@,3,speed):

In this example, the alias @Speed@ refers to LWO, so the function will write the value of speed into the word registers LW3 and LW4.

#### 6.2.1.9 Set Float Register: SetFloat

intSetFloat( @Address Alias@,AddressOffset,Set Value ):

Write one single precision float number into a designated word register.

@Address Alias@: Select a word or dword type address.

Address Offset: unsigned int, TargetAddress=The address represented by @Address Alias@+Offset.

Set Value: float type, the float value to be written into the designated register.

Return Value: int type, 0-Failure, 1-Success.

Example:

float speed=3.14;

int error=SetFloat(@Speed@,3,speed):

In this example, the alias @Speed@ refers to LWO, so the function will write the value of speed into the dword registers consist of LW3 and LW4.

#### 6.2.1.10 Setconsecutive registers: SetMem



intSetMem( Array Pointer,@AddressAlias@,AddressOffset,Byte Number ):

Write the array data into consecutive registers.

Array Pointer: pointer type, point to a pre-defined array.

@Address Alias@: A register as the beginning address. It can be a bit type or word type register.

Address Offset: an unsigned int number. The read beginning address=The address specified by @Address Alias@ + Address Offset.

Number of Bytes: an unsigned int number, specifying how many bytes should be read. Please note: Number of Bytes = sizeof (Type of the Array) \* (number of elements in the array). The upper limit of Number of Bytes is 20480.

Return Value: int type, 0-Failure, 1-Success.

Example:

unsigned short data[10];

int error = SetMem(data,@Array Data@,2,10\*sizeof(unsigned short)):

In this example, @Array Data@ = LW0, so the function will copy 10 words to the 10 word register address starting from LW2.

char data[5];

int error = SetMem(data,@Array Data@,2,5):

@Array Data@ = LW0, so the function will copy the value from the array named "data" to 3 words starting from LW2(each word contains 2 variables of char type, the higher half of the last word is invalid)

6.2.2 System Functions

#### 6.2.2.1 Call Macro: CallMacro

intCallMacro( "Macro Name" ):

Call Designated Macro.

Macro Name: The content within the double quotes is the name of the macro being called, don't use any file name suffix.



Return Value: int type, the return value of the main function of the macro will be returned.

Example:

int error = CallMacro("Macro\_1");

#### 6.2.2.2 Get Error Code: GetError

intGetError():

Get error code.

No input parameters.

Return Value: int type, the corresponding error code.

0-Not executed

1-Success

2-Timeout

3-Error

4-Socket word error

5-Communication failure

Example:

int error =GetError();

#### 6.2.2.3 Delay Function: Delay

Delay(ms):

Delay Function, the input parameter is the number of mili-seconds, unsigned int type.

Return Value: None.

Example:

Delay(1000)://Delay 1000ms.



#### 6.2.2.4 Set Com Parameters: SetComParam

intSetComParam( Port Number,BaudRate,databit,stopbit,checkbit,communication mode);

Port Number: the ID of com port, unsigned int type. 0-COM1, 1-COM2, 2-COM3...

Baud Rate: the speed of communication, int type. e.g. 9600, 115200

Date bit: the number of bits used as data, int type, 7,8

Stop bit: the stop bit, int type, 1,2

Check bit: specify the way of checking, int type, 'n' or 110-no check, 'o' or 111-odd check, 'e' or 101-even check

Communication mode: set the mode of communication, int type, 0-232, 1-485-4w, 2-485-2w.

Return Value: 0-Failed, 1-Success.

Example:

int error=SetComParam(0,115200,8,1,'n',2);//COM1,485-2w, 115200,8,1,N.

#### 6.2.2.5 Com Data Output: Outport

intOutport( Port ID,BufferPointer,Data Quantity);

Please call the SetComParam function to initialize the serial port before call this function.

Port ID:the ID of com port, unsigned int type. 0-COM1, 1-COM2, 2-COM3...

Buffer Pointer: the pointer to the buffer array.

Data Quantity: unsigned short, the number of data to be sent out.

Return Value: the number of bytes of the output data.

Example:

unsigned char send\_buff[]="Hello world!";

int error=Outport(1,send\_buff,12);



#### 6.2.2.6 Com Data Import: Inport

intInport( Port ID,BufferPointer,BufferSize,Timeout Limit):

Please call the SetComParam function to initialize the serial port before call this function.

Port ID:the ID of com port, unsigned int type. 0-COM1, 1-COM2, 2-COM3...

Buffer Pointer: the pointer to the buffer array

Buffer Size: The length of buffer being read, the size will be returned when read complete, maximum buffer size is 4096.

Timeout Limit: unit mS, if no data is received within nmS, or buffer is full, the receive function will return.

Return Value: the number of data actually be read, return value of -1 indicates error.

Example:

unsigned char recv\_buff[];

intdata\_count=Inport(1,recv\_buff,16,10);

#### 6.2.2.7 SQL Database Access Command: SqlCmd

intSqlCmd(Database file ID, SQL command string pointer);

Database file ID: int type, 0 represents the database for historical and alarm events; 1,2,3...represent the database file corresponding to the data sampling IDs.

SQL command string pointer: char type, pointer to the SQL command strings.

Return Value: int type, 1-Success, 0-Failed.

#### 6.2.2.8 SQL Database Select: SqlSelect

intSqlSelect(Database file ID, SQL command string pointer, Buffer of inquiry results, Number of Rows Returned, Number of Columns Returned);

Database file ID: int type, 0 represents the database for historical and alarm events; 1,2,3...represent the database file corresponding to the data sampling IDs.

SQL command string pointer: char type, pointer to the SQL command strings.



Buffer of inquiry results: char type, pointer.

Number of Rows Returned: int type, the number of rows of the returned results.

Number of Columns Returned: int type, the number of columns of the returned results.

Return Value: int type, 1-Success, 0-Failed.

Example:

char \*\*pResult;

intRow,Col;

int err=SqlSelect(2,"xxx",pResult,Row,Col);

SqlFree(pResult);

#### 6.2.2.9 SQL Data Buffer Free: SqlFree

intSqlFree(Pointer to Database inquiry buffer);

Pointer to database inquiry buffer: Char Array pointer.

Return Value: int type, 1-Success, 0-Failure.

Example:

char \*\*pResult;

intRow,Col;

int err=SqlSelect(2,"xxx",pResult,Row,Col);

SqlFree(pResult);

#### 6.2.2.10 Debug Function: Debug

void Debug( Port ID,Format String,Var1,Var2...);

Please call the SetComParam function to initialize the serial port before call this function. But serial port initialization is not needed if only debug in the simulation window.

Port ID:the ID of com port, unsigned int type. 0-COM1, 1-COM2, 2-COM3...

Format String: the format of output string, usage is same as printf in C language.



Variables: the name of variables corresponding to the output strings, same usage as printffunction in C programming language.

The format is defined below, [] indicates optional elements.

%[Designated Parameter][Identifier][Width][.Precision]Designator

If you want to output '%', please use '%%'. 1- Define the direction of processing. Negative sign means the direction is from backend to the beginning.2- The word element for space filling. 0 means fill 0s to the spaces.3- The width of the character.4- Precision, the number of decimal places.

Character Conversion:

%% Print % sign, no conversion

%c Convert the integer to corresponding ASCII character

%d Convert the integer to decimal number

%f Convert to floating number

%o Convert the integer to Octal numbers

%s Convert the integer to string

%x Convert the integer to lower case hexadecimal number

%X Convert the integer to upper case hexadecimal number

Example:

intitest=12;

floatftest=65.4321;

Debug(0,"itest=%d\n ftest=%2.3f\n",itest,ftest);

Output Result:

itest=12

ftest=65.432

## 6.2.3 Computation and Conversion Function



#### 6.2.3.1 CRC check function, 16Bit

unsigned short CRC16( Array Pointer, Computation Length );

Array Pointer: point to the array being processed.

Computation Length: the number of bytes being processed.

Return Value: 16-bit CRC check value.

Example:

unsigned char data[]={5,6,3,2,18};

unsigned short crc16=CRC16(data,5);

#### 6.2.4 Operator

#### 6.2.4.1 Assignment Operator

=

Assignment operator for assignment.

Example:

inti;

i=100;

# **6.3System Prompts List**

There will be some system prompts when an erroroccurredduring the Flexem Studio software is running. The error information saves in the internal address SRW70.

SRW70 = 1- Input value exceeds the limit SRW70 = 2- Being processed Success SRW70 = 3– Operation is done successfully SRW70 = 4- Data Range is out

SRW70 = 5- Insufficient memory



- SRW70 = 6- Macro execution occurs error
- SRW70 = 7- Password input error
- SRW70 = 8- Connection server fails
- SRW70 = 9- Operation failed
- SRW70 = 10- Inconsistent with current user permissions
- SRW70 = 11- Logout successfully
- SRW70 = 12- Log in repeatedly
- SRW70 = 13- No SD card is detected
- SRW70 = 14- USB dsik1 was not detected
- SRW70 = 15- USB disk 2 was not detected
- SRW70 = 16- Database is upgrading, please wait ...
- SRW70 = 17- Beingqueried, please wait ...
- SRW70= 137- File does not exist
- SRW70= 138- File type is error
- SRW70= 139- Operation failed
- SRW70= 140- File already exists
- SRW70= 141- Wrong password.
- SRW70=142– Insufficient memory space in the touch screen
- SRW70=143-Insufficient memory space in SD card or USB disk