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 4.9 Recipe	312 313 313 316 320 320 323 372 396 399 404 404 404 404 404 404 404 414 416 418 418 424 438
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1 Introduction

The software **VI20 Studio** you are using is a new generation of configuration software that our R&D team has spent three years, on the basis of more than ten years of industry experience and technology accumulation, plus rich experience in **HMI** development and field application. I believe you will feel our professionalism and intention. Thank you!

2 Quick Start

2.1 Electrical Connection of the HMI

2.1.1 Connect to the Power Supply

The rated power supply of the **HMI** is from **DC18V** to **DC28V**, and we recommend **DC24V**. 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 there is large interference in the industry work field, we need reliable grounding using **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 **HMI** can be connected to the computer 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** port. 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)\VEICHI\VI20Studio 1.0\Driver



Fig. 2

2.1.3 Serial Port Connection

The serial port of **HMI** is a standard **DB 9-pin** port, supporting **RS232/485/422** communication, as shown in Fig. 3. Different **HMI** 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.



Fig. 3

2.1.4 USB Host Connection

The **HMI** 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 for communication, as shown in Fig. 5. An **RJ-45** plug can be directly inserted into the **Ethernet** port and be used.



Fig. 5

2.2 Software Downloading and Installing

2.2.1 Software Downloading

The software **VI20 Studio** can be downloaded from: <u>https://www.veichi.org/</u> There are different versions according to the different operating systems (OS), as shown in Fig. 6.

SD700 Soft V1.6 - Turkey	ZIP	90MB	2019-09-20	٢
VI20Studio 2.5.10593.0 for XP	zip	545MB	2021-04-17	€
VI20Studio 2.5.10746.0 for Win7	zip	562MB	2021-04-17	(\mathbf{I})

Fig. 6

2.2.2 Software Installing

Double click the **SETUP.exe** to install the software **VI20 Studio**, as shown in Fig. 7. Click the left button to start installation.

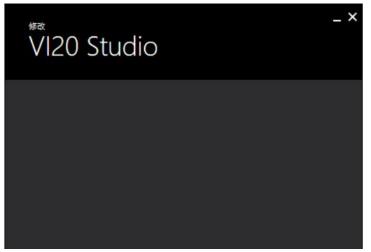


Fig. 7

2.2.3 Installation Is Completed

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

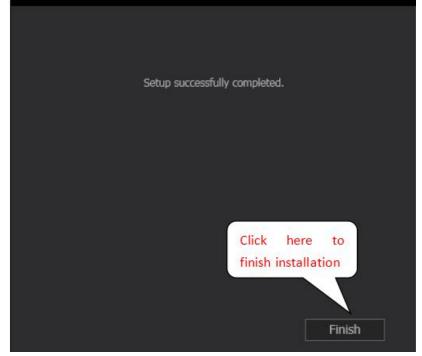
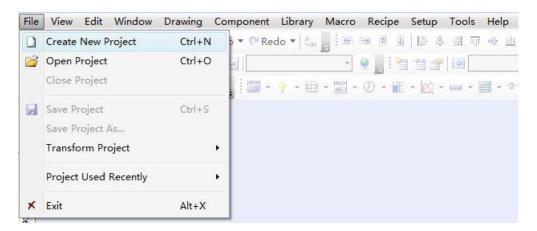


Fig.8

2.3 First Use

(1) Click the menu File–Create New Project, or click the shortcut (1), as shown in Fig. 9.



(a)

File View	Edit	Window	Drawing	Component	Library	Macro	Recipe	Setup	Tools	Help
				Undo 🔻 陀 Re		100				
New	S ₃		* Lt L2	L3 L4		-	9 🛛 🖗	19 67		
				A						
F				1.15						

(b)

- Fig. 9
- (2) Enter the project name and select the project saving path, as shown in Fig. 10.

HMI Project	
The projec	t name The saving path
Name(N): Location(L): E\2015-2016-1\project-fe	

Fig. 10

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

Local HMI:VI20-070S-F/VI20-070S-FE	Please select HM	/I model:			
ing ang ang ang ang ang ang ang ang ang a	Select appropria are not sure.	ate HMI m	odel by screen siz	e and resolution.	Select "All" when you
	LCD Size(Inch):		All	•	
	Screen Resolutio	on(Pixel):	All	•	
	HMI Device Typ	e:	VI20-070S-F/VI2	0-070S-FE 🔻	
	Connect the FLi	nk:	VI20-070S-F/VI2 VI20-101S-F/VI2		
	Product Descrip	otion			
	Model:	VI20-	070S-F/VI20-070	S-FE	
	Compatible Mo	odel: None	•		
	LCD Size:	7		Resolution:	1024 X 600
	Color:	24BIT	Color	Touch Panel Typ	e:Resistive Touch Panel
	Button:	None	2	Ethernet:	Yes
	USB Host:	1		SD/TF Card:	Yes
	COM1:	RS23	2\RS485-2\RS485	-COM2:	RS485-2
	COM3:	RS23	2	COM4:	None
	CAN:	None	,	Expansion Port:	None
	Video:	None		Audio:	None
	Video:			1	

Fig. 11

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

-COM1:Unused -COM2:Unused -COM3:Unused	C Auto IP Addres		
COM3:Unused		a (Drici)	Static IP Address
	IP Address:	192.168. 0 .200	SRW10010~13
	Subnet Mask:	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
	(Auto-allocate or Use FTP Protoc	static)	ct IP address assigning method
	 Normal (Horizo Vertical (Rotate Vertical(Rotate 	ontal Display) e 90 degrees Clockwisej e 90 Degree countercloc Rotate 180 Degree)	Λ

(a) HMI Property

💽 Create HMI Project	×
Local HMI:VI20-070S-F/VI20-070S-FE Local Connection COM1:Device1:VEICHI V5-MC104 COM2:Unused COM3:Device2:VEICHI V5-MC104	HMI Property COM1 COM2 COM3 Unused © Connect Device(Master) © Provide Service(Slave) Manufacturer: VEICHI • Device Type: VEICHI V5-MC104 • Device Alias: Device1 Pre-set Station No.: Constant 1
	Communication Setting Broadcast Station: Communication Type: RS232 Baud Rate: 9600 Data Bit: 7 Stop Bit: 1 Parity Bit: Even Reset Advance
	Previous Next Confirm Cancel

(b) COM

Remote HMI		×
Remote HMI Add	Iress:	
Ose IP		
Fixed	▼ 192.168.0.1 Port No.: Constant ▼ 3	3000 🗘
Device Type:	VI20-070S-F/VI20-070S-FE	•
Device Alias:	Alias cannot be null, Default:Device3	
		Cancel

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



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

e View Edit Window Drawing	Component	Library	Macro R	ecipe Setu	p Tools	Help	
) 😂 🖬 🖉 🕺 🖬 🙈 🕿 🗡 🔊	Undo 👻 🍽 Re	do 🕶 🔎			속 킄 ㅠ	* 표 [범 회 6	3 4 4 4
$\mathbf{S}_0 \mathbf{S}_1 \mathbf{S}_2 \mathbf{S}_3$ Status 0 - $\mathbf{L}_1 \mathbf{L}_2$	L3 L4			. I 🕈 🖬 🖞	P 💽 B_1:	Base Window(1)	- 💌 🗖 🖬
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Project 🔹 🕁 🗙							
Remote PLC			1100110				

Fig. 13

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

 V120Studio - E\新建文件夹\测试bug\测试bug.fsprj

 File
 View
 Edit
 Window
 Drawing
 Component
 Library
 Macro
 Recipe
 Setup
 Tools
 Help

 Image: Solution - E\\$M#X
 Image: Solution - E\\$M#

1	>
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1.	aı

Numeric Display			?	×
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peration Attribute: 🖲 Numeric Display 💿 Numeric Input 💿 Characters Display 💿 Characters Input				
lisplay Mode: 🗌 Password				
Beading And Writing Address Is Different				
tead Address:				
Use Address Tag				
Delvce: LOCAL:[Local Register]				
Address Type: LW •				
ddress: 0 System Register				
ormat(Range):DDDDDD(0~799999)				
egister Length: 1 Set the variable address				
Help Description:	1	ОК	G	incel

(b)

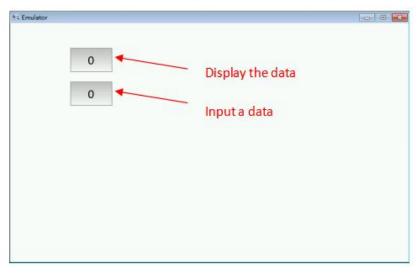
Fig. 14

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

S ₁ S ₂ S ₃ Status0			- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1			🚇 😫 🔄 🔛 👒 🤏 🖷 e Window(1) 🔹 💽 🗖 💽			<u>IA</u> • ≡≡≡ .00
1000	100 E	💾 - 🢡 -	• 123 • 🔛 • 🤇	D - 🎬 - 🖄	• 📖 • 📰 • ·)- • 💠 • 🔜 • 🐑 • 飺 •		2 🏫 🏇 🖿 🖌 🖓 🗎	
B_1:Base Window	(1) X								
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							OK Cancel		

Fig. 15

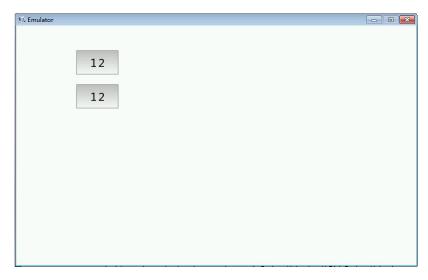
(8) Debug with the simulator to view the design effect, as shown in Fig. 16.



(a)



(b)



(c)

Fig. 16

2.4 Project Download and Upload

2.4.1 Project Downloading

(1) Switch on the power supply to **HMI**, select **Download** in the software, and wait till downloading is completed, as shown in Fig. 17.

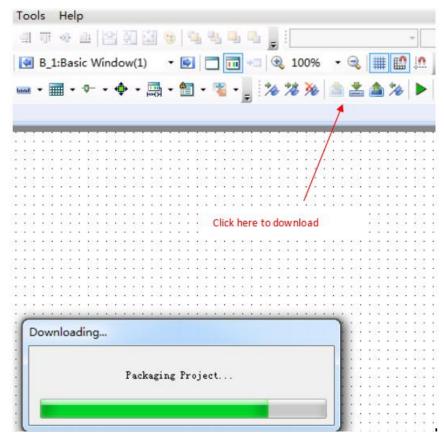


Fig. 17

(2) Select the project downloading mode, **USB** or network, and click **Download**, as shown in Fig. 18. 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.

ownload Upload Sys	tem Passthrough				
Protocol © USB	USB download	Delete Option(Project Valid) Delete RW Data Delete Recipe Data			
⊖ Etherne	· · · Scan	 Delete Sampling and Alarm History Data Delete HMI Memory Block 			
Data Source	Ethernet download				
Project	○ Fpg File	Unbind FLink and Clear Relevant Data			
🔿 RW Data	○ Recipe	Download Option(Project Valid) Close after downloading Download in Force Mode			
C:\Users\v2599\De	sktop\VI20\111\bin				
		Synchronise PC system to HMI(If Poject Permit)			
		Download			
		Allowed to upload project: No			
		Allowed to uncompile: No Download password: No			

Fig. 18

(2) Wait till downloading is completed, as shown in Fig. 19.

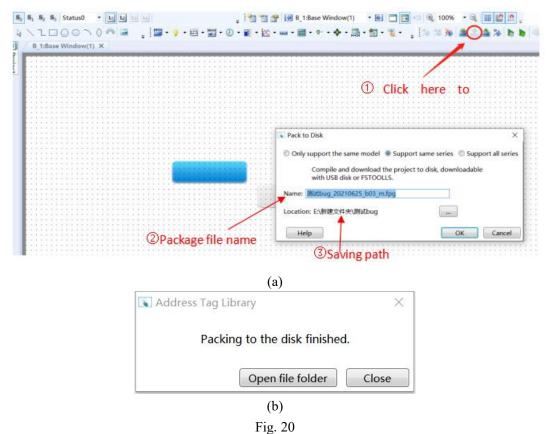
© USB © Ethernet 192 . 168 . 0 . 200 Scan	Delete Option (Project Valid) Delete RW Data Delete Recipe Data Delete Sampling and Alarm History Data
Data Source Project Fry File RW Data Recipe E:\project\FS\ss\bin	Data Delete HMI Memory Block Delete User's Info Download Option(Project Valid) Batch Mode Force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

USB Sthernet 192 . 168 . 0 . 2	200 Scan	Delete Option(Froject Valid) Delete RW Data Delete Recipe Data Delete Sampling and Alarm History Data
Oata Source ◎ Project ◎ Fpg File	FSTools	ete HMI Memory Block
○ RW Data ○ Recipe E:\project\FS\ss\bin	Download Sucess!	d Option(Project Valid) tch Mode 📃 Force Mode
Download Setup succe	ОК	Download
Nownload: Bin/Images/e3507661.png Jownload: Bin/Images/e42a923e.png Nownload: Bin/Images/e42a92780.png Nownload: Bin/Images/ef1d1b1e.png Nownload: Bin/Images/f7b70040.png Nownload: Bin/info.dat		

(b) Fig. 19

2.4.2 Project Downloading from USB Disk

(1) Pack the project in the software and save it into the USB disk, as shown in Fig. 20.





screen with a finger, as shown in Fig. 21.

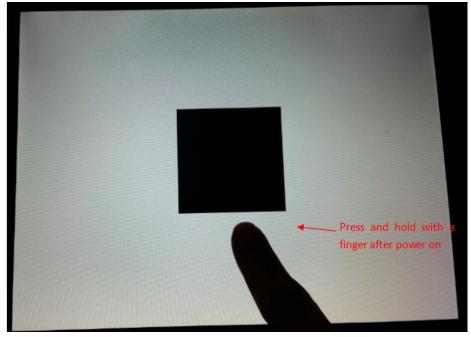


Fig. 21

(3) Press the button **Setup** for uploading, as shown in Fig. 22. Select **Project** and enter the password, as shown in Fig. 23. The default password for project management is **888888** which can be modified in the **Global Setting** of the software.

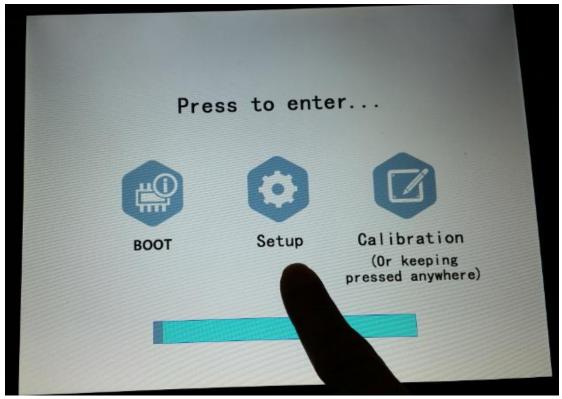


Fig. 22

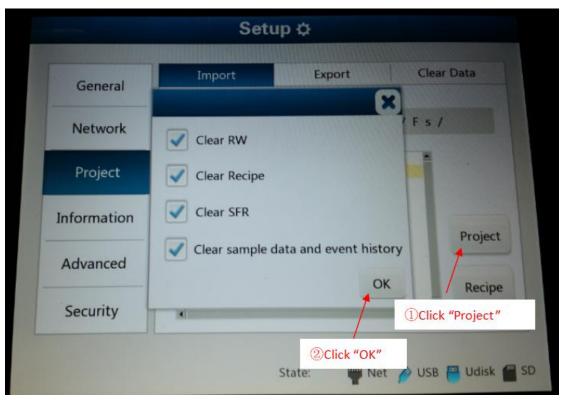
	Setup 🌣
General	Brightness: _ + 100%
Network	Time: 2015/1 MAX.
Project	User level ······ (
Information ①CI	ck here 1 2 3 0 -
Advanced	Backlight Timeout: 4 5 6 CLR
Security	Screen Dim Timeout: 7 8 9 Enter
	State: 🍟 Net 🎓 USB 層 Udisk 😭

Fig. 23

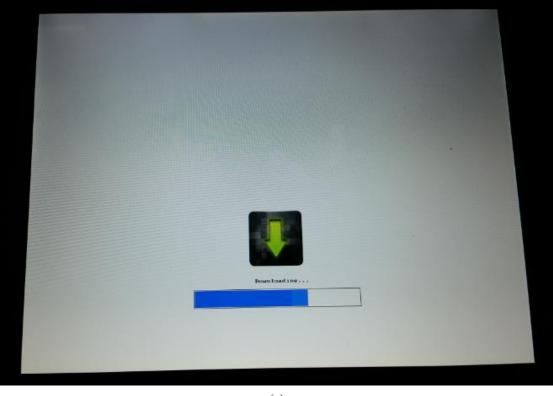
(4) Select the path of the package file in the **USB** disk, click **Import** (if project uploading to a USB disk is needed, please select **Export**.), and wait till data transmission is completed, as shown in Fig. 24.

General	Import	Export	Clear Data
Network	Path:	/disk/usb	1 / F s /
Project	ï_20151113_	b01.fpg	
Information			Designet
Advanced			Project
Security			Recipe

(a)



(b)



(c) Fig. 24

2.4.3 Project Uploading

(1) Click the Upload on the tool bar, set the communication mode, select to upload the project,

	📸 • 🕖 • 🏢 • 🖄	2 - 📷 - 1 📰 - 1		e 🗆 🖬 🖘 🍳 : 1 • 🐮 • 📕 🎾 🖄	*****
		-			
FsTools v1.4.4					Step 1: click h
lownload Upload	System				
	Source Step ect RF Data	p 3: select the t	ype of upload da O Logx Vpload		k here to start uploa
Decompile Choose a fi	le to be decompiled(*. fpg)			
10110210201000					

Fig. 25

(2) Enter the password for uploading, as shown in Fig. 26. The default password is **888888** which can be modified in **Global Settings**, as shown in Fig. 27.

Protocol	
O USB	
🔘 Ethernet 🛛 . O	. 0 . 0 Scan
Upload Data Source	Please enter a Upload Password!
Project	•••••
	OK Cancel
	Cancel
Decompile	'
Choose a file to be de	compiled(*.fpg)
Choose a folder to save	a desempiled filer
CHOOSE & LOIder (0 280)	
	Decompile

Fig. 26

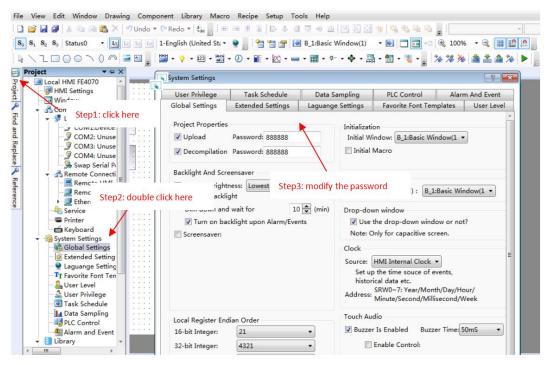


Fig. 27

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

(4) If the **HMI** 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. 28. When the uploading operation is finished, the **Uploading Success!** dialog box pops up, as shown in Fig. 29. Then click the **OK**.

ownload Upload System			
Protocol © USB © Ethernet 0 . 0	. 0 . 19 Scan		
Upload Data Source	RW Data 💿 Recipe 42%	C Logs	
Decompile Choose a file to be de	compiled(*.fpg)		
Choose a folder to sav	e decompiled files		Decompile

Fig. 28

FsTools v1.4.4		
Jownload Upload System		
Protocol © USB © Ethernet 0 . 0 . 0	FSTools	
Upload Data Source	Uploading Sucess !	
Decompile Choose a file to be decompiled	(*. fpg)	
Choose a folder to save decomp		ecompile



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>Project Downloading from USB Disk</u>

Select Export in the 4th step.

2.4.5 Project Decompiling

The project uploading 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 **Project Uploading** or **Project Uploading to USB Disk**.

(1) Firstly, click the tool button **Decompile**, select the package **fpg** file, set the project saving path, and click the **Decompile** button, as shown in Fig. 30.

ponent Library Macro Recipe Setup Tools Help
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] 1-English (United Str 🔹 🍨 📄 😁 😁 🐼 🖪 B_1:Basic Window(1) 🔹 😨 🗂 🛅 🖘 🍕 100% 🔹 🤤 🏢 🏥 🛄
□
Decompile
FsTools v1.4.4
Download Upload System
Step1: click here
Frotocol
O USB
Ethernet Scan
Upload Data Source
Froject RW Data Recipe Logs Step3: set the saving path
Step2: select a file
Decompile Step4: start decompiling
Choose a folder to save decompiled files
Decompile

Fig. 30

(2) Enter the password for decompiling. The default password is **888888** which can be modified can viewed in the **General Setting** of the software.

TICASE CI	nter a Dec	ompire pe	SSWOID:
	•••		
OK		Car	cel



(3) After the **Decompile Success!** dialog box appears, click **OK** to complete the decompiling, as shown in Fig. 32.

FStools	
Decompile	Sucess !
	OK

Fig. 32

3 Description for Communication Connection

VEICHI

• V5 series RS485-4 cable

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

• V5 series module RS485-2 cable



HMI terminal

The Controller terminal

4 3 2 1	1 RX-	
876	6 RX+	+
	5 GND	GND

• Registers supported by V5:

Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-377		000	
Input relay	X0-377		000	
Internal relay	M0-7679		DDDD	
Step relay	S0-4095		DDDD	
Timer contact	T0-511		DDD	
Counter contact	C0-255		DDD	
Timer current value		T_word0-511	DDD	
Counter current value		C_word0-199	DDD	
Counter register (32 bits)		C_word200-255	DDD	
Data register		D_word0-7999	DDDD	

DELTA

• DELTA DVP series RS232 cable



HMI	Controller
2 RX	5 TXD
3 TX	4 RXD
5 GND	8 GND



• DELTA DVP series RS485-2 cable



HMI	Controller
1 RX-	
6 RX+	+

• Registers supported by **DELTA DVP**:

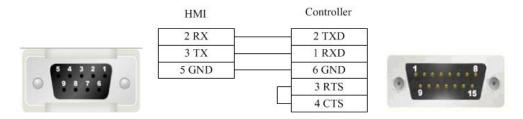
Device	Bit Address	Word Address	Format	Notes
External output node	Y0-9999		0000	
External input node	X0-9999		0000	
Internal auxiliary node	M0-9999		DDDD	
Sequence control node	S0-9999		DDDD	
Timer node	T0-9999		DDDD	
Counter node	C0-9999		DDDD	
Timer buffer		TV0-9999	DDDD	
Counter buffer		CV0-127	DDD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

FATEK

• FATEK FB series RS232 cable



• FATEK FB special series RS232 cable



• FATEK FB series CB module RS232 cable



• 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 input node	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		T0-9999	DDDD	
Counter buffer		C0-199	DDD	
Counter buffer (32bit)		DRC200-255	DDD	

Flexem

1 Flexem FL2N(MISTUBISHI FX2N COMPATABLE)

• 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



HMI	Controller
1 RX-	5 (1 42)
6 RX+	+
5 GND	GND

11

• Registers supported by Flexem FL2N(MISTUBISHI FX2N COMPATABLE)

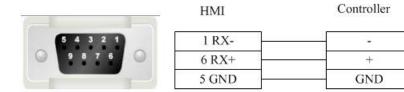
Device	Bit Address	Word Address	Format	Notes
External input node	X000-571		000	
External output node	Y000-571		000	
Internal auxiliary node	S0000-9999		DDDD	
Special auxiliary node	SM8000-9999		DDDD	
Timer node	T_bit000-255		DDD	
Counter node	C_bit000-255		DDD	
Timer buffer		T_word000-255	DDD	
Counter buffer		C_word000-255	DDD	
Counter buffer (32 bit)		C_dword200-255	DDD	
Data register		D0000-7999	DDDD	
Special data register		SD8000-9999	DDDD	

2 Flexem FL2N(Modbus)

• Flexem FL2N series RS232 cable

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

• Flexem FL2N series RS485-2 cable



• 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 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) 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
X	Bit	x0-377	1201-1456	1,5,15
М	Bit	M0-M2047	2001-4048	1,5,15
SM	Bit	SM0-SM511	4401-4912	1,5,15
S	Bit	S0-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
X	Bit	X0-377	1200-1455	1,5,15
М	Bit	M0-M2047	2000-4047	1,5,15

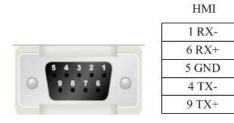
SM	Bit	SM0-SM511	4400-4911	1,5,15
S	Bit	S0-S999	6000-6999	1,5,15
Т	Bit	T0-T255	8000-8255	1,5,15
С	Bit	C0-C255	9200-9455	1,5,15
D	Word	D0-D4095	0000-4095	3,6,16
SD	Word	SD0-SD511	8000-8511	3,6,16
Т	Word	T0-T255	9000-9255	3,6,16
С	Word	C0-C199	9500-9699	3,6,16
С	Double word	C200-C255	9700-9755	3,16

HC

• HC series PLC series CPU port RS232 cable

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

• HC 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
II ald salars	HR_bit		מת מת	
Hold relay	00.00-99.15		DD.DD	
Dete vilor	DM_bit			
Data relay	0000.00-99.15		DDDD.DD	
Link relay	LR_bit 00.00-63.15		DD.DD	

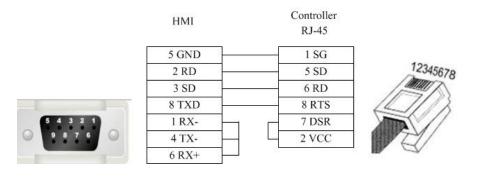
Auxiliary contact	AR_bit 00.00-959.15		DD.DD
Channel contact	CIO_IR_bit 00.00.99.15		DDD.DD
Counter relay		CNT_word 000-511	DDD
Timer relay		TIM_word 000-511	DDD
Hold bit		HR_word 00-99	DD
Data register		DM_word 0000-6655	DDDD
Link register		LR_word 00-63	DD
Auxiliary value		AR_word 000-959	DDD
Channel I/O register		CIO_IR_word 000-511	DDD

• Registers supported by HCFA HCA8s_HCA8c_HCA8

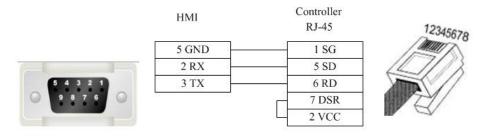
Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-764		000	
Input relay	X0-764		000	
Internal relay	M0-7999		DDDD	
Timer contact	T_bit0-511		DDD	
Counter contact	C_bit0-511		DDD	
Stepping relay	S0-4095		DDDD	
Special internal relay	SM8000-9999		DDDD	
Data register bit	D_bit0.0-7999.F		DDDD.H	
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	

Hitachi

• EHV-CPU_APPLICATION series programming cable



• EHV-CPU_APPLICATION series RS232 cable



• EHV-CPU_APPLICATION series RS485-4 cable

	HMI	Controller 15pin	
	1 RX-	12 SDN	
	6 RX+	13 SDP	
	5 GND	11 SG	
3 2 1	9 TX+	7 RDP	1
876	4 TX-	9 RT	
		10 RDN	9 15

• Registers supported by EHV-CPU_ APPLICATION

Device	Bit Address	Word Address	Format	Notes
Input	X_bit0-FFFF		HHHH	
Output	Y_bit0-FFFF		HHHH	
Internal relay	R_bit0-FFFF		HHHH	
CPU link	L_bit0-FFFF		HHHH	
Data area	M_bit0-FFFF		HHHH	
Timer	T_C_bit0-FFFF		HHHH	
Counter	C_L_bit0-FFFF		HHHH	
Input		WX0-FFFF	HHHH	
Output		WY0-FFFF	HHHH	
Internal output		WR0-FFFF	HHHH	
CPU link		WL0-FFFF	HHHH	
Data area		WM0-FFFF	HHHH	
Timer counter		TC0-FFFF	HHHH	

Data	 DIF0-FFFF	HHHH	
Data	DFN0-FFFF	HHHH	

HollySys

• HollySys LM series RS232 cable



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

• HollySys LM series RS485-2 cable



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

• Registers supported by HollySys LM:

Device	Bit Address	Word Address	Format	Notes
External output node	Q0.0-4095.7		DDDD.O	
External input node	I0.0-4095.7		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		MW0-818 8	DDDD	
Intermediate register(32 bit)		MD0-8186	DDDD	

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



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

• Inovance_H2u series RS485-4 cable

5 4 3 2 1 9 8 7 6

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



• Inovance_H2u series module RS485-4 cable



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	

Kewei

• Kewei cable

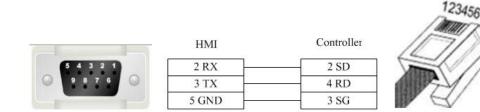


• Registers supported by Kewei

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	

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	

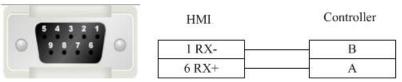
Kinco

• Kinco series RS232 cable



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

• Kinco series RS485-2 cable



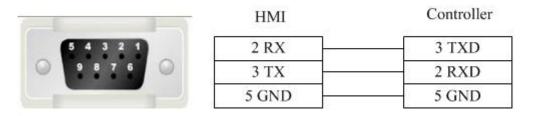
• Registers supported by Kinco

Device	Bit Address	Word Address	Format	Notes
System internal/external input node	I0.0-31.7		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	

LS

1 LS Master_K CPU Serial

• LS Master_K CPU Serial RS232 cable



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		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	

• Registers supported by LS Master_K CPU Serial

2 LS XGT CPU Serial

• LS XGT CPU Serial RS232 cable

	HMI	Controller	
54321	2 RX	6 TX	4 3
9876	3 TX	2 RX	6 5
	5 GND	3 GND	T

• 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		DDDDD.F	
Keep relay	K_Bit0.0-65535. F		DDDDD.F	
Special relay	F_Bit0.0-16383. F		DDDDD.F	
Timer bit	T_Bit0.0-9999.F		DDDD.F	
Counter bit	C_Bit0.0-9999.F		DDDD.F	
Index relay	Z_Bit0.0-9999.F		DDDD.F	
Index relay	ZR_Bit0.0-1638 3.F		DDDDD.F	
Link relay	L_Bit0.0-32767. F		DDDD.F	

Communication relay	N_Bit0.0-81819. F	 DDDD.F	
Data relay	D_Bit0.0-16383. F	 DDDDD.F	
File relay	R_Bit0.0-16383. F	 DDDDD.F	

 D0.10239	DDDDD	
 P0.9999	DDDD	
 M0.9999	DDDD	
 K0.9999	DDDD	
 F0.9999	DDDD	
 T_SV0.9999	DDDD	
 C_SV0.9999	DDDD	
 T_CV0.9999	DDDD	
 C_CV0.9999	DDDD	
 Z0.9999	DDDD	
 S0.9999	DDDD	
 L0.9999	DDDD	
NO 0000	DDDD	
 110.9999	עעעע	
 R0.10239	DDDDD	
R0.10239	DDDDD	
	P0.9999 M0.9999 M0.9999 K0.9999 F0.9999 T_SV0.9999 T_SV0.9999 T_CV0.9999 C_CV0.9999 Z0.9999 S0.9999 N0.9999 R0.10239	P0.9999 DDDD M0.9999 DDDD K0.9999 DDDD F0.9999 DDDD F0.9999 DDDD T_SV0.9999 DDDD C_SV0.9999 DDDD C_SV0.9999 DDDD C_CV0.9999 DDDD C_CV0.9999 DDDD C_S0.9999 DDDD C_CV0.9999 DDDD C_CV0.9999 DDDD L0.9999 DDDD N0.9999 DDDD R0.10239 DDDDD

MEGMEET

• MEGMEET M280 series CPU port RS232 cable



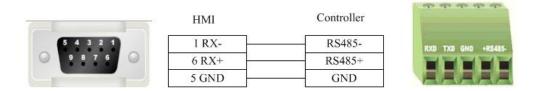
	HMI	Controller
	2 RX	5 TXD
0	3 TX	4 RXD
	5 GND	3 GND



• MEGMEET M280 series communication port RS232 cable

	HMI	Controller	
5 4 3 2 1	2 RX	TXD	RXD TXD GND +RS485-
9876	3 TX	RXD	
	5 GND	GND	ERER

• MEGMEET M280 series RS485-2 cable



• 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	

MIKOM

• 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
54321	1 RX-	RS485-
9876	6 RX+	RS485+
	5 GND	GND

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	

• Registers supported by MIKOM MX1H

Mitsubishi

1 Mitsubishi_FX0S_FX0N_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
9 8 7 6	3 TX	2 RXD
	5 GND	5 GND

• Mitsubishi FX series RS485-4 cable

	5	43	2	2	
0	9		76		0

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

Controller



• Registers supported by Mitsubishi FX0S_FX0N_FX1S_FX1N_FX2

Device	Bit Address	Word Address	Format	Notes
Output relay	Y0-571		000	

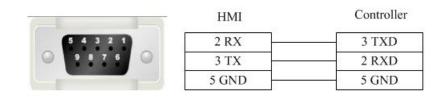
Input relay	X0-571		000	
Internal relay	M0-7999		DDDD	
Timer contact	T_bit0-255		DDD	
Counter contact	C_bit0-255		DDD	
Stepping relay	S0-9999		DDDD	
Special internal relay	SM8000-9999		DDDD	
Data register		D_word0-7999	DDDD	
Special data register		SD8000-9999	DDDD	
Timer current value		T_word0-255	DDD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

2 Mitsubishi FX2N

• Mitsubishi FX series CPU port RS232 cable

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

• Mitsubishi FX series communication port RS232 cable



• Mitsubishi FX series RS485-4 cable

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

• 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	S0-9999		DDDD	
Special internal relay	SM8000-9999		DDDD	
Data register		D_word0-7999	DDDD	
Special data register		SD8000-9999	DDDD	

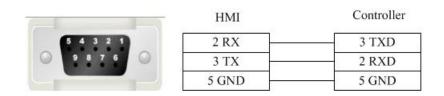
Timer current value	 T_word0-255	DDD	
Counter current value	 C_word0-199	DDD	
Counter current value	 C_dword200-255	DDD	

3 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 1 RX-6 RX+ 5 GND 4 TX-9 TX+

• Mitsubishi FX series RS485-4 cable



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

• 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	

4 Mitsubishi Melsec Q

• Mitsubishi Melsec Series RS232 cable

HMI

2 RX

3 TX

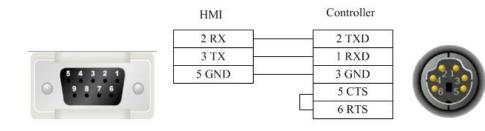
5 GND



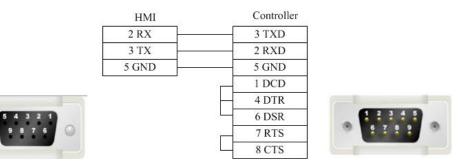
Controller
2 TXD
1 RXD
3 GND



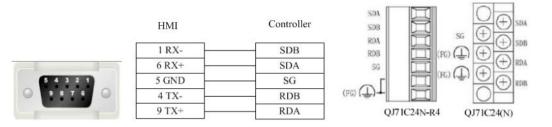
• Mitsubishi Melsec Series Q (Special) RS232 cable



• Mitsubishi MelsecSeries Q C24 communication module RS232 cable



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



• Registers supported by Mitsubishi Melsec Q:

Device	Bit Address	Word Address	Format	Notes
Data output relay	DDY0-7FF		HHH	
Data input relay	DX0-7FF		HHH	
Stepping relay	S0-2047		DDDD	
Special link relay	SB0-3FF		HHH	
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	B0-7 FF		HHH	
Variable address relay	V0-1023		DDDD	
Alarm	F0-1023		DDDD	
Latch relay	L0-2047		DDDD	
Internal relay	M0-8191		DDDD	
Output relay	Y0-7FF		HHH	
Input relay	X0-7FF		HHH	
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	HHH	
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	HHH	

5 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

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	

• Registers supported by Mitsubishi_FX3U_ENET_L

6 Mitsubishi_Melsec_Ethernet

• 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



1 RX+
2 RX-
3 TX+
4 BD4+
5 BD4-
6 TX-
7 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	Y0-FFFF		HHHH	
Input relay	X0-FFFF		HHHH	
Internal relay	M0-65535		DDDDD	

r		r		
Special internal relay	SM0-65535		DDDDD	
Latch relay	L0-65535		DDDDD	
Alarm	F0-65535		DDDDD	
Variable address relay	V0-65535		DDDDD	
Link relay	B0-FFFF		HHHH	
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		HHHH	
Stepping relay	S0-65535		DDDDD	
Data output relay	DY0-FFFF		HHHH	
Data input relay	DX0-FFFF		HHHH	
Data register		D0-65535	DDDDD	
Special register		SD0-65535		
Link register		W0-FFFF	HHHH	
Stepping register		SW0-FFFF	HHHH	
Timer current value		TN0-65535	DDDDD	
Accumulative timer current		SN0-65535	DDDDD	
value				
Counter current value		CN0-65535	DDDDD	
Variable address register		Z0-65535	DDDDD	
File register		R0-65535	DDDDD	
File register		ZR0-393216	DDDDDD	
File register		ZR0-393216	DDDDDD	

Modbus

- 1 Modbus_RTU
- Modbus RTU series RS232 cable

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

• Modbus RTU series RS485-2 cable



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

• Modbus RTU series RS485-4 cable

	-				
~	5	4 3	2	1	~

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

2 Modbus_ RTU _Extend

• Modbus RTU Extend series RS232 cable

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

HMI

• Modbus RTU Extend series RS485-2 cable



C	on	trol	lor
-	on	uoi	lici

1 RX-	
6 RX+	+
5 GND	GND

• Modbus RTU Extend series RS485-4 cable

HMI

Controller

	100000	
	1 RX-	TX-
	6 RX+	TX+
5 4 3 2 1	5 GND	GND
9876	4 TX-	RX-
	9 TX+	RX+

• Registers supported by **Modbus RTU** Extend:

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

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



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	

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



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 UDP:

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	

Modbus RTU Server - Serial port service

• Modbus RTU Server series RS232 cable



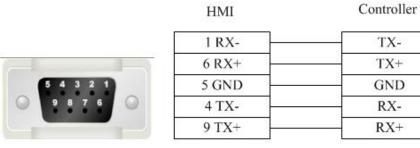
HMI	Controller
2 RX	3 TXD
3 TX	2 RXD
5 GND	5 GND

• Modbus RTU Server series RS485-2 cable



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

• Modbus RTU Server series RS485-4 cable



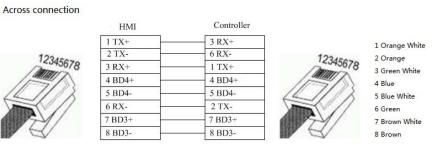
• Registers supported by Modbus RTU Server:

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

Modbus TCP Server– Ethernet service

• Modbus TCP Server cable



Direct connection

6

	HMI	Controller		
	1 TX+	1 RX+		1 Orange White
120.0	2 TX-	2 RX-	100	2 Orange
12345678	3 RX+	3 TX+	12345678	3 Green White
	4 BD4+	4 BD4+		4 Blue
10 11/2	5 BD4-	5 BD4-	71/2	5 Blue White
	6 RX-	6 TX-	3/11	6 Green
	7 BD3+	7 BD3+	$\Delta / /$	7 Brown White
	8 BD3-	8 BD3-	\leq	8 Brown
	88			

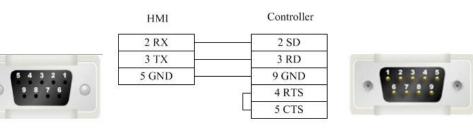
• Registers supported by Modbus TCP Server

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	LB0-65535		DDDDD	LBn: 1X(n+1) n:

internal/external				0-65535
input node				Fox example:
				LB0 = 1X1
				LWn: 3X(n+1) n:
Analog input		1 11/0 0000	מממממ	0-9998
data relay		LW0-9998	DDDDD	Fox example:
				LW0 = 3X1
				RWn: 3X(n+10000)
Analog input		RW0-5553		n: 0-55535
data relay		5	DDDDD	Fox example: RW0 =
				3X10000
				LWn: 4X(n+1) n:
		1 11/0 0000	מממממ	0-9998
Data register		LW0-9998	DDDDD	Fox example:
				LW0 = 4X1
				RWn: 4X(n+10000)
	RW0-5553		n: 0-55535	
Data register		5	DDDDD	Fox example: RW0 =
				4X10000

OMRON

• OMRON CP1H_CP1L series RS232 cable



• OMRON CP1H_CP11 series (communication module) RS485-2 cable

	HMI	Controller	
		SDA-	***
	1 RX-	RDA-	
5 4 3 2 1	5 GND	FG	RDA-RDB+ SDA- SDB+ F
9876	6 RX+	SDB+	
	de de	RDB+	

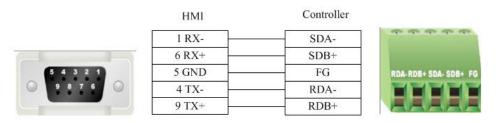
• OMRON CP1H_CP1L series RS485-4 cable

HMI

Controller

	1 RX-	1 SDA-	
	6 RX+	2 SDB+	
5 4 3 2 1	5 GND	5 FG	1 2 3 4 5
9876	4 TX-	6 RDA-	· · · · · · ·
	9 TX+	8 RDB+	

• OMRON CP1H_CP1L series (communication module) RS485-4 cable



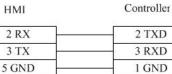
• Registers supported by OMRON CP1H_CP1L

Device	Bit Address	Word Address	Format	Notes
Work relay	W_bit0.0-8191.1 5		DDDD.DD	
Hold relay	H_bit0.0-24576.		DDDDD.D	
noid felay	15		D	
Data relay	D_bit0.0-524288		DDDDDD.	
Data relay	.15		DD	
Counter relay	C_bit0.0-65535.		DDDDD.D	
Counter relay	15		D	
Timer relay	T_bit0.0-15360.1		DDDDD.D	
Timer relay	5		D	
Auxiliary relay	A_bit0.0-15360.		DDDDD.D	
Auxinary relay	15		D	
Channel I/O	CIO_bit0.0-9830		DDDDD.D	
	4.15		D	
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	

Panasonic

• Panasonic FP series RS232 cable

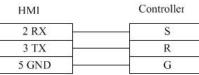


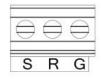




• Panasonic FP series CPU terminal RS232 cable







• Panasonic FP series communication card RS232 cable.



-	HMI	Controller
	2 RX	S
0	3 TX	R
	5 GND	G



• 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

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

• 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+	
5 4 3 2 1		5 CTS+	1
9876 🔘		11 RTS-	
		12 CTS-	9 15

• Panasonic FP series (other modules) RS485-4 cable

	HMI	Controller
	1 RX-	4 SD-
5 4 3 2 1	6 RX+	2 SD+
9876	4 TX-	5 RD-
	9 TX+	3 R D+

• Registers supported by Panasonic FP0/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	

Siemens

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
5 4 3 2 1	1 RX-	8 D-
9876	6 RX+	3 D+
	5 GND	5 GND

• Registers supported by Siemens S7-200

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		AQW0-6 2	DD	
Analog input		AIW0-6 2	DD	
SCR		SW0-30	DD	
SCR (32 bit)		SD0-28	DD	
Special memory register		SMW0-5 48	DDD	
Special memory register		SMD0-5	DDD	

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(32 bit)	46		
Variable memory	VW0-10	DDDDD	
	 238		
Variable memory (32 bit)	VD0-102	DDDDD	
	 36		
Timer current value	Tim0-25	DDD	
	 5	עעע	
Counter current value	 Cnt0-255	DDD	

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	Q.B0.0-127.7		DDD.O	
node				
Internal memory bit	M.B0.0-255.7		DDD.O	
Digital input and				
Peripheral image register	I.B0.0-127.7		DDD.O	
node				
Variable memory node	V.B0.0-65535.7		DDDDD.O	
Digital output and		QW0-14	DD	
Peripheral image register		Q W0-14	עט	
Digital output and		QD0-12	DD	

Peripheral image register			
(32 bit)			
Digital input and	1110 14	חח	
Peripheral image register	 IW0-14	DD	
Digital input and			
Peripheral image register	 ID0-12	DD	
(32 bit)			
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 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 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

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	

4 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
5 4 3 2 1	1 RX-	8 D-
9876	6 RX+	3 D+
	5 GND	5 GND

• Registers supported by Siemens S7-300 MPI

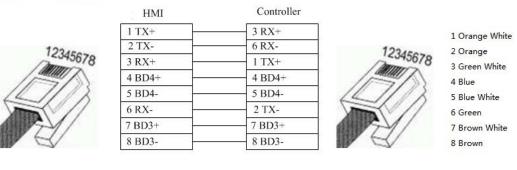
Device	Bit Address	Word Address	Format	Notes	
External output node	Q.B0.0-511.7		DDD.O		
External input node	I.B0.0-511.7		DDD.O		
Internal auxiliary node	M.B0.0-4095.7		DDDD.O		
Data register node	DBn_DBX0.0- 99999.7		DDDD.O	The main address can be set during the hardware configuration.	
External output 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_DBW0-65	DDDDD	The main	

		534		address can be
				set during the
				hardware
				configuration.
				The main
Data register (32 bit) ——		DBn_DBD0-655 32		address can be
			DDDDD	set during the
				hardware
			configuration.	

5 Siemens S7 300 Network

• Siemens S7-300 Network cable

Across connection



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

5 Blue White

6 Green

7 Brown White

• Registers supported by S7-300 Network

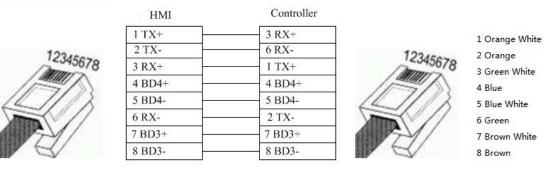
Device	Bit Address	Word Address	Format	Notes
External output node	Q.B0.0-2047.7		DDDD.O	
External input node	I.B0.0-2047.7		DDDD.O	
Data register node	DBn_DBX0.0- 9999.7		DDDD.O	The main address can be set during the hardware configuration.
External output register		QW0-2046	DDDD	

External output register (32 bit)	 QD0-2044	DDDD	
External input register	 IW0-2046 DDD		
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_DBD0-6 5532	DDDDD	The main address can be set during the hardware configuration.

6 Siemens S7_1200_network

• Siemens S7-1200 Network cable

Across connection



Direct connection

	12345678
11	7/2
T	
	S

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	Format	Notes
Device	Dit Auuress	Address	rormat	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.B0.0-204 7.7		DDDD.O	
Data register node	DBn_DBX0 .0-65535.7		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.

THINGET

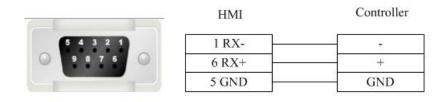
• THINGET Controller series RS232 cable



HMI	Controller
2 RX	5 TXD
3 TX	4 RXD
5 GND	8 GND



• THINGET Controller Series RS485-2 cable



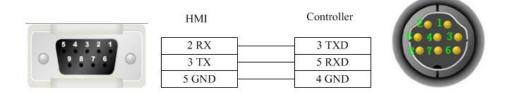
• Registers supported by **THINGET Controller**:

Device	Bit Address	Word Address	Format	Notes
Status node	S0-99999		DDDDD	
Counter node	C0-99999		DDDDD	
Timer node	T0-99999		DDDDD	
Interal relay node	M0-99999		DDDDD	
Output relay node	Y0.0-303237.7		0.000000.0	
Input relay node	X0.0-303237.7		0.000000.0	
FlashROM register		FD0-9999	DDDD	
Data register		D0-9999	DDDD	
Timer		TD0-9999	DDDD	
Counter		CD0-9999	DDDD	

TRIO

1 TRIO Modbus

• TRIO_Modbus series RS232 cables



• TRIO_Modbus series RS485-4 cable

HMI

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



 7 TX-
8 TX+
 4 GND
 2 RX-
 1 RX+

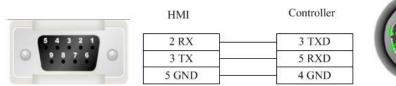


• Registers supported by TRIO_Modbus

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	

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 GND
 4 GND

 4 TX 2 RX

 9 TX+
 1 RX+



• Registers supported by TRIO_Modbus_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	3X_BIT1.0-655 35.15		DDDDD.DD	
Data register bit	4X_BIT1.0-655 35.15		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-DINV1-6 5535	DDDDD	
Data register		4X-DINV1-6 5535	DDDDD	

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.**

Yaskawa

1 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	10	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	IB0.0-FFFF.F		НННН.Н	
Hold register		MW0-65534	DDDDD	
Input register		IW0-FFFF	HHHH	

2 Yaskawa Network Device

• Yaskawa UDP Slave 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 Yaskawa UDP Slave:

Device	Bit Address	Word Address	Format	Notes
Coil	MB0.0-65534.F		DDDDD.H	
Inputrelay	IB0.0-FFFF.F		HHHH.H	
Output relay	QB0.0-FFFF.F		HHHH.H	

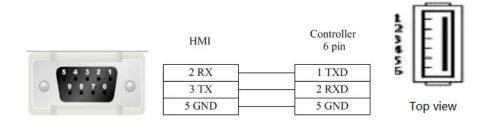
Hold register	 MW0-65534	DDDDD	
Inputregister	 IW0-FFFF	HHHH	
Output register	 QW0-FFFF	НННН	
Hold register	 ML0-65534	DDDDD	

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



• 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 RS485-2 cable

LIM I	1	

Controller



	SDA-
1 RX-	RDA-
5 GND	FG
6 RX+	SDB+
38 2	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	I1.65535		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		V_word1. 65535	DDDDD	
Link register		W_word1. 65535	DDDDD	
Special register		Z_word1. 65535	DDDDD	

4 Detailed Manual

4.1 File

4.1.1 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.

HMI Project	
Project name	
Name(N):	•
×	

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

4.1.2 Open Project

Shortcut key: **<Ctrl>+<O>** It is used to open an existing project other than any project repeatedly. After the software is opened, click and open the project with the file suffix name ***.fsprj**. Remark: if the software is correctly installed, the user can directly open the project by clicking the corresponding file with the ***.fsprj** suffix in the Windows Explorer.

4.1.3 Close Project

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

4.1.4 Save Project

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

4.1.5 Save Project As

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

4.1.6 Project Used Recently

Display the paths of 10 projects opened recently and each one can be directly opened by clicking.

4.1.7 Exit

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

4.2 View

4.2.1 Project

Open/close project view which is the tree structure and easy to modify 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>.

4.2.2 Window

Open/close the window view and use the tree structure and easy to modify the **Power-on Screen**, **Common Window**, **Basic Window**, **Keyboard Window** and **System Window**.

(1) Power-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**.

(2) Common window

The **Common Window** always exists and 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.

(3) Drop-down Window

The **Drop-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) Basic 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.

(5) Create 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.

(6) Keyboard 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.

(7) System window

For example, the System Window of communication faulty information.

4.2.3 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.

Find and Replace	★ 4 ×
🔘 Bit Address 🔘 Word A	ddress 💿 Text
Search Range	
🔽 Text Library 🛛 🖉 Label	Component Des
Search settings	
🔲 Case-sensitive 🔲 Full	Text Matching
Search Text:	Search
Replace Text: Rep	lace Replace All
Position to check under cur	rent postion by doub
Serial No. Location Cont	

4.2.4 Error

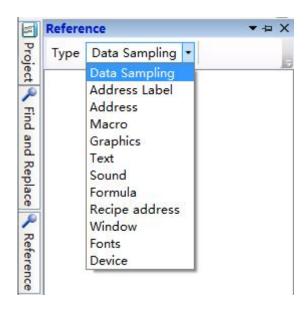
Open/close the Error view. All errors collected during compiling are recorded here.

4.2.5 Output

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

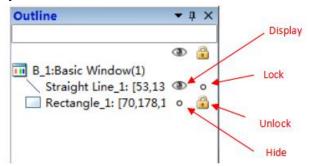
4.2.6 Reference

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.



4.2.7 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.



4.2.8 Restore to the Default View

Readjust the view arrangement of the software and restore the default arrangement.

4.2.9 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!

4.2.10 Current Status

The checked Status is the current status. It is used to quickly display the display effect of components used in the current project window in different states.

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 canceled.

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 copied 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 Fine Tuning

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 the window number, width, height and any other basic attribute or function.

(1) Basic

Basic	Background and Border	Action and Function	Timer	Timing Data Transmission	
Windo	ow Description: Basic Wind	dow		Print Page	
Winde	ow No. (By Type):		1 🗘	Window number (used for window switching)1	
Width	n: 1024 🗘 Height:	600 🗘		Window Type: Base Window *	
Winde	ow Orientation: 🧕 Horizon	ital 🔘 Vertical			
	opup Window			Safety	
P	opup mildon			Surcey	
P				User Level: 0:	
P				User Level: 0:	
P P				User Level: 0:	
				User Level: 0:	
	erlapped Window			User Level: 0:	
	erlapped Window Bottom Layer: None			User Level: 0:	
	erlapped Window			User Level: 0: Switch to user level when window closed: Window Effect	

(2) Background and Border

Basic	Background and Bo	order	Action and Function	Timer	Timing Data Transmission	
	ure Color: attern Filling:	S	elect Color 💌 🍠	🔘 Image		
00	Gradient Filling:					
	Border Width: Border Color:	P	0 🗘 order Color 💌 🏹			
Win	dow Transparency:		pacity) 🔹			

(3) Action 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 and	a border	ction and Function	Timer Timing Data Transmission	
Action/Condition	Execute	Operati	on Target	
Window Initialize	Bit Se ***	Add Action And Fur	ction ×	4
		Action Or Condition		
		Bit Settings		
		O Word Settings	Set On Set Off Set Constant Image: Constant	Add
		© Execute Macro © Switch Page	Macro Code Edit Next Window	Move Up Move Down
		o switch ruge		Delete
			OK	Edit
				Сору

(4) Timer

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.

New Window	
Basic Background and Border Action and Function Timer Timir Serial No. Trigger Condition Stop Condition Timing Cycle	ng Data Transmission Timing Function
imer	? ×
igger and Stop Timer Function Timing and Execution Execution Delay	
Trigger Condition(Edge Trigger) Bit Word Condition Trigger when the window is open Trigger when the window is Trigger Address: I I Auto Reset Trigger Mode: OFF -> ON Auto Reset	Condition for stop
(1) X New Window Basic Background and Border Action and Function Serial No. Trigger Condition Stop Condition	
igger and Stop 🥘 Timer Function 🥥	
Status Setting Word Setting Deivce: Mode: Set ON Address Set OFF Address: Perodic Inverse Format(Ra Address Address Address Address Address Address Verodic Inverse Address Address Operation (Ra Address Address Operation (Ra Address Operation (Ra <liop< td=""><td>0 System Register ange) DDDDDD0(0~799 Edit copy Copy</td></liop<>	0 System Register ange) DDDDDD0(0~799 Edit copy Copy
Microinstruction and Status Setting Run Simultaneously, and the precedence is not	OK Cancel
Help]

(5) Timing Data Transmission

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

1) × New Window	
Basic Background and Border Action and Functio	n Timer Timing Data Transmission
Serial No. Trigger Type Repeating Per Transmis	sion [Source Addree Target Addres DataType Word(Bit)Nc
Data Transmission Item	? ×
Trigger and Stop 🥹 Data Transmission Notification	
Timing and Execution	
Execution Period: 10 🗙 x 0.1S	
Delay	
Trigger Condition(Edge Trigger)	Condition for stop
Bit Word Condition	Timer will stop when the window closed.
\odot Trigger when the window is open \odot Trigger when the window is closed	If need to end, please choose the end condition.
Trigger Address:	Stop when specified count value reached Condition Judgement
Trigger Mode: OFF -> ON Auto Reset	Clear Items
	Edit
	Conc
	Сору
	Cance
Help	OK Cancel
	ission [Source Addre: Target Addres DataType Word(Bit)Nc
Data Transmission Item	? ×
Trigger and Stop () Data Transmission Notification	
Transfer Direction: One Way -	
Data Transmission	
Data Type: Word Bit Transmission words Constant	1 💭 Transport Type
	Add Items
	Delete
	Ise Address Tag
	Clear Items
Address Type: LW	ress Type: LW
Address: 0 Add	ress: 0 System Register
	nat(Range) DDDDDD(0~799999) Occupy: 1 + Word
Address Index	ddress Index
	OK Cancel
Help	OK Cancel

dow(1) X] New Window	×
	Basic Background and Border Action and Function Timer Timing Data Transmission	
	Serial No. Trigger Type Repeating Per Transmission [Source Addre: Target Addres DataType Word(Bit)Nc	
💽 Data Transmission Item	? ×	
Trigger and Stop 0 Data Tran	smission Notification	
Notification Settings		
Before Writing After Writ	ing	
Notify Bit Address:		
		Add Items
Notify Byte Address:		Delete
Trigger Macro:		Clear Items
		Edit
		Сору
		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 Alignmer	nt
Grid Color	
🔘 Set 📕 Grid F	Point Co 💌 📝
Select the rever	rse color of current background
Interval	
Width: 10	Height: 10 🚔
	OK Cancel

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

📝 Lii	ne	Position	1929 T		search in	
	Line Color 💌 📝	Fixed Point:	X :	130 🗘	Y :	131 🗘
Line	width	 Locked W	/idth:	154 🗘	Height:	1 🗘
Line.	туре	 Rotation Fix Point	(p—0-		
Ar	rrow		0			
		RotationAngle	0	NonRot	ation	

(1) General

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.

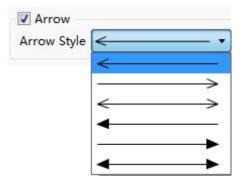
Vertical:

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

See Detailed manual/General functions/Drawing/Border settings

Arrow:

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



Position:

See Detailed manual/General functions/Position.

Rotate

See Detailed manual/General functions/Rotation..

(2) Dynamic Graphics

See Detailed manual/General functions/Dynamic Graphics

(3) Indicator Light

See Detailed manual/Component/Indicator Light for the details.

(4) Display

See Detailed manual/General functions/Display for the details.

4.5.2 Fold Line

J Li	ne	Position					
	Line Color 💌 🍠	Fixed Point	:X:	196 🗘	Y :	403	-
	Width	 🔲 Locked	Width:	234 🗘	Height:	107 🕻	•
Line	Type	 Rotation Fix Point		<u>о</u> о-	— (°		
A A	Arrow						
		RotationAn	gle 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

Line Color 💌 📝	Fixed Point: X : 132 🗘 Y : 200 🗘
Line Width	✓ Locked Width: 125 🗘 Height: 45 ‡
Line Type Chamfer	Fix Point
	RotationAngle 0 NonRotation
🔲 Fill	
Fill	

(1) General

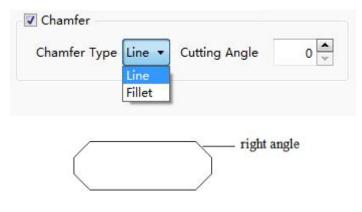
Rectangle:

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 <u>Detailed manual/General functions/Drawing/Border settings</u>. 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.





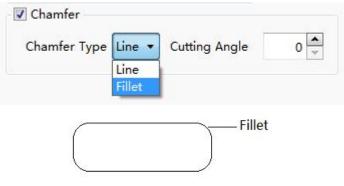


Fig. b

Position:

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

Rotate:

See Detailed manual/General functions/Rotation.

Fill:

See <u>Detailed manual/General functions/Drawing/Filling settings</u>.

Background (Color V	Fill Type	SolidColor	

Shadow Effect:

See Detailed manual/General functions/Shadow Effect.

(2) Dynamic Graphics

See <u>Detailed manual/General functions/Dynamic Graphics</u>.

(3) Indicator Light

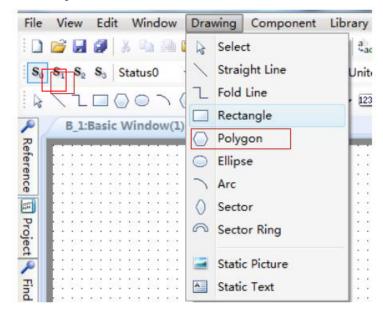
See Detailed manual/Component/Indicator Light for the details.

(4) Display

See Detailed manual/General functions/Display for the details.

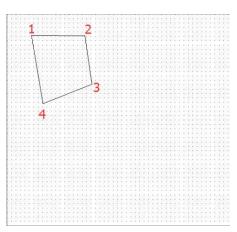
4.5.4 Polygon

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.



2	Paste Select All	Ctrl+V Ctrl+A	
	Add Vector Graphics	•	Straight Line
	Add Components	L Fold Line	
	Grid	Rectangle	
	Gild	Polygon	
	Window Properties		Ellipse
			Arc
			() Sector
••••			Sector Ring
· · · ·			Static Picture
:::			A 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.



(1) General

	General Dynamic Graphics Indicator Light	Display
ndow(1)* X	✓ Border	Position
	Line Color 👻 📝	Fixed Point: X : 177 \$ Y : 192 \$
	Line Width	□ Locked Width: 135 🗘 Height: 144 🗘
	Line Type 🛛 🗸 🔻	Rotation
		Fix Point O-O
•		RotationAngle 0 NonRotation
	we and we	
	Fill	
• •	Background Color 👻 🍠 Fill Ty	pe SolidColor 🔹
	Shadow Effect	
	Color: ShadowColor 🗸 📝	Shadow Excursion X 4 🔦 Y 4 👟
	Help Description:	OK Cancel
e		

(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.

(2) Dynamic Graphics

$ \land \land \land \land \square \square \square $	
	General Dynamic Graphics Indicator Light Display
and the second se	
w(1)* ×	
March March March 2000 March 200	✓ Use Dynamic Graphics
	i ose oynamic orapines
	Control Address: LW0
	X: LWO Y:LW1
	Coordinate of the top-left point
	Width: LW2 Height: LW3
· · · · · · · · · · · · · · · · · · ·	
a second a second s	For square and circle, only width is valid, height is not applicable.
· · · / · · · · · · · · · · · · · · · ·	
	Control Rotating: Angle: LW4
And a state state as	Control Rotating: Increase anti-clockwise, 0~360 degree
Warner Orener 🖌	increase and clockwise, o soo degree
· · · · · · · · · · · · · · · · · · ·	
	Note: Location, size and rotating is set based on fixed reference point.
	note country, size and rotating is set based on incent electric point.
🔧	
electric electric electric -	
	Help Description: OK Cancel

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

Please see Detailed manual/General functions/Dynamic Graphics.

(3) Indicator Light

	General Dynamic Graphics Indicator Light Display
iow(1)* ×	☑ Use As Bit Light
	Control Address: LBO
	When The Address Is On:
	Change Color: Stroke Color
	✓ Flick: Frequency: 1 x 0.1 Second
	☑ Fill
	Background Color V Fill Type SolidColor V
•	
	Help Description: OK Cancel

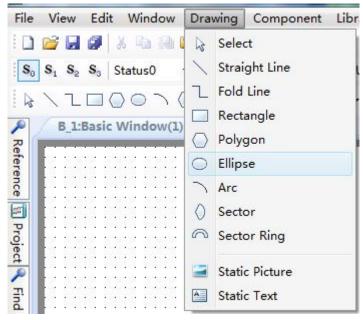
- (a) Modify the frame color
- (b) Control the frequency of flickering
- (c) Modify the filling color
- See Detailed manual/Component/Indicator Light for the details.

(4) Display

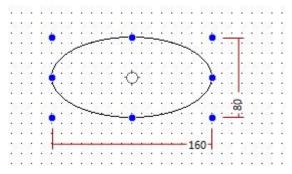
See Detailed manual/General functions/Display for the details.

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.



(1) General

	General Dynamic Graphics Indicator Light	Display
:Basic Window(1)* X	Ellipse O Circle	
	I ■ Border	Position
	Line Color	Fixed Point: X : 120 \$ Y : 160 \$
		□ Locked Width: 160 Height: 80
	Line Width	
	Line Type	Rotation
		Fix Point O-O
		0-0-0
		RotationAngle 0 🔶 NonRotation
	🖉 Fill	
	Background Color 👻 🎢 Fill Ty	pe SolidColor •
stated balance balance balance by		
	Shadow Effect	
		Shadow Excursion X 4 Y 4
	Color: ShadowColor 👻 🗾	Shadow Excursion X 4 💽 Y 4 💭
	Help Description:	OK Cancel

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

	General Dynamic Graphics Indicator Light Display
Basic Window(1)* ×	Use Dynamic Graphics
	Control Address: LW0
	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: 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

See Detailed manual/General functions/Dynamic Graphics for the details.

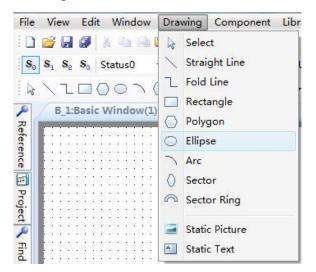
(3) Indicator Light

Basic Window(1)* ×	General Dynamic Graphics Indicator Light Display Image: Construction of the second sec	
	Control Address: LB0	
	When The Address Is On:	
	Change Color: 📕 Stroke Color 👻 🏸	
	✓ Flick: Frequency: 1 → X 0.1 Second	(a)
	☑ Fill ■ Background Color ▼ Fill Type SolidColor	(b)
	Background Color V Fill Type SolidColor V	(c)
	Help Description:	DK Cancel

- (a) Modify the frame color
- (b) Control flickering frequency
- (c) Modify the filling color
- SeeDetailed manual/Component/Indicator Light for the details.
- (4) Display
- See Detailed manual/General functions/ Display for the details.

4.5.6 Arc

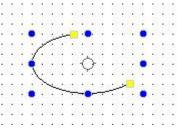
An arc can be drawn in a designated area. The arc component command can be found on the tool bar or from the menu of Drawing.



General Dy	namic Graphics	Indicator Light	Display					
📝 Line				Position				
	Color V			Fixed Point:	X : Width:	169 \$	Y : Height:	200 \$ 96 \$
Line Wid				Rotation Fix Point		0-0-0		
Angle				TIX FOIL			ļ	
						00-		
Starting	g Angle 0 🔹	End Angle 1	80 💂	RotationAngle	0	NonRot	tation	
Starting	g Angle 0 🔹	End Angle 1	80 💌	RotationAngle	e 0	NonRot	tation	
Starting	g Angle 0	End Angle 1	80 💌	RotationAngle	e 0 🛃	NonRot	tation	

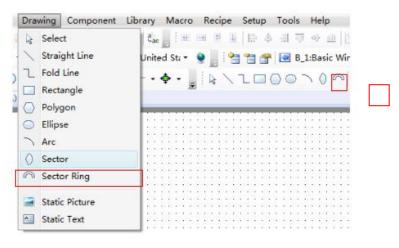
1: .1 1

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

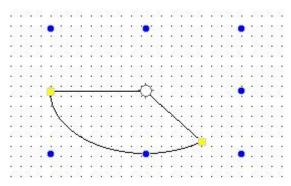
A sector can be drawn in a designated area. The sector component command can be found on the tool bar or from the menu of Drawing.



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

Image Angle Starting Angle Image <th>• L1 L2 L3</th> <th>🖉 Border</th> <th>Position</th>	• L1 L2 L3	🖉 Border	Position
Line Type Angle Starting Angle 0 End Angle 180 Rotation RotationAngle 0 NonRotation	🕗 - 📲 - 🖄 -	Line Color 💌 📝	Fixed Point: X : 170 🗘 Y : 195 🗘
Line type Fix Point Angle Image Starting Angle Image Image <	(1)* ×	Line Width	□ Locked Width: 100 � Height: 125 �
Angle Starting Angle 0 red Angle 180 red RotationAngle 0 red NonRotation		Line Type	Rotation
Starting Angle 0 Till		Angle	Fix Point
RotationAngle 0 🐳 NonRotation			
		Starting Angle 0 V End Angle 180 V	
			RotationAngle 0 - NonRotation
Background Color V Fill Type SolidColor V		🖉 Fill	
		Background Color 👻 📝 Fill Type	SolidColor 🔻
Shadow Effect	STATUTE MORESCRY MORES	Shadow Effect	
Color: ShadowColor V Shadow Excursion X 4 🗘 Y 4 🖈			
		Color: ShadowColor Shad	ow Excursion X 4 Y 4

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

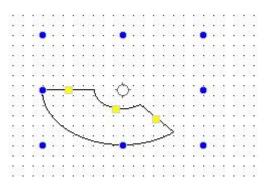
A sector ring can be drawn in a designated area. The sector ring component command can be found on the tool bar or from the menu of Drawing.

Drav	wing	Component	Library		Ma	acr	0	R	lea	cip	e	S	et	up		To	ool	s	H	le	p		
3	Selec	:t	a sa	c		ŧ	E I	•	E	H	ŧ	1	ļ.	1	휘	100	1	UNT	1	Đ.	ul	1	
	Strai	ght Line	Unit	ted	St	ta 🕶		•			•				7	K		В_	1:6	Bas	sic	N	/ir
l	Fold	Line		4	+				100	`												6	5
	Recta	angle		4			Ŧ	1	46			-		_	1	1	<u> </u>	5.	- 5		1	5.63	
\bigcirc	Poly	gon		- 3			210			472			1975			27.5			-			672	
\bigcirc	Ellips	se		10	: :		12				:			:	•		:			:			
$\overline{}$	Arc			2	: :				:				2		2			:					
0	Secto	or			: :				•				: :	•			•		:	•			
6	Secto	or Ring		10	 		100 100						 193				•	81 - I 13		•		 197	
-	Stati	c Picture												:									
A	Stati	c Text	•		: :	:		:	:	: :	:	•	: :	:	•	. :	•	•	: :	•	•		

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

Drawing Component		
🖺 🗙 🍠 Undo 🕶 🍽 Re	General Dynamic Graphics Indicator Light Display	
- L1 L2 L3 L4 1-Eng	V Border	Position
) - 📰 - 🖄 - 📖 - 🔳	Line Color 💌 📝	Fixed Point: X : 208 🗘 Y : 174 🗘
L)* X	Line Width 📃 👻	□ Locked Width: 137 🗘 Height: 109 🗘
	Line Type	Rotation
	Sector Ring	
	Inside and Outside Ring Scale (%): 50	
••••••••	Start Angle 0 🔺 End Angle 180 🔦	RotationAngle 0 🔦 NonRotation
	♥ Fill ■ Background Color ▼ Fill Type Solid	idColor 🔻
• ~ •		
NAME AND ADDRESS OF ADDRESS		
	Shadow Effect	
	Color: Shadow Color 👻 Shadow Exc	cursion X 4 🛉 Y 4 🛉
	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.

Drav	wing	Component	Library	N	lac	ro	F	Rec	ipe	e	Se	etu	р	T	00	ls.	ł	le	р							
2	Selec	:t	a ad		10	œ.	-	1		ŧ	1	1	\$		1	101	4	0-	-		2		20		1	100
1	Straig	ght Line	Unite	d	Sta	•	۲		Ð	2	7		~	I	4	Β_	1:6	a	sic	w	in	do	w(1)		
l	Fold	Line		.	-															2		-	Ā	=	1.81	1
	Recta	angle		Ψ.		÷	1.5	15		2	-	-			0		0	1					L		f	1
\bigcirc	Polyg	jon						- 100				-	1.00												1000	
0	Ellips	e		 		1		-				-						2						3		8
7	Arc			1	::						; ;	1	1							1	-	: :	;			1000
0	Secto	or																	•		•					
6	Secto	or Ring	11	: :			: :	-					11	1		:				-				2		
	Statio	Picture			: :					10		100		1					÷		÷					
A	Statio	: Text																	-		-					1000
				• •		•	• •			•	• •	•	•••	•	• •	•	• •		•		•	•	•		• •	1

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

>>>>>>>>>>>>>>>>>>>>>>>>>>>>	General Dynamic Graphics Display Position Fixed Point: X: 77 V: 141 Locked Width: 131 Height: 109 C	Rotation Fix Point
Fi	Import from File Import from Lib.	RotationAngle 0 💭 NonRotation
Project Find and Replace Reference	Image Preview	Scaling Lock Aspect Ratio Use original size Transparent Color Use PNG image transparent channel Use Designated Color
	Shadow Effect	
	Help Description:	OK

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.

	General Dynamic Graphics Display	
S0 S1 S2 S3 Status0 - □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Position Fixed Point: X : 77 \$ Y : 141 \$ Locked Width: 131 \$ Height: 109 \$	Rotation Fix Point
Find and Replace Reference	Import from File Import from Lib. 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 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.

- 💡 - 🖾 - 👑 - 🕗 - 毷 - 💈	Position	Rotation
B_1:Basic Window(1)* X	Fixed Point: X: 77 🗘 V: 14	Fix Point
	🔲 Locked Width: 131 🗘 Height: 10	
	Import from File Import from Lib.	RotationAngle 0 💭 NonRotation
Fell Fell	Image Preview	Scaling Lock Aspect Ratio Use original size
131		Transparent Color
	Shadow Effect	

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.

- 🤉 - 🖾 - 🔛 - 🕗 - 💵 - 🕼	Position	Rotation
B_1:Basic Window(1)* ×	Fixed Point: X : 12 C Y : 196 C	Fix Point
	🛛 Locked Width: 131 🗘 Height: 109 🗘	
	Import from File Import from Lib.	RotationAngle 15 NonRotation
AN.	Image Preview	Scaling Lock Aspect Ratio Use original size
		Transparent Color Use PNG image transparent channel Use Designated Color
	Shadow Effect	

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).

		cs Display	-		
Positio	n				Rotation
Fixed F	Point: X :	12 🗘	Y:	196 🗘	Fix Point
✓ Loc	ked Width:	131 0	Height	109 🗘	
Impo	ort from File	Import	from Lib.		RotationAngle 15 💭 NonRotation
Image	Preview			- [Scaling
					🔲 Lock Aspect Ratio
					Use original size
	1	01	3	L	Transparent Color
	-112				🔲 Use PNG image transparent channel
	a				Use Designated Color
Shar	dow Effect				

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

General	Dynamic Graph	ics Display		
Positio	on			Rotation
Fixed	Point: X :	116 🗘 Y:	220 🗘	Fix Point
🔲 Loo	cked Width:	125 🗘 Height:	89 🗘	
Imp	ort from File	Import from Lib	b	RotationAngle 15 😴 NonRotation
Image	Preview			Scaling Lock Aspect Ratio Use original size
	1.	N		Transparent Color Use PNG image transparent channel Use Designated Color
V Sha Color	ndow Effect r: Shadow	rColor V	Shadow	r Excursion X 4 🗙 Y 4 丈

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.

General Dynamic Graphics Dis	play	
 Always Display Conditional Display Level User Min Level: 	0:	
 Privilege User Logic Control 	0: 1:Level1 2:Level2	
Help Description:		OK Cancel

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

eneral Dynamic Graphics Display 🧿	Globa	al Settings	Extended Settings	Laguange Settings	Favorite Font Tem	plates	User Leve
/isibility Control	User	r Privilege	Task Schedule	Data Sampling	PLC Control	Alarr	n And Event
Always Display	No.	User Nan	ne Predefined Password	d Logout Time(min)	Permission		
Conditional Display	1	Admin	888888	10	16:Admin		
E Level User							
☑ Privilege User Privilege: 0:Select User ▼ 0							
Logic Control							
Help Description:							
							-
•••••••••••••••••••••••••••••••••••••••	•				Delete	Add	Modif

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

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).

 Level User Privilege User Logic Control Condition 	Fig Condition Setting Indule: Bit Register Address: Image: Condition Setting
> 1 Add Modify Delete	Condition: Read Value > • A(1) None • A Constant • 1 •
	ОК Салсе

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	8
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.
	21 - 19 24 14 mmm
Help Description:	OK Cance

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.

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	e point.
	Note: Location, size and rotating is set based on fixed reference	e point.

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.

Drav	wing Component	Library	N	lac	ro	F	leci	pe		Set	up	1	Гос	ols	H	lel	р							
A	Select	a sa			11		1		6	111		\$	곜	-	ī <	÷	ult		-0	13		-		10
1	Straight Line	Unit	ed	Sta	•	é		4	4	-	-	-	4	B	1:6	Bas	ic	w	ind	do	w(1	.)		•
l	Fold Line		-				2													-	A	-		
	Rectangle		*		÷		10		11			~		-		0			1		L	1		
\bigcirc	Polygon																							
\bigcirc	Ellipse			12		 	•••		 			•••				•		•						•
$\overline{}$	Arc		10	•		 	•••		• •			•••	• •		•••	•	•••	•	-	• •	1			
0	Sector			:				1		13		::			: :	:	: :	1		: :	1			
3	Sector Ring		11			1	: :	1	: :		1	::	1		: :	:	: :	1	í	. :		1		
	Static Picture	- 8					::					::						• •	-					
-	han san ta da shina ta shi	::		•	: :	: :	::	•	•••	• •	::	::	• •	: :	::	:	: :	•	•	• •	•	: :	:	•
A	Static Text		: :	:	: :	: :	: :	:	: :			• •	: :	:	::	:	• •	•	-	• •	•			

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.

eneral Display	2				
🔲 Language Independent	Position				
Languages: 1-English (United S 💌 🌒	Fixed Point:	х:	0 \$	Υ:	0 \$
Use Text Library Text Library	Locked	Width:	50 \$	Height:	50 \$
21.002	Marquee				
• Use Labels					
Tag Contents					
Tesq					
	Set label po	osition b	/ language	state separa	itely.
-		3.3		1	
Copy Current Text to All Languages	(Right:			
copy carrent rext to An Early ages	Тор	Bottom:	===		
Import from Favorite Font Templates.(I)					
Vector Font 💿 Graphic Font					
ont: Microsoft Sans Serif 🔹					
Size: 16 • B I					
Multi-line Alignment:					
Microsoft Sans Serif					
	8				
Copy Current Properties to All Languages					

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

eneral 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 ↓
Use Labels Tag Contents Test	Marquee
Copy Current Text to All Languages Import from Favorite Font Templates.(1) Vector Font Graphic Font ont: Microsoft Sans Serif • ize: 16 • B Z • * Aulti-line Alignment: Advanced	Set label position by language state separately. Left Right:
Microsoft Sans Serif	
Copy Current Properties to All Languages	

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

ieneral Display	
Language Independent Languages: Use Text Library Use Labels	Position Fixed Point: X: 0 ≎ Y: 0 ≎ Locked Width: 50 ≎ Height: 50 ≎
Tag Contents	
Test ^	Set label position by language state separately.
Copy Current Text to All Languages	Top Bottom:
Import from Favorite Font Templates.(I)	
 Vector Font ● Graphic Font Font: Microsoft Sans Serif ▼ Size: 16 ▼ B I ■ ▼ Multi-line Alignment: ■ ■ Tr Advanced 	
Microsoft Sans Serif	
Copy Current Properties to All Languages	
Help Description:	OK Cance

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.

Language Independent	Position
anguages: 1-English (United S -	Fixed Point: X : 0 ◆ Y : 0 ◆ □ Locked Width: 50 ◆ Height: 50 ◆
Use Labels Use Labels Tag Contents	Marquee
Test *	Set label position by language state separately.
Copy Current Text to All Languages	Left Right:
Vector Font Graphic Font Ont: Microsoft Sans Serif ize: 16 B I IIII Advanced	
Microsoft Sans Serif	

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

" to satisfy the different languages requirement.

eneral Display		User Privilege	Task Schedule	Data Sampling	PLC Control	Alarr	m And Event
Language Independent	Position	Global Settings	Extended Settings	Laguange Settings	Favorite Font Temp	plates	User Leve
Languages: 1-English (United S •)	Fixed P	Language Language Count:	2		port from Favorite Fon	10 2000 NO.	ates.(I)
Use Labels Tag Contents	Mari	-	uage h (United States) se (Simplified, PRC)	Font:	or Font () Graphic Fo Microsoft Sans Serif 16 • B I		
Copy Current Text to All Languages	🔲 Set la				Microsoft Sar	ns Se	rif
Import from Favorite Font Templates.(I) Vector Font © Graphic Font ont: Microsoft Sans Serif • ize: 16 • [B] Z] • •				Us	e Current Font for All	Languag	es(F)
1ulti-line Alignment:		Default Language:					
Microsoft Sans Serif			O. by using system reg the project is download				
Copy Current Properties to All Languages							
Help Description:		Help			6	OK	Canc

When you check the "Set label position by language state separately" function, different texts can

be aligned in different effects.

eneral Display					
Language Independent Languages: 1-English (United S 🔹 💽	Position Fixed Point: Clocked W	X : /idth:	0 ≎ 50 ≎	Y : Height:	0 \$ 50 \$
 Use Text Library Use Labels 	Marquee				
Tag Contents Test					
	Set label posi	0	anguage s	tate separat	ely.
Copy Current Text to All Languages	Top Bo				
Import from Favorite Font Templates.(I)		C			
Vector Font () Graphic Font					
ont: Microsoft Sans Serif 👻					
Size: 16 • B I • V Multi-line Alignment:					
Microsoft Sans Serif					
Copy Current Properties to All Languages					
Help Description:			1	ОК	Cance

The static text can 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.

Seneral Display			
	🖥 Text Library		
Language Independent Languages: 2-Chinese (Simplifit) Use Text Library Text Library	ABCDEFGH	Search (ay All Languages
Ack • 测试 •			
🛇 Use Labels	Name		ber Reference Numb
Text Library Contents	- Ack		1 🗘 1
剰試 *	Status 1-English (United States)		
	0 Test	測试	
Import from Favorite Font Templates.(]) Vector Font @ Graphic Font ont: 御奴強重 • ize: 16 • B Z • • • Auth-line Alignment 憲憲憲 Tr Advanced			
微软雅黑			
Copy Current Properties to All Languages	New Delete		Confirm Cance
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.

eneral Display	
Language Independent Languages: Use Text Library Ack Test Use Labels Text Library Contents	Position Fixed Point: X : 0 \$ Y : 0 \$ Locked Width: 50 \$ Height: 50 \$ Marquee
Test.	Set label position by language state separately. Left Right: Top Bottom:
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	

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.

eneral Display	
Language Independent Languages: Use Text Library Cuse Labels Text Library Contents Test	Position Fixed Point: X: 0 ¢ Y: 0 ¢ Locked Width: 50 ¢ Height: 50 ¢ Marquee Moving Direction RightToLeft Step Length LeftToRight RightToLeft TopToBottom Set label position BottomToTop Left Right:
Import from Favorite Font Templates.(l) Vector Font © Graphic Font Font: Microsoft Sans Serif • Size: 16 • B I • I • I Multi-line Alignment: III Advanced Microsoft Sans Serif	Top Bottom:

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



General Display	User Privilege	Task Schedule	Data Sampling	PLC Control	Alarm And Event
Visibility Control	Global Settings	Extended Settings	Laguange Settings	Favorite Font Templ	ates User Leve
 Always Display Conditional Display 	User Level Count:	3			
	Password Level	Predefined Password	Grade Description		
🗹 Level User Min Level: 0: 🔹 🕵	OLevel Password	None			
Privilege User	1Level Password	888888	Level1		
Logic Control	2Level Password	888888	Level2		
	Please use system reg	jster SRW to realize the	operation like passwor	d input and modificatio	n etc.
	Please use system reg Help	jister SRW to realize the	operation like passwor	d input and modifi	catio

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

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

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).

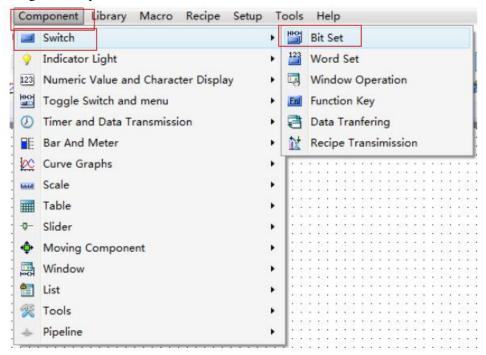
ieneral Display 🕢	Global Settings User Privilege	Extended Settings Task Schedule	Laguange Settings Data Sampling	Favorite Font Templ PLC Control	Alarm And	ser Levi d Event
 Always Display Conditional Display 	No. User 1 1 Admin		d Logout Time(min) 10	Permission 16:Admin		
Il Level User I Privilege: [0:Select User •] Logic Control	~					
				Delete	Add	222
				- Dector	ADD	Modif

Privilege User	Condition Setting
Logic Control ondition 1	Module: © Bit Register 💿 Word Register
Add Modify Delete	Condition: Read Value > • A(1) None • A Constant • 1
	OK Canc

4.6 Component

4.6.1 Switch

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



4.6.1.1 Bit 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".

Press	•			
On Pulse	•	Pulse Wid	th 0.2	▼ Second
On Off Inverse Reset				
On Pulse				•
vithin a Byte R	egister			
Contraction		•		
×		(System	Register
e) DDDDDD(0-	-79999	9)		
	Off Inverse Reset On Pulse Off Pulse vithin a Byte Re	On Off Inverse Reset On Pulse Off Pulse vithin a Byte Register	On Off Inverse Reset On Pulse Off Pulse vithin a Byte Register	On Off Inverse Reset Off Pulse Off Pulse vithin a Byte Register e: LB

• 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 $0.1 \sim 1.5$ seconds.

Execute Setting: C	n Pulse	▼ Pu	lse Wig	dth	0.2	-	Seconds
					SIL		seconds
A dida a second				[0.1		
Address					0.2		
Use Address	Tag				0.3		
Deivce: LOCAL:		rl		_	0.5		-
Delivee. LOCAL	(Local Registe				0.6		
Bit-index with	in a Puta Pag	ictor			0.7	Ξ	
Address Type:	5.174	ister			0.8		
	LD			-	1.0		aister
	and a second land land			Sy	1.1		gister
Format(Range)	DDDDDD(0~7	999999)	ł.		1.2		
					1.3 1.4	_	
📃 Address Inde	ex				1.4	-	
				L		Longitude (

• 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 $0.1 \sim 1.5$ 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	India	ator Light	t 🕖 Lable	Graphics	Dynamic Graphics	Control Settings	Display		
🗸 Use	Indica	tor							
		· · · · _							
Disp	olay M	ode: Re	gister Contr	ol 💌					
	🔍 Bi	t Register	Word Re	aister 🔘 Co	mbined Bits				
		ress:		J					
	Add	iress:							
		The A	ddress Is Sa	me As The	Switch.	Cor	ndition:		
	us No.		* *						
		e than on entry valid	e state cond	itions are m	net, the		Positiv	eLogic	NegativeLogic
1.00		-						-	
			Tag Conten						
0	-	DFF		No					
11	- 1			140	ne				
								(m.	
						Fla	sh Mode:	None	•
						Fla	sh Freq.:		5 🗘 x0.1S

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.

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 • System Register	
Move Up	Format(Range) DDDDDD(0~799999)	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 •
Execute Setting:	Inverse 🔹
Address	
Use Addre	ss Tag
Deivce: LOCA	L:[Local Register]
Address Type	ithin a Byte Register LB System Register
Format(Range	e) DDDDDD(0~799999)
Format(Range	

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

Action	Execution	Device Addre	SS		
Press	Bit Setting	LOCAL:[Local I	Register]:LB100 Inver	se	
Move Up) Move Down	Сору	Delete	Clear	Modify
Move Up) Move Down	Сору	Delete	Clear	Modify

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.

4.6.1.2 Word 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.

Action	Execute Settings: Add
Press	Add Constant • 1 • Upper Limit: Constant • 100 •
	Address Use Address Tag Deivce: LOCAL:[Local Register]
Move Up	Address Type: LW Address: 0 Format(Range) DDDDDD(0-799999) Occupy: 1 Data Type: 16-bit Unsigned Modify
dd Function: Bit	Address Index Recipe Transfer Help(H) OK Cancel

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".

Execute Settings:	Add Add Add Add Add		n reaching the e
Add	Subtract	1	
Upper Limit:	Increase Decrease Set Up Constants	100	
Address	Set Up Character Strings Set Up Figures By Bit Logic Operation		
Use Addre	AL:[Local Register]		
Address Type	s. [IW/	•	
Address Type		• Svet	em Register
Address: 0	×		em Register
Address: 0	e) DDDDDD(0~799999) C Data Type:	ccupy: 1	- Word

• Add

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

Action Press	Action: 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] Address Type: LW Address: 0 System Register	
Move Up	Format(Range) DDDDDD(0~799999) Occupy: 1 • Word Data Type: 16-bit Unsigned • Address Index	Modify

> 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.

Action Press	Action: Press Execute Settings: Subtrac Looping Reverse on reaching the end Subtract: Constant 20	
	Lower Limit: Constant 🔹 0 🔍	
	Address	
	Deivce: LOCAL:[Local Register]	
	Address Type: LW Address: 0 System Register Format(Range) DDDDDD(0~799999) Occupy: 1 Word	
Move Up	Data Type: 16-bit Unsigned 👻	Modify
Bit	Help(H) OK Cancel	Recipe Transfer

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".

Action	Action: Press * Immediately Execute *Increase/Decrease* Action Execute Settings: Increase * Looping Reverse on reaching the end	
	Add Constant 20 4 Upper Limit: Constant 100 4	
	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 + Word	
Move Up	Data Type: 16-bit Unsigned Address Index	Modify
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".

Switch Function Action Press	Action: Press * I Immediately Execute "Increase/Decrease" Action Execute Settings: Decreas * Looping Reverse on reaching the end Subtract: Constant * 1	
	Lower Limit: Constant	
Move Up	Address Type: LW Address: 0 Format(Range) DDDDDD(0~799999) Occupy: 1 + Word Data Type: 16-bit Unsigned •	Modify
Bit	Help(H) OK Cancel	Recipe Transfer

• Set Up Constants

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

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	fer Recipe Transfer

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 LW0 and LW1 of HMI.

Action Press	Action: Press • Execute Settings: Set Up • •	W0 A123	
71055	Content: Constant A123 Use UNICODE Swap high and low bytes Address		,
	Use Address Tag Deivce: LOCAL:[Local Register] Address Type: LW Address: 0 System Register		
Move Up	Format(Range) DDDDDD(0~799999)Occupy: 2 * Word Data Type: Character String *		Modify
Bit	Help(H) OK Cancel	sfer	Recipe Transfer

"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.

Action Press	Execute Settings: Set Up I Mode: Add Subtract Digit Bit: 5	:LW0 5	
	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
dd Function: Bit	Help(H) OK Cancel	ifer (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".

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

In the figure above, when the component is operated, the value in register LW0 will has a logic operation "And" with 0×FFFF. The logic result will be written to register LW0. 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.

4.6.1.3 Window Operation

• Action

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

Press	
and a second	
Set Up: Release Window No.:	1:Basic Window •

> 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)".

Window	w Operation Prope	rty				
Action:	Press	•]			
Set Up:	Switch Window	•	Window No.:	B_1:Ba	asic Window	•
	Switch Window					
	Close Pop-up Wir	ndow	de la companya de la comp	ow.		
	Pop-up					
	Return To Previou	ıs Wi	ndow	ОК	Cancel	
	Window Control E	Bar				
	Return to the mai	n win	dow(HOME)			

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".

Window	v Operation Property	X
Action:	Press •	
Set Up:	Return to the main Window No.: B_1:Basic V	Window(1) *
	☑ Automatic pop-up password window.	
	Help ОК Са	ancel
	Project 👻 🕁	×
	 Local HMI F007 HMI Settings Window Communication Connection COM1: Unused COM2: Unused COM3: Unused COM4: Unused Swap Serial Ports Remote Connection Remote HMI Remote PLC Ethernet PLC Service Printer Keyboard System Settings System Settings Extended Settings Laguange Settings User Level User Privilege Task Schedule 	

User Privilege	Task Schedule Data S		ampling	PLC Control	Alarm A	And Event
Global Settings	al Settings Extended Settings Laguange			Favorite Font Terr	plates	User Level
Project Properties Upload Decompilation Backlight And Scr Dim the brigh Turn off Backl Dim down an Turn on backl Screensaver:	reensaver tness: Lowest • 3	3 🔹 (min)) 🔹 (min) nts	☐ Initial Main Win Main Wi Drop-dov ✔ Use Note: C Clock Source: Set up	indow: B_1:Basic Win Macro dow(HOME) ndow(HOME) : B_1: wn window the drop-down wind Dnly for capacitive scr HMI Internal Clock the time souce of e ical data etc. SBW(0-7: Year/Mon	Basic Windo ow or not? reen. vents,	
Local Register Endian Order 16-bit Integer: 21 • 32-bit Integer: 4321 • 32-bit Float: 4321 • Scrollbar			Touch	warden services and	er Time: <mark>50n</mark>	nS •
Scrollbar Width	20					

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.

4.6.1.4 Function 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
Keyboard Function	Release Return •
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
	O Clear RW
	Clear All History Data
D 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".

\geq	Keyboard Function

Action:	Press	•
Function Setting: Keyboard Function	Return	
 Execute Macro Sysem Operation 	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
D Print	 Clear All History D Horizontal Print 	

"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.

Execute Macro

Action:	Press •	
Function Setting:		
Keyboard Function	Text Operation *	ору т
Execute Macro	macro_1	ede Edit
Sysem Operation	Touch Panel Calibratio	on
	O Import/Export Impo	ort Project to *
	O Save Screenshort to E	xtended Memory USB1
	🔘 Clear Event	
	🔘 Clear All Formula	
	🔘 Clear RW	
	Clear All History Data	
D Print	🛛 Horizontal Print 🛛 🔘	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	cro Code Edit
Sysem Operation	Touch Panel Cal	ibration
	Import/Export	Import Project to 🔹
	Save Screensho	
	Clear Event	Export Project from HMI
	Clear All Formul	Import Recipe to HMI Export Recipe from HMI
	Clear RW	
	Clear All History	Data
Print	Horizontal 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 *
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 USB1
	Clear All Formula
	◎ Clear RW
	Clear All History Data
O Print	Horizontal Print O Print Vertically
Help	OK Cancel

"Clear Event"

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

Action	Function Key Attribut	es 🔀
Press	Action:	Press
	Function Setting:	Return
	 Execute Macro Sysem Operation 	macro_1 * Macro Code Edit
		 Import/Export Import Project to ▼ Save Screenshort to Extended Memory USB1 ▼ Clear EventFrom 1[0] ▼ To 32[0] ▼ Clear All Formula 1(0) ▲ Clear RW 3[0] Clear All History 4[0] ≡
Move Up	Print Help	Horizontal Print 6[0] t Vertically Modify S[0] OK Cancel
Bit		9[0] 10[0] 11[0] 11[0]

"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.

4.6.1.5 Data 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.

Action: Press Twoway Tran	nsfer (If Conflicted, Source Address First)
Data Type: 💿 Word 🔘 Bit Transmissi	on words Constant 🔹 1
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 Index	Address Type: LW Address: 0 System Register Format(Range) DDDDDD(0 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 Input</u> or <u>Detailed manual/General functions/Address Editor/Standard Byte Address Input</u>.

4.6.1.6 Recipe 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.

Action: Press		
Transmission Direction	Number of words	
Recipe source address:	• 🕖	Open the Recipe Settings
PLC Address.		
Opload Recipe from PL	2	
Notice Bit Address		
Help(H)	[OK 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.

ansmission Direction () Download Recipe source	address: RP_A	nber of words	Open the Recipe Setting:
	Address. MW100		
🔘 Upload Re	cipe from PLC		
🔘 Upload Re	cipe from PLC		
	cipe from PLC		
© Upload Re ▼ Notice Bit Address LB10	cipe from PLC		

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: Detailed manual/General functions/Address Editor/ Standard Byte Address Input.

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 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.

Action: Pres	55	•		
Transmission Direction 🔘 D	ownload recipe to	PLC		
			(128) 8-1 I	
© U	pload Recipe from	PLC Number	er of 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			ys be ON.
Help(H)				OK Cancel

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

4.6.2 Indicator Light

4.6.2.1 Bit Indicator Light

Display	Mode: Re	gi <mark>st</mark> er Co	ntrol 🔹						
0	Bit Register	O Word	Register 🔘						
A	ddress:	LBO							
							Condition:		
	No.: 2 nore than on m entry valid	e state co	nditions ar	e met, t	he	7	Positiv	veLogic	NegativeLogic
	Condition	Tag Con		Blink	Frequency(0			
0	LB0 OFF			None		-			
	LB0 ON			None		_			
1							Flash Mode:	None	•
							Flash Freq.:		5 👻 x0.1S
1							Flash Freq.:		5 🔭 x0.1S
							Flash Freq.:		5 📩 x0.1S

• Display Mode

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

• 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 Input.</u>

• Status No.

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

- Condition
- Positive Logic

State 0 is OFF and state 1 is ON.

Negative Logic

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.

None

It means no flashing.

Blink Text

Text can flash in a frequency.

Blink Picture

Picture 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.

4.6.2.2 Word Indicator Light

witch Indi	icator Light	Lable	Graphics	Dynamic	Graphics	Display	
	1ode: Reg Bit Register (iister Cor • Word W0		Combine			
		state co	nditions ar				Condition: ● Range ○ Bit Read Value == ▼ A(0) None ▼
Status 0	Condition	Tag Cor	ntent	Blink None	Frequency	·((A Constant - 0
1	LW0 == 0 LW0 == 1			None		-	
2(Error)	Other			None			
							Flash Mode: None Flash Freq.: 5 (A) / (V) / (V
	ut: Show Notificatior Description		ntus 🔘 Kee	ep Current	Status		

• 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 Address</u> Input.

• Status No.

The range of the status number is $1\sim256$. 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.

None

It means no flashing.

Blink Text

Text can flash in a frequency.

Blink Picture

Picture 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.

Status	Condition		Tag Content	Blink	Freque
0	LW0 Bit0 OFF			Text	5
1	LW0 == 1			Picture	5
2(Error)	Other			None	
llegal Ing	ut @ Show Fr	ror Stat	ur O Kaan	Current 6	
llegal Inp	out:	ror Stat	us 🔘 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.

4.6.2.3 Multi Bit Combination Indicator Light

	Mode: Register Control ▼ Bit Register © Word Register ● C	ombine			2 ▲ Data Type: Unsigned ▼
Status No When mo	Address: LB0	met, the			Condition: Range Read Value A(1) None <l< td=""></l<>
Status	Condition	Tag (Blink	Fre	
0	Multi Bit Combination Value > 1		None		A Constant • 1
1	Multi Bit Combination Value > 1	8	None		
2	Multi Bit Combination Value > 1		None		
4		S	None		
2 3(Error)	Other				
	Other				Flash Mode: None 🔻
	Other		<u></u>		
	Other				Flash Mode: Vone Flash Freq.: 5 x0.15
	Other				
3(Error)	Other ut: @ Show Error Status © Keep		t Status		
3(Error) Illegal Inp	ut: 🖲 Show Error Status 🔘 Keep	Curren	t Status		
3(Error) Illegal Inp			t Status		

• 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 $0\sim 2n-1$.

➢ 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 $1\sim256$. 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".

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

None

It means no flashing.

Blink Text

Text can flash in a frequency.

Blink Picture

Picture 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.

• 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.

4.6.2.4 Display 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".

1 Register mode

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

		egister Control 🔹						
		r 🔘 Word Register		ned Bits				
Status N		A V		;	Condition:			
	ore than on n entry valid	e state conditions state.	s are met, i	the	Positi	veLogic	Negation	iveLogi
Status	Condition	Tag Content	Blink	Frequency(0				
0	LB0 OFF		None					
1	LB0 ON		None	1				
					Flash Mode:	None		
					Flash Mode:	None		
					Flash Freq.:		5 📩	x0.1S

2 Automatic looping

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

Switch	Indicator Light	Lable Graphic	s Dynamic Graphics	Display		
🗸 Use	Indicator					
Disp	lay Mode: Auto	omatic loopir 🔹	Frequency: 1	x100m	s	
Statu	us No.: 2					
		1 				
Help	Description	n:				OK Cancel

4.6.3 Numeric Value and Character Display

4.6.3.1 Numeric Value Display

4.6.3.1.1 General

• 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.

	Password		
Read Address: Use Address Tag			
Deivce: LOCAL:[Local Register]	•		
ddress Type: LW			
Address: 0 🗘 System	Register		
ormat(Range) DDDDDD(0 Occupy: 1	- Word		
Address Index			

• 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.

•		3	÷	•	•		÷		•	8	83	•	•	9	8	•	•		8	•	•		8	•	•		8	•	•		3	•
	•	•		•	•	•	÷	•	•			•	•			•	•	•		•	•	•		•	•	•		•	•	•		•
		ĥ																														
		1	\sim				×.			÷.	3				13		ł.		•	•			•	•			•	•	•		•	•
•	•	+	1	•	•	*		*	. 7	÷.	*	2.5	*	1	1		ŀ.			•				•	•			•	•	•	•	•
	•	÷									1																					•
	•	÷			•	•		- 2	•	•	2	2	•	•			Ł			•	•			•	•				•			•••
	•	÷	•	•	•		•	•	•	ः	•	٠.	•		•	•	۰.		•	•			1	•	•		•	•	•		1	•
•	•	•			•		•	•	•							•	•			•	•			•	•	•		•	•	•		•
•	•	•									•																					•
	•																															•••
1		8		•	•	87	·	•	•	8		15		3	•	•	•	3	1	•	. •	3	1	•	•			•	•	3		15
•	•				•			•	•							•	•			•	•			•	•	•		•	•	•		•
	•	•	•	•	•		÷	•	•		•	•	•	•	•	•	•	•		•	•	•	÷	•	•	•		•	•	•		•
					•			•	•	۰.		•	•	۰.		•	•								•				•			•••
		8	•	•	•	8	·	•		8	•	•		3	•	•		3	•	•			•	•	•		•	•	•		•	15
	•				•				•								•				•				•			•	•			

- Read Address
- Use Address Tag

Seneral	Number Form	nat Font	Graphics	Dynamic Graphics	Display			
Operati	on Attribute:	Numeric	Display (🕽 Numeric Input () Characters [Display 🔘 Chara	cters Input	
				Passwo	ord			
Read A	Address:	2						
🔽 Use	Address Tag	Running Ti	me	- 📎				
Deivce:	LOCAL:[Local	Running Ti						
		Motor Spe	ed					
	-		_					
	s Type: LW	1.0	*					
Addres	-	*		Register				
Formati	(Range) DDDD	DD(0 Oc	cupy: 2	+ Word				
III Add	ress Index							
Add	ress 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: Detailed manual/Library/Address Tag Library). 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	C	Constitut	Dynamic Graphics	Display			
eneral	Number Format	Font	Graphics	Dynamic Graphics	Display			
Operati	on Attribut e : 🧕 🛚	lumeric	Display (🛛 Numeric Input 🔘	Characters Dis	play 🔘 Characters	s Input	
				Passwor	d			
	Address:							
	Address Tag							
	Device1:[Ethernet		EMENS S7-	1200 * •				
Station	No.: 1 🚔 🕅 I	ndex						
	(
	s Type: MW		-					
Addres			CICCULTURE AND	Register				
	(Range) DDDD(0~;	20 Occ	cupy: 1	- Word				
Rate: 1	Normal 👻							
	Normal							
	High Speed Low Speed							
1								

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 editor/ Standard Byte Address Input</u>.

4.6.3.1.2 Number 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".

the second s	per Format Font Graphics Dyna	mic Graphics Display
Data Type:	16-bit Unsigned 🔻	
Integer dig	16-bit Signed 16-bit Unsigned	0 🚔 🔲 Display Positive Sign 📗 Zero Padding Left
Upper/Low	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 N	16-bit Binary 32-bit Binary Single precison floating point numl	ber

• Data setting

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

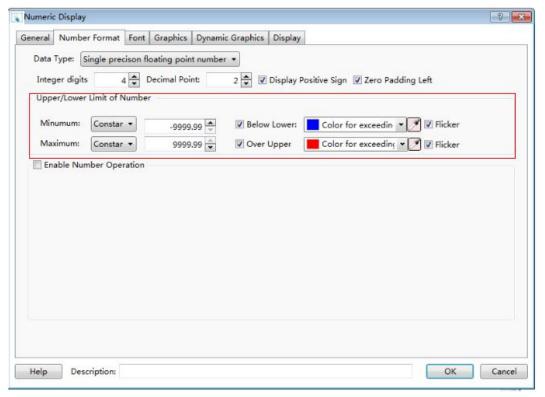
ata Type: Si		n floating point numbe	
nteger digits	4 🗘	Decimal Point:	2 😴 📝 Display Positive Sign 📝 Zero Padding Left
lpper/Lower	Limit of Num	ber	
Minumum:	Constar 🔹	-9999.99 🚔	Below Lower:
Maximum:	Constar •	9999.99	Over Upper

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



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

Data Type: Single precison flo	ating point number				
Integer digits 4 🗘 D	ecimal Point:	2 🗘 📝 Display	Positive Sign 👿 Zero P	adding Left	
Upper/Lower Limit of Number					
			1 miles		
Minumum: Constar •	500.00 🜩	Below Lower:	Color for exceeding	n 💌 📝 📝 Flicker	
Maximum: Constar •	1000.00 🗘	Vover Upper	Color for exceeding	n 💌 📝 🔽 Flicker	
Proportion Convert Expl Minimum Constant	ain 0 ✔	Maximum	Constant •	100	
© Zoom Expl					
Gains: Constant +	1 🔺	Offset:	Constant +	0 *	
C Logic Operation Result	= Source Al	ND + Consta	nt 👻 🛛 🔤	(Hex)	
O Shift Result	= Source	urn Left 👻	0 👘 Bit		

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".

Explain	
The Calcu	lating Formula of Using Proportional Conversion Function is As Below:
	/alue =Minimum Input Value+ (Output Value-Minimum Ratio Value)*(Maximum ue-Minimum Input Value)/(Maximum Ratio Value-Minimum Ratio Value)
	ting Value= Minimum Ratio Value+ (Output Value-Minimum Input Value)* Ratio Value-Minimum Ratio Value)/(Maximum Input Value-Minimum Input Value)

➤ Zoom

	ormat Font G	iraphics Dynamic	Graphics Display	(
Data Type: Sin	gle precison floa	ting point number	-			
Integer digits	4 - De	cimal Point:	2 🔹 🔽 Display	Positive Sign 🔽 Zero	Padding Left	
Upper/Lower Li	mit of Number					
			122 13	_		
Minumum:	Constar 🔻	500.00 🜩	Below Lower:	Color for excee	din 👻 🍠 🗹 Flicker	
Maximum:	Constar 🔻	1000.00 🗘	Vor Upper	Color for excee	dinç 💌 📝 又 Flicker	
Z Enable Numb	er Operation					
Minimum © Zoom	Constant +	0 🛬	Maximum	Constant *	100 🐥	
Gains:	Constant •	1	Offset:	Constant 👻	0 🌩	
C Logic Opera	tion Result	= Source Al	ND + Consta	nt - 0	(Hex)	
	Result	= Source	ım Left +	0 🗇 Bit		
C Shift	Nosur	- source	in con	o o la ou		
© Shift						
🔘 Shift						

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".

The Calculating Formula of Using Zooming Function Is As Below: Value written to PLC = (Input Value - Offset) + Gain Value displayed on HMI = (Output Value * Gain) + Offset

Logic Operation

eneral Number	r Format Font	Graphics Dynan	nic Graphics Display	6	
Data Type: 3	2-bit Signed 🔹				
Integer digits	4 🔹	Decimal Point:	0 🚔 📝 Display	Positive Sign 👿 Zero Paddin	g L e ft
Upper/Lower	Limit of Numbe	a.			
Minumum:	Constar 🔹	-9999 🗢	Below Lower:	Color for exceedin 💌	🖉 🔽 Flicker
Maximum:	Constar •	9999	Over Upper	Color for exceeding *	🕈 📝 Flicker
Z Enable Num	ber Operation				
Minimum	Constant *	0 <u>^</u>	Maximum	Constant * 100	
C Zoom	Exp	plain			
Gains:	Constant +	1	Offset:	Constant = 0	A V
Logic Ope	eration Result	= Source	AND • Constan	nt 🔹 🚺 👘 (Hex	
🔘 Shift	Result	= Source	Turn Left +	0 🔆 Bit	

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

neral Number	Format Fo	nt Graphics	Dynamic Gra	aphics Dis	play			
Data Type: 32	-bit Signed	-						
Integer digits	4 🖨	Decimal Po	int: 0	Disp	ay Positi	ve Sign 👿	Zero Padding Left	
Upper/Lower L	imit of Num	ber						
Minumum:	Constar 💌		999 🌲 🔽	Below Low	er:	Color for	exceedin 💌 📝 🗹 I	licker
Maximum:	Constar 🔹			Over Uppe			exceeding 💌 📝 🔽 F	
Z Enable Num	per Operatio	on						
Proportion Minimum	Convert Constant +	Explain	0 *	Maximum	Const	ant *	100	
C Zoom		Explain						
Gains:	Constant *		1 🚖	Offset:	Const	tant ×	0 🔆	
O Logic Oper	ation Res	ult = Sou	Irce AND	~ Con	stant 👻	0	(Hex)	
Shift	Res	ult = Sou	urce Turn L	.eft 🔹	3 🗘 I	Bit		

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

4.6.3.1.3 Font

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

4.6.3.1.4 Graphics

The detailed graphics setting can be seen: Detailed manual/ General function/ Graphic edit.

4.6.3.1.5 Dynamic Graphics

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

4.6.3.1.6 Display

The detailed display setting can be seen: Detailed manual/ General functions/ Display.

4.6.3.2 Numeric 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.

4.6.3.2.1 General

• Password

ieneral	Number Forma	t Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
Operati	on Attribute: 🔘	Numeric Display 🔘	Nume	ric Input 🏾	Characters Display	Characters Inp	ut	
Read	ing And Writing	Address Is Different	[Passwo	rd			
	ddress:							
🔽 Use	Address Tag	unning Time	• 9					
Deivce:	LOCAL:[Local R	egister]		*				
			egiste Wor	_				

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.

1	•	·	3			•	2			·	2		•	·	2		•	·	2		•	•	2		•	•	2		•	·	2	
•	•	•	•		•	•	•		•	•	•		•	•	•	•	•	•	•		•	•	•		•	•	•	•	•	•	•	
			۰.			•••	۰.				۰.								۰.				۰.				۰.					
-			22	20	2	32	22	\mathbf{e}_{i}			22	20			22				22	20			32	\mathbf{c}_{i}			22	10		•	12	20
•			1.0	-		_	-	-			-	-	-		÷.																	
•	•	•	•		•	•	4	÷	•	•	×.	*	•	•	8			•	•			•			•	•	•		•	•	•	
			•		•	*	+	ŧ.	*	.,	*	*	•	•	÷				۰.				з.			•	۰.				۰.	
1			: I	1	1	٠.	. • `				٠.	1	•	1	÷.	25	1		22	20	1		12	25	22		12	25	1		12	20
•	•		•		•	•	۰.			•		1		•	÷.		•	•			•	•	•		•		•		•		•	
•	•	•		•	•	•	•	•	•	•	•	•	•	•	÷		•	•	•	•	•	•	•		•	•	•		•	•	•	•
•			•			•••												•				•				•	۰.					
5			22	50	1	-																		55	10		3	5			27	50
•	•	•	•		•	•			•	•	•		•	•	•		•	•	•		•	•	•		•	•	•	•	•	•	•	
•	•	•	•		•	•	•		•	•	•		•	•	•			•	•		•	•	•		•	•	•		•	•	•	
						•																					۰.					
5			37	55		33	3	55	182		32	53			35	5			27	55			37	55	22	2	37	55		1	3	52

• Reading Address" and "Writing Address

Operati	on Attribute: 🛛 🔊	Numeric Display 🧕	Numer	ic Input 🤅	Characters Display	Characters Inp	ut	
🗸 Read	ling And Writing Ad	ddress Is Different]	Passwo	rd			
Read A	Address:			Writ	e Address:			
Use	Address Tag			10 U	se Address Tag			
Deivce:	LOCAL:[Local Reg	jister]		Deiv	ce: LOCAL:[Local Re	gister]	•	
Addres Format		System R 0 Occupy: 1	-	Add d Form	ress Type: LW ress: 0 A nat(Range) DDDDDD ddress Index		• Register • Word	

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".

4.6.3.2.2 Keyboard Setting

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

4.6.3.3 Character Display

4.6.3.3.1 General

• Operating Attribute

	Graphics Dynamic Graphics Display	
Operation Attribute: 🔘 Numeric	Display 🔘 Numeric Input 🧕 Characters Display 🔘 Cha	iracters Input
	Browse Method: 📝 Scrollbar 📝 Screen Scrollbar V	Width 20 🖨
	ASCII Password Unicode Swap the F	ligh byte and the Low byte
Read Address:		
Use Address Tag		
Deivce: LOCAL:[Local Register]		
Address Type: LW	·	
Address: 0	System Register	
ormat(Range) DDDDDD(0 Occ	upy: 1 - Word	
Address Index		
_ 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 "Scroll bar" and "Screen". You can select the "Scroll bar" or the "Screen" or both ways to browse the content of the current character component. The scroll bar width can be freely set. The "Screen" browse method is only effective for a capacitive screen.

• Display Mode

Operation Attribute: Numeric Display Numeric Input Characters Display Characters Input Browse Method: Scrollbar Screen Scrollbar Width 20 ASCII Password Unicode Swap the High byte and the Low byte Read Address: Use Address Tag Deivce: LOCAL:[Local Register] Address Type: LW Address: System Register Format(Range) DDDDDD(0 Occupy: 1 Word	General Characters Setting	Font Graphics Dynamic Graphics Display
ASCII Password Unicode Swap the High byte and the Low byte Read Address: Use Address Tag Deivce: LOCAL:[Local Register] Address Type: LW Address: 0	Operation Attribute: 🔘 Nu	imeric Display 🔘 Numeric Input 🧕 Characters Display 🔘 Characters Input
Read Address: Use Address Tag Deivce: LOCAL:[Local Register] Address Type: LW Address: 0 System Register Format(Range) DDDDDD(0 Occupy: 1 + Word		Browse Method: 🛛 Scrollbar 📝 Screen Scrollbar Width 20
Read Address: Use Address Tag Deivce: LOCAL:[Local Register] Address Type: LW Address: 0 System Register Format(Range) DDDDDD(0 Occupy: 1 + Word		ASCITE Password Linicode Swap the High bute and the Low bute
Use Address Tag Deivce: LOCAL:[Local Register]		A HOLE Password Oncode Swap we high one and we con over
Deivce: LOCAL:[Local Register] Address Type: LW Type: Address: 0 System Register Format(Range) DDDDDDD(0 Occupy: 1 Hord		
Address Type: LW Address: 0 System Register Format(Range) DDDDDD(0 Occupy: 1 + Word		-
Address: 0 System Register Format(Range) DDDDDD(0 Occupy: 1 + Word	Denvies LOCALILICIAI Regis	Aler J
Address: 0 System Register Format(Range) DDDDDD(0 Occupy: 1 + Word		
Format(Range) DDDDDD(0 Occupy: 1 + Word	Address Type: LW	•
Address Index	Format(Range) DDDDDD(0	Occupy: 1 + Word
Address index	E 444 1 4	
	Address 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

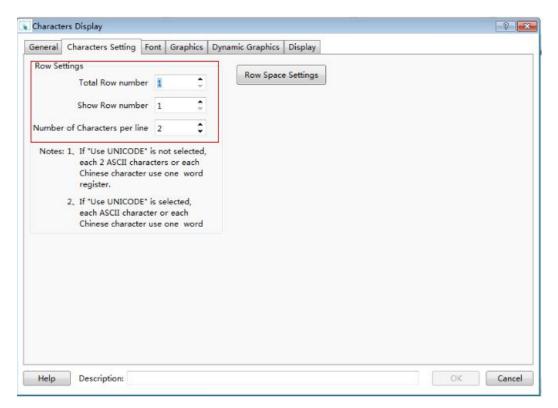
Operation Attribute: Numeric Display Numeric Input Characters Display Cha Browse Method: Scrollbar Screen Scrollbar V ASCII Password Unicode Swap the H Read Address: Use Address Tag Running Time Deivce: LOCAL:[Local Running Time Motor Speed Address Type: LW Address: System Register Format(Range) DDDDDD(0 Occupy: 1 v Word	Midth 20 💌
Read Address: Use Address Tag Deivce: LOCAL:[Local Running Time Motor Speed Address Type: LW Address: 0 System Register	ign byte and the cow byte
Address: 0 System Register	
Format(Range) DDDDDD(0 Occupy: 1 - Word	
Address 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 address setting includes the attributes : "Device", "Address Type", "Address", "Format (Range)", "Address Index", and so on. Please see: <u>Detailed manual/ General functions/ Address editor/ Standard Byte Address Input</u>.

4.6.3.3.2 Characters setting

• Row Settings



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 scroll bar will appear automatically.

Row Space settings

Row Settings Total Row number Show Row number Number of Characters per line Notes: 1. If "Use UNICODE" is n each 2 ASCII character Chinese character use register. 2. If "Use UNICODE" is s each ASCII character c Chinese character use Chinese character use Color: Shadow Effects Color: Shadow Deviation: X: 0 Y t 0	ieneral Characters Setting Font	t Graphics Dynamic Graphics Display	
	Row Settings Total Row number 1 Show Row number 1 Number of Characters per line Notes: 1. If "Use UNICODE" is a each 2 ASCII character Chinese character use register. 2. If "Use UNICODE" is a each ASCII character	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 Effects", and so on.

4.6.3.3.3 Font

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

4.6.3.3.4 Graphics

See detailed Graphics setting in: Detailed manual/General functions/Graphic edit.

4.6.3.3.5 Dynamic Graphics

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

4.6.3.3.6 Display

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

4.6.3.4 Character Input

4.6.3.4.1 General

• Operation Attribute

eneral	Characters Setting	Keyboard Setting For	nt Graphics	Dynamic Graphics	Control Settings	Display	
Operatio	on Attribute: 🔘 Nu	meric Display 🔘 Numer	ic Input 🔘 🤇	Characters Display	Characters Input		
		Browse Method:	Scrollba	ar 👿 Screen Scrol	lbar Width 20	-	
	·	dress Is Different 📝 ASCII					
Read	ing And writing Add	Iress is Different 🖉 ASCII	assword		the High byte and	the Low byte	
	ddress:						
	Address Tag		_				
Deivce:	LOCAL:[Local Regis	iter]	•				
Address	s Type: LW	-					
Addres	and the second s	System Register	a				
	Range) DDDDDD(0						
Addr	ress 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 "Scroll bar" and "Screen". You can select the "Scroll bar" or the "Screen" or both ways to browse the content of the current character component. The scroll bar width can be freely set. The "Screen" browse method is only effective for a capacitive screen.

• Display Mode

reneral	Characters Setting	g Keybo	ard setting ron	Graphics	Dynamic Grap	nics Co	ntroi Setting	Is Display	
Operati	on Attribute: 🔘 N	lumeric D	isplay 🔘 Numeri	c Input 🔘 C	haracters Displ	ay 🧕 Ch	aracters Inp	ut	
		В	rowse Method:	Scrollba	ar 🔽 Screen	Scrollbar	Width 20	•	
Read	ling And Writing Ac	ddress Is	Different 📝 ASCII	Password	Unicode 2	wap the	High byte a	nd the Low b	ovte
	lddress: Address Tag								
	LOCAL:[Local Reg	isterl		i l					
	a contraction neg		3	,					
Addres	s Type: LW		•						
Addres	s: 0 📩) 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	System Register)					
Format	(Range) DDDDDD(0 Occuş	by: 1 - Word	l.					
	ress Index								
Add	ress 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
- 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".

eneral character:	Setting Ke	eyboard Setting	Font	Graphics	Dynamic Graphics	s Control Setti	ngs Display	
Operation Attribute	: ONumer	ric Display 🔘 N	umeric	Input 🔘 C	haracters Display	Characters In	nput	
		Browse Metho	od:	Scrollba	Screen Scr	ollbar Width	20	
_		bromse mean		e ocronou	C Server Ser		20	
Reading And Wr	iting Addres	s Is Different 🗹 J	ASCII	Password	Unicode Swa	p the High byte	and the Low I	byte
Read Address:				Write #	Address:			
🔲 Use Address Ta	9			🔲 Use	Address Tag			
Deivce: LOCAL:[Lo	cal Register]			Deivce:	LOCAL:[Local Reg	gister]		
_								
Address Type: LW				100000000000000000000000000000000000000	s Type: LW			
Address: 0	*	System Reg		Addres	1.4.1		em Register	
Format(Range) DD	DDDD(0 O	ccupy: 1 +	Word	Format	(Range) DDDDDD(0 Occupy: 1	+ Word	
Address Index				ITT Add	ress Index			
Address Index				Add	ress index			

Use Address Tag

	at a ut	Las an and a set of the		0.11	a 1.6 H			
eneral 🥹	Characters Setting	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
		Browse Method:		Scrollbar	acters Display () Cl Close Screen Scrollbar Unicode () Swap the	Width 20 💌	Low byte	
Read Add	ress:		-	1				
Use Ad	dress Tag	•]	0					
Deivce: LC	OCAL:[Local Running	Time	-					
	Motor S	peed	-					
	100		1					
Address Ty	ype: LW	-						
Address:	0	System Registe	er:					
ormat(Ra	nge) DDDDDD(0 (Occupy: 1 - Wo	ord					
Address	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", "Address", "Format (Range)", "Address Index", and so on. Please see: <u>Detailed manual/ general functions/</u> Address editor/Standard Byte Address Input.

4.6.3.4.2 Characters Setting

• Row Settings

ieneral	Characters Setting	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
Row Set	tings							
	Total Row numb	er 🚺 🗘		Row Space	e Settings			
	Show Row numb	er 1 🗘						
Number	of Characters per li	ne 2 🗘						
Notes:	 If "Use UNICOD each 2 ASCII cha Chinese character register. 							
	2. If "Use UNICOD each ASCII chara Chinese characte		-					

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 scroll bar 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

Row Settings Total Row number Show Row number Number of Characters per line Notes: 1. If "Use UNICODE" is a each 2 ASCII character Chinese character use register. 2. If "Use UNICODE" is a each ASCII character of Chinese character use Color: Shadow Effects Color: Shadow Color VI Shadow Deviation: X: 0 V: 0 V: 0 VI OK Cancel	General	Characters Setting	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
	Number	Total Row numb Show Row numb of Characters per li 1. If *Use UNICOD each 2 ASCII cha Chinese characte register. 2. If *Use UNICOD each ASCII chara	er 1 Advanced ne Advanced Et is n aracter er use Line Sp Et is s acter c er use Color:	oace: (w Effe	aling: 100% D 🗢 W ects iation: X: 0	Vords Space: () ShadowColor			

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.

4.6.3.4.3 Keyboard Setting

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

4.6.3.4.4 Data font

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

4.6.3.4.5 Control Settings

See detailed control setting in: Detailed manual/ General functions/ Control settings.

4.6.3.4.6 Display

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

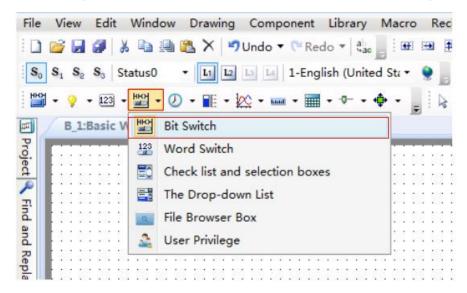
4.6.4 Toggle Switch and menu

4.6.4.1 Bit 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.

loggle §	Switch					-7-
eneral	Toggle Switch	Graphics	Dynamic Graphics	Control Settings	Display	
Type:			Word toggle swi Address Are Differen			
Read	l and Write Add					
	e Address Tag	ess				
Deivo	e: LOCAL:[Local	Register]	•			
Addre Forma	ess Type: LB ess: 0 at(Range) DDDD ddress Index	DDD(0	System Register			
	_	_				

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



	Switch		ŋ	F - 아 - 브 알 - 페 - 페 - 영 백 - 백 - 백
9	Indicator Light	•	B	1:Basic Window(1) 🔹 💽 🛅 💷
123	Numeric Value and Character Display	•	-	
HIO	Toggle Switch and menu	•	ю	Bit Switch
0	Timer and Data Transmission		123	Word Switch
E	Bar And Meter			Check list and selection boxes
100	Curve Graphs			The Drop-down List
badd	Scale		<u>A.</u>	File Browser Box
	Table		3	User Privilege
-0-	Slider	•]	11	
\$	Moving Component	•	11	
	Window		::	
	List		10	
R	Tools		•••	
	Pipeline			

4.6.4.1.1 General

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

		ontrol Settings	Display		
Action: Press V Sw	vitchType: On 🔹	Im	port from Favorite	Font Templates.(I)	
🕅 Language Independent	On	O Vecto	or Font 🔘 Graphi	c Font	
Language: 1-English (Unite		Font:	Microsoft Sans Se	erif •	
Use Text Library	Reset Text Lib	rary Size:	16 • B <i>I</i>		
Use Label	Text Libr		ne Alignment:		
-					
Adaptive label size					
Tag Contents	Save Contents To Text Libr	rary	Microsoft S	ans Serif	
Copy Text to: All Stat	tus All Languanges All	Copy Att	tr. to: All Stat	us All Languanges	All
Set label position by lang	wage, state separately	Index	Correspond	Tag Contents	
been beened of und	AMA	0	0		
Pos.: Left Right:		1	1		
Pos.: Left Right:		-			
Pos.: Left Right: Top Bottom:	À À À				
	À À À				
Top Bottom:	<u>A</u> A				
Top Bottom:	<u>A</u> A	-			
Top Bottom:	À A				
Top Bottom:	<u>A</u>	-			
Top Bottom:	<u>A</u>				

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

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: Detailed manual/ General functions/ Marquee.

4.6.4.1.3 Graphics

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

4.6.4.1.4 Control Settings

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

4.6.4.1.5 Display

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

4.6.4.2 Word 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.

File	View Edit	Window Drawing Component Library N	Macro Re
	🗃 🖬 🗿 🐰	🗈 🚇 🚵 🗙 🗳 Undo 🔹 🏱 Redo 💌 🖏	
\mathbf{S}_0	S ₁ S ₂ S ₃ St	atus0 🔹 📘 🖬 🖬 🖬 1-English (United	Sti 🔹 🧕
ню	123 -	戦・②・■・※・■・●・◆	- 10
नी	B 1:Basic W	Bit Switch	
	D_A.DASIC VI	E Dit Switch	1
Droient		123 Word Switch	
<u>p</u>			
<u>+</u>		Check list and selection boxes	
		The Drop-down List	
n			
		File Browser Box	
		rile browser box	
ha		A 11 A 1 1	
		🚵 User Privilege	
D			
D		calination while acts while	

	Switch	• 표 · · · · · · · · · · · · · · · · · ·
9	Indicator Light	 B_1:Basic Window(1) B_1:Basic Window(1)
123	Numeric Value and Character Display	
HIOH	Toggle Switch and menu	Bit Switch
0	Timer and Data Transmission	Word Switch
E	Bar And Meter	Check list and selection boxes
00	Curve Graphs	 The Drop-down List
hand	Scale	File Browser Box
	Table	🕨 🟯 User Privilege
-0-	Slider	• [1000000000000000000000000000000000000
.	Moving Component	• 1111111111111111111111111111111111111
	Window	•
	List	• • • • • • • • • • • • • • • • • • • •
Ķ	Tools	• • • • • • • • • • • • • • • • • • • •
4	Pipeline	

4.6.4.2.1 General

oggle Switc	h						8
eneral Tog	gle Switch	Graphics	Dynamic Graphics	Control Settings	Display		
) Bit toggle Address ar		Word toggle swi ddress Are Differen				
Read and	Write Addr	ess					
📰 Use Ad	dress Tag						
Deivce: L	DCAL:[Local	Register]	•				
Address T Address: Format(Ra	0 Inge) DDDD	DD(0 Occu Data Type	System Register py: 1 + Word 16-bit Unsign +				
Help	Description:	1				ОК	Cance

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

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.

Advanced
Advanced
Advanced
Advanced
rif
guanges All
Contents
te
-

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: Detailed manual/ General functions/ Marquee.

4.6.4.2.3 Graphics

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

4.6.4.2.4 Control Settings

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

4.6.4.2.5 Display

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

4.6.4.3 Check 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

Menu	2
General Selector Setting Graphics Control Settings Displa	У
Type: 🔘 List and Check-Box 🔘 Drop-down List	Browse Method: V 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 Cancel

Browse Method

The "Browse Method" includes "Scroll bar" and "Screen". You can select the "Scroll bar" or the "Screen" or both ways to browse the content of the current component. The scroll bar 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.

eneral	Selector Set	ting	Graphics Control Settings Di	splay
Item Co	ount	6	Selected Color	🕈 Language: 1-English (United S 🔹 💽
Line Sp	acing:	5	Sackground Color	Language Independent
			Border Color	Use Text Library Text Library
				 Use Tag Adaptive label size.
Index	Correspo	ond	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	O Vector Font O Graphic Font
4	4	*	4	Font: Microsoft Sans Serif •
5	5	*	5	Size: 16 V B Z V Advanced
6/Erro	1 Other			
Erro	nput	n	rror status 🔘 Keep Current Status ess:	Microsoft Sans Serif
				Copy Attr. To: All Status All Languages All

• 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 scroll bar. 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".

neral	elector Sett	ing	Graphics Control Set	ttings Display				
ltem Co Line Spa			Selected Color Background Color Border Color	• 2 • 2 • 2	Language: 1-Eng Language Inde Use Text Libra Use Tag Z Adaptive	ependent ry	• 🕑 Text Lit	orary
Index	Correspo	nd	Tag Conter	nt	Tag Content	Sav	e Tag Content To T	ext Library
0	0	-	0					\$
1	1	-	1	1	Copy Text To:	All Status	All Languages	All
2	2	-	2		Import from	Favorite Fon	t Templates.(I)	
3	3	-	3		O Vector Font	Graphic Fo	nt	
4		-	4			ft Sans Serif	•	
5(Error)	Other				Size: 16 • B Multi-line Alignm		▼ ✓ ■ TT Advanced	
Error	nput Disp Notification	'n	ror status 🔘 Keep Curr ss:	rent Status	Copy Attr. To:	soft Sar	All Languages	All

For example, the "Item Count" is set 5. The value of the "Index" is $0\sim5$. Index $0\sim4$ 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.

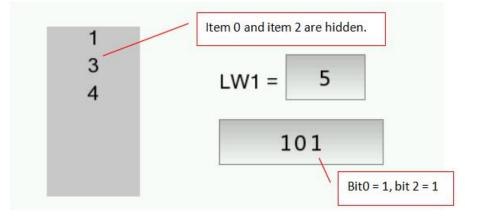
• Enable Control Address

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.

Item Count: Line Spacing: Index Corre 0 1 2 3	5 5 9 9 9 9 0 1 2 2	 Selected Color Background Color Border Color Tag Content 0 1 	Language: 1-English (United S □ Language Independent ○ Use Text Library ③ Use Tag ☑ Adaptive label size. Tag Content Copy Text To: All Status	Text Lib	
0		0		ve Tag Content To Te	ext Library
1 2		.03.9	Copy Text To: All Status		1
2		1	Copy Text To: All Status		
-	2 -			All Languages	All
3		2	Import from Favorite For	nt Templates.(I)	
	3	3	O Vector Font @ Graphic Fo		
4	4	4	Font: Microsoft Sans Serif	•	
5(Error) Ot	ther		Size: 16 • B I Multi-line Alignment	TI Advanced	
Error Notific Enable Cont	cation L trol Addre		Microsoft Sar	All Languages	IIA

In the figure above, when there is any wrong status, LB0 will be set to ON. When LW1=5, index 0 and index 2 will be hidden.



4.6.4.4 The 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 scroll bar 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.

	Browse Method:
Type: 🔘 List and Check-Box 💿 Drop-down List	Scrollbar Scrollbar Width 20 😴
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 Regis	tar
Format(Range) DDDDDD(0~7999 Occupy: 1 + W	
Format(Range) DDDDDD(0~7999 Occupy: 1 v W Data Type: 16-bit Unsigned	
Format(Range) DDDDDD(0~7999 Occupy: 1 + W	
Format(Range) DDDDDD(0~7999 Occupy: 1 v W Data Type: 16-bit Unsigned	

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 manual/Commponent/Toggle</u> <u>Switch and menu/Check list and selection boxes</u>.

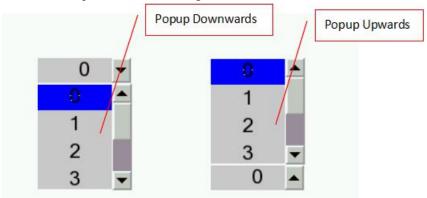
4.6.4.4.2 Selector Setting

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

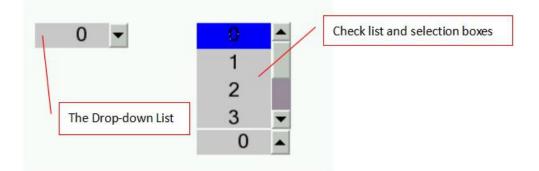
eneral	Selector Set	ting	Graphics Control Settings D	lisplay
Item (Count:	6	🗘 Selected Color 🛛 📘 💌	Z Language: 1-English (United S 🔹 💽
Line S	pacing:	5	Sackground Color	🖉 🔲 Language Independent
Pop-u	p style: Popu	p Dc	Border Color	CUse Text Library Text Library
			wnwards wards	Use Tag Z Adaptive label size.
Inde	x 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	E 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 V B Z V Multi-line Alignment:
6(Erre		and the second second		
Err	input ® Disp or Notificatio able Control /	n	rror status 🔘 Keep Current Statu :ss:	Microsoft Sans Serif
				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 menu/Check</u> list and selection boxes.

4.6.4.5 File Browser Box

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

	Only Show the File with Designated Suffix.
Font Size: 24 Colors:	Add Items Delete
Date Format:	Separator: //
Notes: SRW300~349: the absolute path charact SRW350~389 : File Name Character Strin SRW390: execute file browser.	
0-Cancel or No Operation.	3-Import the Formula to HMI
1-Import the Project to HMI	4-export recipe to SD Card or U-disk
2-Export to SD Card or U-disk fro	

4.6.4.5.1 General

- Font Type
- Font Size

Select the appropriate font size here.

➤ Colors

Select the font color by the tool "I'' 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:	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.



• 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/Display</u>.

4.6.4.6 User Privilege

4.6.4.6.1 General

Displa	y The Table					
Lang	uage: 1-English (L 🔻 🍳	🗹 Display the Title Bar	Title Bar Font Set	tting		
V U	se Label 📝 Use same font	for table contents and tit	le.			
Use	Display The Project	Title Bar Description				
V	Serial No.	Serial No.				
1	User Name	User Name				
1	User Privilege	User Privilege				
V	Automatic Log-out Time	Automatic Log-out Time		Move Up	1	
				Down	1	
					1	
			L R	estore to default	J	
-	Spacing: 5 🗢 Co	lumn Spacing : 5	•			
10.04	Spacing: 5 A Co	luma Cassing	•			

• 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 English separately.

Lang	uage: 1-English (U 🔻 🎈	☑ Display the Title Bar Title Bar Font S	etting
V U:	se Label 📝 Use same font	for table contents and title.	
Use	Display The Project	Title Bar Description	
V	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 inDetailed manual/General functions/Drawing/Font settings.

	nport from Favorite Font Templates.(I tor Font)
Font:	Microsoft Sans Serif 🔻
Size:	16 • B I 🔳 • 📝
Multi-	ine Alignment: 🗐 🗐 🔳 TT Adva
	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 Descrip	tion		
	Serial No.		Jan 🕗		
1	User Name				
1	User Privilege	Text Library	- #		
1	Automatic Log-out Ti			Search	Language Di
		ABCD	E F G H I	JKLMN	O P Q
		A B C D	E F G H I	J K L M N	OPQ

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, the font 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 items by 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.	
J	User Name	User Name	
V	User Privilege	User Privilege	
1	Automatic Log-out Time	Automatic Log-out Time	Move Up
			Down
			Restore to default

Row Spacing 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".

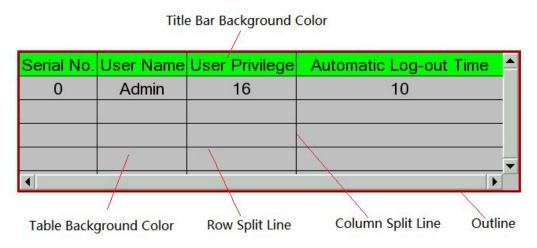
Detailed Info

Detailed Info:	Single Click	•	Popup Window:	B_29001:User privilege(-
			Contraction and a second s	(

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.



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

User Authorization Overview	8
General Table Search Display	
Table Background Color: 📃 Background 💌 📝	
Title Bar Background Color : 📃 Background 👻 🌌	
Outline Style: Line Width: Outline Boar 🕶	?
Split Line Style: 📃 🔹 Line Width: 🔤 🔹 🚺 Split Line Co 💌	2
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 Color	: 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.

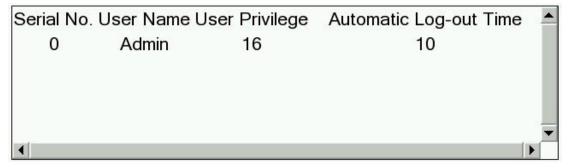
Outline Style:	 Line Width:	 •	🗖 Outline Boar 💌 📝
Split Line Style:	 Line Width:	— • I	Split Line Co 👻 📝

• 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	
				-
•				

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



4.6.4.6.3 Search

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

Seneral	Table S	earch	Display		
🔽 En	able searc	h			
	Search by	User Na	ime		
	Search Tri	gger Bi	t LBO		
			LB0 Value 1, it will o Value 0, it mea	lisplay the result after filtering by ns no filtration.	range.
	Search Re	gister	LW0		
			letters or 8 charact	ers.	

• 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

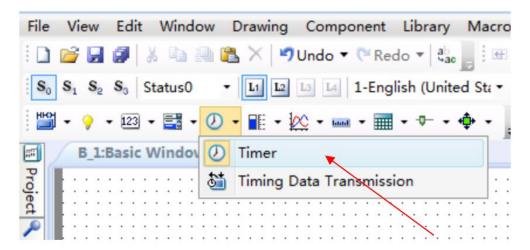
The settings of the "Display" property TAB are referred to: Detailed manual/General functions/Drawing/Display.

4.6.5 Timer and Data Transmission

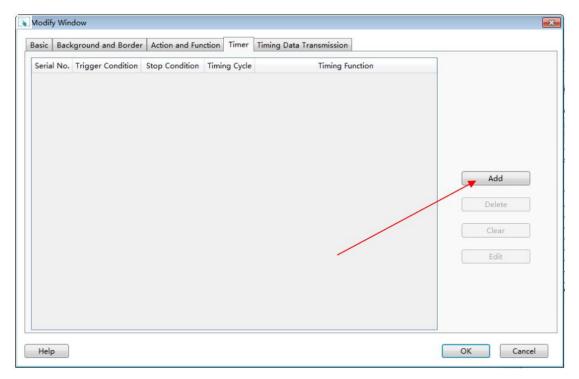
4.6.5.1 Timer

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

asic Background and Border Action and Function Timer	Timing Data Transmission
Window Description: Basic Window	Print Page
Window No. (By Type): 1 \$ Width: 1024 \$ Height: 600 \$	Window number (used for window switching)1 Window Type: Base Window
Window Orientation: Horizontal Vertical	
Popup Window	Safety User Level: 0: Switch to user level when window closed:
Overlapped Window	Window Effect
Bottom Layer: None	🔲 Fade in
Middle Layer None -	Tade out
Top Layer: None 🔹	



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



4.6.5.1.1 Trigger and Stop

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 Can

• Timing and Execution

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

Timing and Execution		
Execution Period:	10 🔷	x 0.1S
☑ 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 100×0.1 s.

> Delay

In the case of unchecked "Delay" by default, when the trigger condition of the timer is 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.

> Bit

Trigger Condition	ו:	
🖲 Bit 🔘 Word	Condition	
	the window is open the window is closed	
Trigger Address	EB0	
Trigger Mode:	OFF -> ON	🔹 🔲 Auto Reset
	OFF -> ON	
	ON -> OFF	
	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 "Auto Reset" option.

> Word

Trigger Condition:	Condition	
Trigger when the Tri	ne window is open ne 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.

> Condition

🗇 Bit 🔘 Wo	rd 🧿 Conditi	on	
Trigger wh	en the windov	v is open	
	ien the windov		
Condition			

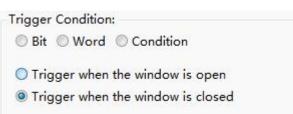
If you select "Condition" option, you can use a set of conditions to control the timer trigger. For the logical condition editing, see: <u>Detailed manual/General functions/Logic Control</u>.

> Trigger when the window is open

Trigger	Condition:
🔘 Bit	○ Word ○ Condition
Trig	gger when the window is open
O Trig	gger 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



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 stop when the window closed

Conditi	on for stop
🔘 Time	r will stop when the window closed.
If need	to end, please choose the end condition.
1000	when specified count value reached dition 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 s	top	
Timer will sto	p when the window	closed.
If need to end,	please choose the e	nd condition.
Stop when s Condition Ju	pecified count value dgement	reached
Repeat Times:	Constant 🔻	1
	Variable	
	Constant	

You can use the condition for stop to make the timer end automatically after repeating the specified number of times. Where in, 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 timer can only be executed once.

Condition Judgment

Condition for Timer will s	stop top when the window closed.	
If need to end	l, please choose the end condit	ion.
 Stop when Condition J 	specified count value reached ludgement	
Condition		

You can control the timer to end by using a set of conditions. When the conditions are satisfied, the timer execution ends. For the logical condition editing, see: <u>Detailed manual/General</u> <u>functions/Logic Control</u>.

4.6.5.1.2 Timer Function

Timer		?
Trigger and Stop Timer Function 🥥		
Run Macro		
Status Setting		
🔲 Audio Play		
Help	ОК	Cancel

Click the "Timer Function" tab and open the "Timer Function" property TAB.

• Run Macro

Run Macro	· •	Macro Code	Edit	0

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 instruction is 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.

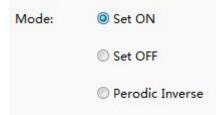


• Status Setting

The "Status Setting" 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 functions/Address editor</u>.

Timer		
Trigger and S	Stop Timer Function	
Run Macr	o Drawingl 🔻 Macro Code	Edit
_	Bit Setting	Use Address Tag
V Status Set	Word Setting	Deivce: LOCAL:[Local Register]
		Bit-index within a Byte Register
Mode:	Set ON	Address Type: LB
	Set OFF	Address: 0 System Register
	Perodic Inverse	Format(Range) DDDDDD(0~799
	- Ferodic Interse	Address Index
Microinstruct	tion and Status Setting Run Simul	taneously, and the precedence is not sure
Audio Play	у	
Help		OK Cancel

➢ Bit Setting



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 switches the LB0 bit. LB0 will change the state once per second, 1 second is ON and 1 second is OFF.

> Word Setting

Mode:	Add	-
	Add	
Loop Re	e Subtract Constant	end
Add/Substract:	Constant 🔹	1 🔹
Lower Limit:	Constant 💌	0
Upper Limit:	Constant •	100 🔷

Word setting refers to periodic setting of a word register by timer. The setting modes include "Add", "Subtract" and "Constant".

• Audio Play

🔽 Audio Play	Audio Library	Sleep Away	\bigcirc
			0

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. For adding audio files, please refer to:Detailed

manual/Library/Audio Library. Click the triangle play button at the back of audio file, you can hear the audio file.

Note:

The "Run Macro", "Status Setting" and "Audio Play" options can 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.

rigger and Stop 🕢 Data Transmission Notification Timing and Execution Execution Period: 10 🗢 x 0.1S Delay	
Trigger Condition: Bit Word Condition Trigger when the window is open Trigger Address: 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

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 Data Transmissionn/Timer</u>.

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 TAB of some components. It is used for before-writing notification and after-writing notification.For the detailed settings, refer to: <u>Detailed manual/General functions/Drawing/Control settings</u>.

4.6.6 Bar and 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</u> <u>manual/Component/Bar and Meter/Sector Chart</u>.

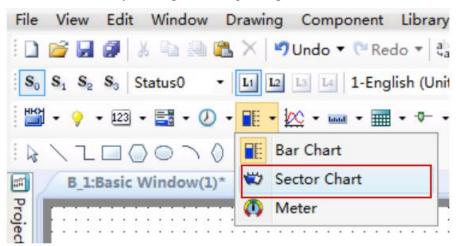
Bar Graph and Sector Graph	? 💌
General Extended Scale and Mark Dynamic Graphics Dis	play
Type: Standard Deviation Type Display Displa	y upward y upward y downward y leftward y rightward
Minimum Value: Constant Maximum Value: Constant 100	Upper and lower thresholds of Alarm
Read Address:	
Deivce: LOCAL:[Local Register]	
Address Type: LW	
Address: 0 Format(Range) DDDDDD(0~799999)Occupy: 1 Data Type: 16-bit Unsigned	
Address Index	
Help Description:	OK Cancel

4.6.6.2 Sector Chart

Add a sector chart component by clicking the menu command "Component/Bar and Meter". It is shown as below.

Con	nponent Library Macro Recipe Setup	Tools Help
	Switch	▶ 〒 � 些 😫 到 🗟 🤫
9	Indicator Light	B_1:Basic Window(1) •
123	Numeric Value and Character Display	* 🛛 🎋 🎋 🚵 🏝
Ню	Toggle Switch and menu	• • • • • • • • • • • • • • • • • • •
\odot	Timer and Data Transmission	<u></u>
	Bar And Meter	Bar Chart
100	Curve Graphs	 Sector Chart
had	Scale	 Meter
	Table	•
-0-	Slider	 Iteration
	Moving Component	•
ны	Window	•
1	List	•
R	Tools	•
	Pipeline	

You can add the sector chart by clicking the corresponding shortcut button. It is shown as below.



4.6.6.2.1 General

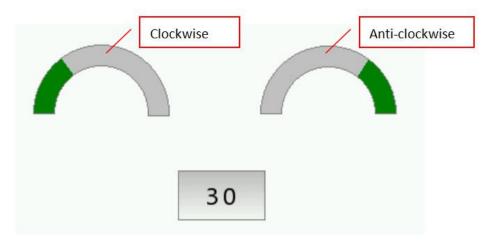
General	Eutondad	Ceals and Mark	Dynamic Graphics Dis	play				
General	Extended	Scale and Mark	Dynamic Graphics Dis	spiay				
Shape: (Bar Graph	n 🧿 Fan-shaped G	raph Direction: Clo	ckwise 💌	Angle:			
					Inside and ou	itside ring rati	0(%)	70 🗘
	Chardend	O Deviation Tree			Start Angle	180	End Angle	360 🚖
ype:	Standard	Deviation Type			Store Angle	100	cha Angie	
Minimum	Value: Co	enstant •	0					
	n Value: Co		100	Upper	and lower thresho	lds of Alarm		
		enstant •	100					
Read Ad								
-	ddress Tag							
eivce:	LOCAL:[Loca	al Register]	•					
ddress	Type: LW		•					
		*	• System Register					
ddress:	0	DDD(0~799999) Oc	System Register					
ddress:	0	DDD(0~799999)Oc	System Register					
ddress: ormat(R	0	DDD(0~799999)Oc	System Register					
ddress: ormat(R	0 lange) DDD	DDD(0~799999)Oc	System Register					
ddress: ormat(R	0 lange) DDD	DDD(0~799999)Oc	System Register					
ddress: ormat(R	0 lange) DDD	DDD(0~799999)Oc	System Register					
ddress: ormat(R	0 lange) DDD	DDD(0~799999)Oc	System Register					
Address: Format(R	0 lange) DDD	DDD(0~799999)Oo Data Type:	System Register				ОК	Cance

• Direction

The option "Direction" is used to set the starting point direction which refers to the fill direction of the sector chart.

Shape:	Ø Bar Graph I Fan-shaped Graph Direction:	Clockwise 🔻
		Clockwise
-		Anti-clockwise
Type	Standard O Deviation Type	

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 radius. The "Start angle" of the sector chart can be set at will. The effect is shown as below.

?

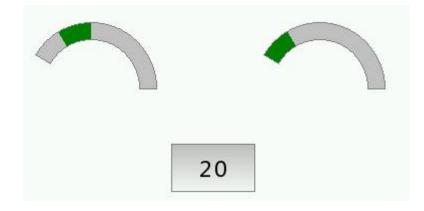
• Type

The types of the sector chart include "Standard" and "Deviation Type". 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 bias type pie chart.

As shown as below, after selecting the Deviation Type, the "Origin Pos." can be freely set.



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> editor/Standard Byte Address Input.

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.

General Extend	ed Scale and Mark	Dynamic Graphi	cs Display		
Border Color Bar Color	Border Color			ackground Color 💌 🗾	
Backgro	und Color 💌 📝	71-	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:<u>Detailed</u> manual/Component/Bar and Meter/Meter.

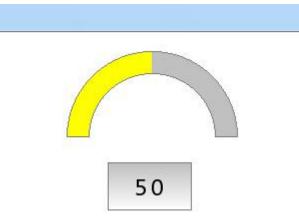
Lower Limit:	Constant 💌	10 💂	
Upper Limit:	Constant 💌	90 🜩	
Over Top Lim	it: 📕 Background	• 🖉 🗌	🔲 Blink
Over Lower Li	imit: 📘 Background	• 🖉	🔲 Blink
When the bar	color is not pure colo	r, foregroun <mark>d</mark> color a	nd background

• Mark Target Area

When the value enters into the specified mark target 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 by variable.

Mark Targe	t Area	
Target Value:	Constant •	0
Error Range:	Constant 💌	0
	Variable	
	Constant	
Target Ar	ea Color 💌 📝	

The running results are as shown in the figure below. In this case, 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 entire sector chart. As shown as below, the display font size, font style and font color can be set freely.

	: :		:		•••••••••••••••••••••••••••••••••••••••		:	• • • •		• • • •		📢 Bar Gra	ph and Sect	or Graph				
	•	1	1.	 •	1	Ì	-			•		General	Extended	Scale and N	1ark	Dynamic Graphics	Display	
1	: :	1.	1	33	%	•	1	-		÷	:	🔽 Displa	y the Percen	tage:				
:	•		:	: :	• • •	:	:	-1	1	•	1	Displa	ay Fonts: Siz	e: 8 •	Font	Arial 🔹	Font Color 👻	1
a.	• •			 	:		:	•	• • •	•		🔲 Displa	y Scale					

• Display Scale

The "Display scale" usage of the sector chart is same to the meter but a slightly different, as shown as below. The detailed usage is referred to: <u>Detailed manual/Component/Bar and Meter/Meter</u>.

Z Line	Scale Display Location
Line Color	Inside
Line Width	Outside
cale	
icale Main Scale Division Number	4 Amin Scale Length: 12
Main Scale Division Number	

4.6.6.2.4 Display

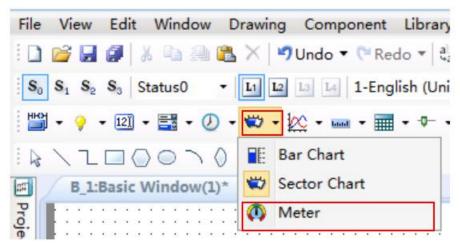
The settings of the "Display" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Display</u>.

4.6.6.3 Meter

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	Tools Help
	Switch	• 1 파 아 표 😫 🎒 🖼 🤫
9	Indicator Light	B_1:Basic Window(1)
123	Numeric Value and Character Display	* 🛛 🎋 🧏 🚵 📥
НЮ	Toggle Switch and menu	
Ø	Timer and Data Transmission	•
E	Bar And Meter	Bar Chart
100	Curve Graphs	 Sector Chart
hand	Scale	Meter
	Table	•
-0-	Slider	•
	Moving Component	• • • • • • • • • • • • • • • • • • • •
E C C C C C C C C C C C C C C C C C C C	Window	•
A	List	•
R	Tools	
	Pipeline	

You can add a meter component by clicking the corresponding tool button in the shortcut tool bar. It is shown as below.





Instrument Component	8
General Watch Hand and Scale Dynamic Graphics Display	
Meter Plate: Round (Hands Up) 🔻	Maximum Minimum Value Minimum Value: Const. • 0 \$ Maximum Value: Const. • 100 \$
Read Address:	Display Range Scale:
🔲 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 Description:	OK Cance

• 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 Arc (Set Autom	Up) Down) rcle cle		

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.

	•	٠.	•	•	8.3	×.		÷	÷	÷			•	$\mathbf{\hat{g}}$				X	1			\mathbb{R}		×		÷	÷			\sim			×	\mathbf{x}_{i}	÷		•			
30	•	•	•	•	8.3		•	*	•				22	3		×			1		÷			×		\mathbf{x}	1	. •	•			•		12	•	٠		1	3	
•	•	:0	•	•		1		٠	•	5	•	•		1	2		ند	مر	-	-	•	-	۲.	4	5			•	•			•	٠	•	•	•	•			•
•	•	•	٠	•		•	•	٠	•	•	•	•		•	~	-	1.	•	ŀ	•	1	•	ŀ		1	~		•	•	٠	•	٠	•	•	•	•	٠	•	•	•
*	•	•	•	•	*	•	•	٠	*	•	•	•	2	1	ŀ				40	•	•	6	0	•	•	1	>	1	•	•	٠	٠	٠	•	٠	•	•	•	*	•
	•			•	•		•	•				1	~	•	2	0	1						•	•	8	Û		r	1	•	٠		•			•	•	•		
	*	•	•	•	•			*	÷		۲	(·	•	- 14			×	v		•	•	-					*		2	>.		٠	×		*	•	•		*	
	•	•	•	•								1	Э.					٦	1			. *		•			1	i	'n		٠	•		•	٠	•	•	٠	.*	
•	•	•	•	•	•	÷	*	*	۰.			•	•			•	•		1		•				•	*	-		ο.		٠	٠	*	•	٠	•	•	٠		•
3	•	•	•	•	3 S		•	*	•	•	•	•	1			÷	•		¥	•	1	्	•		•	2	1	•	•		•	•	•	12	•	•	•	:		
•	•	1	•	•	1	1		•	•	1		•		1		÷	ŝ	1	١		1		1	•		1	1	•			*	•	Č		•	•		•	•	•
•	•	•	•	•			<u>.</u>	<u>.</u>	Č.	1	1		1		1		1	1		Ľ	1	1	1		1	1	1	•	•	•		`	1		1	•	•		•	•
÷	1				1	1	1	÷.	÷.	1			1	1	1	Ċ	1			٩	1	1		ċ	1	1	Ĵ	•		1	1	ċ	ĵ.	1	1				1	
÷	ŝ.	2				2	2	1		5				ŝ	÷	÷	÷			1		ŝ	ŝ	÷	÷	÷	2		÷	÷	ŝ	Ċ.	1	0	2	÷			ŝ.	÷
								?		2				1			÷					1	÷,	÷	ŝ	÷							•							0
									*																						a.									
1		Τ.																																						
		Ir	าร	tri	un	ne	en	U	C			٢																												
			_		ral	_	-						-				d	S	са	le		[Эу	na	an	nie	c I	Gr	a	pł	nic	s	I	D	is	p	laj	y		
			en I A	ier Mi	_	er	۱ ۱	N	at	e:	h	Н	ar	nd	(!	n	t			or	na	ati	ca		y)		•	Gr	a	pł						p	lay	y		

Read Address

Deivce: LOCAL:	[Local Register]			-
Address Type:	LW •			
Address Type: Address: 0	LW -	Sy	stem F	Register
Address: 0		-	stem F	Register • Word

For details of Read Address, see: <u>Detailed manual/General functions/Address editor/Standard</u> Byte Address Input.

• 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.

LW2	G
LW3	0
\prec	
80	
-100	
	LW3

• 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 lower limit and above upper limit, as shown below.

0

100

🔽 Display Ra	inge Scale:	
Lower Limit:	Const: •	20 🜩
Upper Limit:	Const: 🔻	80 🜩
Sector Ring V	Constant Variables	10 🔹
🔲 User-defin	ed Outer Radi	us
Sector Ring C	Outer Radius:	48 🔺
Color fo	r value <mark>wi</mark> thin l	imit 💌 📝
Color fo	r value <mark>belo</mark> w	low 🕶 📝
Color fo	r value above	upr 🔹 💽

4.6.6.3.2 Watch Hand and Scale

• Color and Size

As shown in the figure below, the color of the watch hand and watch hand axis, the length and width of the watch hand, and the radius of the watch hand axis can be set.

ral Watch Hand and Scale Dynamic Graphics	s Display
Watch Hand Color: Watch Hi V Watch Hand Length: 48 V Watch Hand Width: 4	Watch Hand Axis Color: Axis Colc V Watch Hand Axis Radius: 8
 Display Scale Line Line Color Line Width Line Type Scale Main Scale Division Number Sub Scale Division Number 	Watch Hand Style Main Scale Length: 12 Sub Scale Length: 8 Location: Inside Location: Inside
 ✓ Axis ✓ Mark Integer: 3	rimal: 0 🚔 ▼ Font Color ▼ 📝

• 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		- •

Main Scale Division Number	5	Main Scale Length:	12	Location:	[Incido]
Sub Scale Division Number	2	Sub Scale Length:	8	Location:	Inside 🔻
🗸 Axis					
	₽ D	ecimal: 0			
Mark Integer: 3	v U				

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		.
🔽 Sub Scale Division Number	2	Sub Scale Length:	8	Location:	Inside • Inside
🗸 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	r: 3	* *	Decimal:	0	*
Font:	Size:	8	Font:	Arial	•	Font Color 👻 🍠
🗸 Re	verse sc	ale orde	r			

• Watch Hand Style

Click the button "Watch Hand Style", you can select a style of watch hand for the meter.

And a second sec	ent Component				8
General	Watch Hand and Scale	Dynamic Graphics	Display		
- 100 V	Vatch Hand Color:	Watch Hi 🕶 💽	Watch Hand Axis Color:	Axis Colc 👻 🍠	
	atch Hand Length:	48	Watch Hand Axis Radius:	8 🔹	
v	/atch Hand Width:	4 🔹			
	Display Scale			1	
Watchhand Type					
Please Select Wat	chhand Type			4	
1	4				
				Watch Hand Style	
•	•	•			
Watchhand1	Watchhand2	Watchhand3	Watchhand4	Location: Inside 🔹	
1	1	1	1		
Watchhand5	Watchhand6	Watchhand7	Watchhand8		
watchhando	Watchhando	Watchhand /	Watchnand8	Z	
			elect Cancel		
		2	Cancel		
				ОК	Cancel

4.6.6.3.3 Display

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

-	splay		
Points per screen: 10		● Time span per screen: Cons ▼ 1440	🗘 Min
Direction: Horizontal		Browse Method: Scrollbar Scrollbar Width 20	
Pause:		Slide Note: Only for capacitive screen.	
Suspension Of Recovery Time:			
Use Cursor			
Display/Hide the Cursor: LB0		Cursor Color:	
LB0=1: Show the			
LB0=0: Hide the			
When the cursor		e moving cursor by click or slide actions.	
Cursor Data Area: LW0			
		time represented by the cursor position (Year, Month, D	ay,
	e, Second and m	ili-second) tores the Current Value of the Curve from Channel 1.	
LW7 THE Pressin	g Data i Offilat St	ores the current value of the curve norm channel 1.	
Zoom			
Two-point Touch Zooming(only for r	nulti-touch hardv	vare)	
Register Control Zooming:			
Register Control Zooming.			

• Display Points of Each HMI

This option means the number of the displayed sampling data points on the screen. The default is 10.The max number of points can not more 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

A bit register address can be set here. When the bit register is ON, the trend curve is not refreshed (but the sampling is not paused). When it is OFF, the trend curve is refreshed in real time.

• Time range per screen

You can set the time axis range, there are constants and variables optional, variables are controlled through the register, maximum time can be set as1440 minutes.

• Browse Method

The methods of "Scroll bar" 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		Cursor Color:	- <i>-</i>
	LB1=1: Show th		-	
	LB1=0: Hide the	Cursor		
	When the curso	r is visible, enab	le moving cursor by cl	ick or slide actions.
Cursor Data Area	: LWO			
		sters to define th te, Second and r		the cursor position (Year, Month, Da
	LW7 The Pressi	ng Data Format	Stores the Current Valu	ue 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 registers area 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 saves the 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 floating point number" and the second channel is "16-bit Unsigned", then LW107 (Single precision floating point 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.

Zoon	1
	wo-point Touch Zooming(only for multi-touch hardware)
	Register 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.

Data Source	Contraction and the second second		• I .		
Trigger Type	e: Cyclic		of sampling point quantity in ea	ch channel:1	
Pause Contr	No. Contraction of the			No Use	
Historical Da			m Quantity:	1000	Auto Stop
hannel Settin	g				
Channel	Use	Address	Туре	Word Count	Notes
1		LW0	precision Floating-point N	2	
_					
2		LW2	16-bit Unsigned	1	
1Channel Set	Itting Connecting L	ine: Line Color 📃	▼ ✓ ✓ Line Width g X-axis Direction	Line Type	

After you selecting a sampling data for 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 floating point 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.

	1:Temperatur	e_Humidity •			
	Information				
Trigger Type	and the second second		sampling point quantity in ea		
	olling:No Use		a	No Use	
10	ata: Don't sa		Quantity:	1000	Auto Stop
Hide Cha	nnel Register	LW500			
hannel Settin	g				
Channel	Use	Address	Туре	Word Count	Notes
1		LWO	precision Floating-point N	2	
	[1172]	LW2	16-bit Unsigned	1	
2		LW2	10-bit Onsigned		
1Channel Set	tting		Line Width	Line Type	•

For example, the option "Hide Channel Register" 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 bit 1 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" cannot control 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.

eneral Channel	Search	Scale	Display					
ata Source: 1:	l'emperatu	re_Hum	idity	•	Lat.			
Data Source In								
Trigger Type: Pause Controll	Cyclic1		Upper li Clear M		mpling point quantity in		Use	
Historical Data				m Item Qu	antity:	100	0.00	Auto Stop
I Hide Chann	2 (E.S.M.C.S.	505X	MOSPECT		landy.	100	Ŭ	
Channel Setting								
Channel	Use		Address		Туре	Word Count		Notes
	V		LW0		precision Floating-point	N 2		
1								
2			LW2		16-bit Unsigned	1		
1 2 1Channel Settin Dot Mark: V Drawing Cor	9		e Color	along X-	16-bit Unsigned	1 — ▼ Line Typ	be _	

> Dot Mark

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.



Drawing Connecting Line

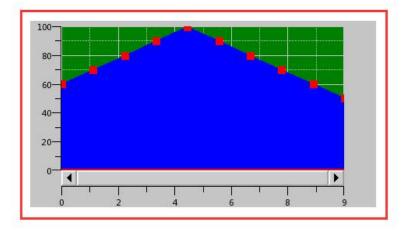
This option is checked by default. If it is checked, you can set the line color, the line width and the line type for the connecting line of the sampling data points.

☑ Drawing Connecting Line:	Line <mark>Colo</mark> r	- •	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 to the X-axis to form a closed figure.

For example, the option "Dot Mark" and the option "Projection along 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 by Constant or by Variable. When set it by Variable, the data type of the specified word register should be consistent with the data type of the selected sampling data channel.

> Maximum Value

The maximum value of the trend curve can be set by constant or by variable. When set it by variable, the data type of the specified word register should 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.

eneral Channel Search Claim Display Enable Search Function Search By Date Search By Time Range Search By Sequence Register Query Mode	
Search By Date Search By Time Range Search By Sequence	
Search By Date Search By Time Range Search By Sequence	
Search Trigger Bit:	
Search Register:	
Export CSV	
Help Description:	OK Cancel

There are three fixed search 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.

nd Chart		8
eral Channel Search	Scale Display	
Enable Search Functio	n	
Search By Date	Search By Time Range 🛛 Search By Sequence	
© Register Query Mod		
Register Query Mod		
Search Trigger Bit:	LB20	
Search Trigger Bit:	LB20 1: show the results filtered by range.	
	LB20 1: show the results filtered by range. 2: no filtering	
Search Trigger Bit: Search Register:	LB20 1: show the results filtered by range.	
	LB20 1: show the results filtered by range. 2: no filtering LW300 m LW300: Year (Input unsigned number YYYY, e.g. 2015)	
	LB20 1: show the results filtered by range. 2: no filtering LW300	

"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.

> Search by Time Range

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 "Search Register."

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.

nable Search Function		
Search By Date 💿 Se	arch By Time Range 🔘 Search By Sequence	
Register Query Mode		
earch Trigger Bit:	LB20	
	LB20 I: show the results filtered by range.	
	LB20 1: show the results filtered by range.	
l Search Register:	LB20 1: show the results filtered by range. 2: no filtering	
l Search Register:	LB20 1: show the results filtered by range. 2: no filtering LW300	
	LB20 1: show the results filtered by range.	

Search by 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 "Search Register."

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.

Trend Chart		-8-1
eneral 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	
	LB20 1: show the results filtered by range.	
	2: no filtering	
Search Register:	LW300	
Search Register:	LW300 III LW300: 0: Today 1: Yesterday 2: The Day Before Yesterday 3: 3 Days Ago	

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 "Search by Date" 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	icale 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	
	by Sequence	
Search Trigger Bit:	LB20	
	LB20 1: show the results filtered by range.	
	2: no filtering	
Search Register:	LW300	
	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 Dis	play		8
Use Background Color Back	gro 👻 🍠 🔽 Use Scale Aer	ra 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 💌	I		
Mark			
Font: Size: 8 T	ont: Arial 🔹 Font Co	blor 🕶 🍠	
1011 SIZE: 0 1			
Ose Point Scale Value	Use Time 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		-8-) - -
General Channel Search Scale Disp	lay	
Use Background Color Backg	jro 👻 📝 🛛 📝 Use Scale Aera Color	Scale Aera (👻 🍠
▼ X-axis Scale		
Main Scale Division Number:	5 🔹 Main Scale Length: 12	2 🗢
Sub Scale Division Number:	2 😴 Sub Scale Length: 8	Axis/Scale Color
☑ Display Grid Line Line Colc ▼	-	
🔽 Mark		
Font: Size: 8 • Fo	nt: Arial 🔹 📕 Font Color 👻	a
1011. 3120. 0 10		
Use Point Scale Value	Use Time Scale Value	
V-axis Scale		
Main Scale Division Number:	5 😴 Main Scale Length: 12	•
Sub Scale Division Number:		Axis/Scale Color 📕 👻 🖉
_		v
Display Grid Line Line Colc		
🛛 Mark Interger: 3 🖨 De	ecimal: 0 🗢	
	ecimal: 0 🗢 nt: Arial 🔹 🖬 Font Color 💌	3
Font: Size: 8 • Fo	nt: Arial 🔹 🖬 Font Color 👻	3
	nt: Arial 🔹 🖬 Font Color 👻	3

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.

General Channel Search Scale Display Image: Constraint of the search of t	
🕑 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 →	• 🖉
Display Grid Line Line Colc	
✓ Mark	
Font: Size: 8 • Font: Arial • Font Color •	
Font: Size: a Font: Ariai	
O Use Point Scale Value Use Time Scale Value	
V-axis Scale	
Axis/Scale Color	
✓ Sub Scale Division Number: 2 Sub Scale Length: 8 €	N
🖉 Display Grid Line 💿 Line Cok 👻 🍠	
☑ Mark Interger: 3 💭 Decimal: 0 🔷	
Font: Size: 8 • Font: Arial • Font Color •	
⊙ Use 1 ▼ Channel Maximum Minimum Value.	

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/Display</u>.

4.6.7.2 XY 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

XY Chart		8
General Channel Scale	Display	
Refresh Mode		Data Point
Cyclic Cyclic Triggered		
Sampling Cycle	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.	noving cursor by click or slide actions.
Cursor Data address:	LWO	
	LW0: Current Cursor Coordinate X LW1: Current Cursor Coordinate Y	
Help Description:		OK Cancel

• 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.

efresh Mode O Cyclic I I Triggered	1	Data Point
Address: LB0		Constant 🔹 10 🔦
Trigger Mode: 🖲 Bit	O Word	
Trigger Condition: ON <- ON <- ON ->		Control Setting
OFF->		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. When the cursor is visible, enable	moving cursor by click or slide actions.
Cursor Data address:	LW0	
	LW0: Current Cursor Coordinate > LW1: Current Cursor Coordinate >	

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 by constant 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.

	Display	
Refresh Mode Cyclic Triggered Address: LB0 Triggered Rite	Word	Constant
Trigger Mode: Bit Trigger Condition: ON<-		Control Setting
		Clear Control
Use Cursor		
Display/Hide the Cursor:	LB0=1:Display the Cursor. LB0=0: Hide the Cursor.	Cursor Color: Cursor Color: V
Cursor Data address:	LW0	
	LW0: Current Cursor Coordinate LW1: Current Cursor Coordinate	

> 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 Scale Dis	splay				
hannel	Number: 1	▲ ~				
hannel	Settings					
hannel	X Address	Y Address		Туре	Remark	
	LW0			16-bit Unsigne 🔹	•	
🗌 Use 🔽 Drav	el Setting Dot Mark: v connecting line Line Projection along X			ch	 Line Style 	
█ Use ☑ Drav X-axis:	Dot Mark: v connecting line Line	-axile Direction	Projection al	ong Y-axile Direct		A V
Use Drav X-axis: Minimu Y-axis:	Dot Mark: v connecting line Line Projection along X	-axile Direction	Maximum Value	ong Y-axile Direct	tion	
Use Drav X-axis: Minimu Y-axis: Minimu	Dot Mark: v connecting line Line Projection along X m Value: Constant •	-axile Direction	Maximum Value	ong Y-axile Direct	tion 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, select a 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 Value is from 0 to 100. The detailed settings can be referred to the "Channel" property TAB of 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 I	Number: 1					
hannel S						
	X Address	Y Address		Туре	Remark	
1	LW0	LW1		16-bit Unsigne	•	
Use [Draw	el Setting Dot Mark: connecting line Line Colo			th ong Y-axile Dire	Line Style	0
Ū Use [☑ Draw	Dot Mark: connecting line Line Colo					
Use [Draw (X-axis:	Dot Mark: connecting line Line Colo			ong Y-axile Dire		
Use [Draw [X-axis: Minimur	Dot Mark: connecting line Line Colo	Direction	Projection al	ong Y-axile Dire	ction	
Use [Draw X-axis: Minimur Y-axis:	Dot Mark: connecting line Line Colo	Direction	Projection al	ong Y-axile Dire	ction	
Use [Draw (-axis: Uinimur (-axis: Minimur	Dot Mark: connecting line Line Colo Projection along X-axile n Value: Constant •	0 ×	Maximum Value	ong Y-axile Dire	tion 100	*
Use [Draw (-axis: dinimur dinimur Channel	Dot Mark: connecting line Line Colo Projection along X-axile n Value: Constant • n Value: Constant •	0 ×	Maximum Value Maximum Value Maximum Value XY addres	ong Y-axile Dire e: Constant • e: Constant • s corresponding	tion 100	*
Use [Draw (-axis: Minimur (-axis: Minimur Channel XY Cor	Dot Mark: connecting line Line Colo Projection along X-axile n Value: Constant • n Value: Constant •	0 ×	Maximum Value Maximum Value Maximum Value XY addres X0 : LW0	e: Constant •	tion 100	*
Use [Draw Caxis: Minimur Y-axis: Minimur Channel XY Cor	Dot Mark: connecting line Line Colo Projection along X-axile n Value: Constant • n Value: Constant • address occupation descri ntinuous Address	0 ×	Maximum Value Maximum Value XY addres X0 : LW0 X1 : LW2	ong Y-axile Dire c Constant • c Constant • s corresponding v Y0 : LW1	tion 100	*

XY Char	t					? ×
General	Channel Scale Display					
Channel	Number: 1					
Channel						
-	X Address	Y Address		Туре	Remark	
1	LW0	LW100		16-bit Unsigne 🔻		
1 Chann	el Setting					
🔲 Use	Dot Mark:					
Drav	v connecting line Line Color	Line Color	▼ 📝 Line Wid	th [•	Line Style	
	Projection along X-axile D	irection	Projection a	long Y-axile Directi	ion	
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 descrip	tion:	XY addres	s corresponding r	elation of coordir	nates:
XY ad	dress are set, X occupy LW0	-LW9. Y occupy	X0 : LW0	Y0 : LW100		
	0~LW109.			Y1 : LW101		
			X2 : LW2	2 Y2 : LW102		
Help	Description:				ОК	Cancel

4.6.7.2.3 Scale

Refer to the "Scale" property TAB of 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/Display</u>.

4.6.7.3Data Group Chart Display

The "Data Group Chart Display" component is a curve comprising of a set data of specified continuous registers.

4.6.7.3.1 General

eneral Channel Sca	le Display	
Browse Method: Scrollbar Scrol	points: 10 🔹 rection: Left To Right 🔹 Ibar Width 20 💌 y for capacitive screen.	Refresh Mode © Cyclic © Triggered Sampling Cycle 1 X S •
Control Setting Stop Control Clear Control		
Use Cursor		
Display/Hide the Cu	r LBO	Cursor Color: 📕 💌 📝
	LB0 =1: Show the cursor LB0 =0: Hide the cursor When the cursor is visible, ena	able moving cursor by click or slide actions.
Cursor Data Area:	LWO	
	LW0~1: X-axis Points LW2Rise:use the sampling tho data value of the curve throug	roughfare data format:Storage the current gh channel 1.
✓ Use Zoom		80 (1913) 200 (1917) 44.
	ch zooming (only for multi-touc ol Zoom Function:	:h hardware)
Help Description	n:	OK Cancel

• Each screen sampling points

The default value of this option is 10. The minimum 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 to Right" by default. You can set it "Up to Down" too. They are corresponding to the "Horizontal" and "Vertical" display modes.

The settings of 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.

ieneral Channel Sca	le Display				
Each screen sampling Di	points: :	10 👻 💿	resh Mode Cyclic © Tri mpling Cycle	ggered	•
Browse Method: Scrollbar Scrol Slide Note: Onl				- •	
Control Setting Stop Control Clear Control					
Use Cursor					
Display/Hide the Cu	ur LBO		Cursor Col	or: 📕 🔹 📝	
	LB0 =1: Show the curso LB0 =0: Hide the cursor When the cursor is visib	r	ving cursor by c	ick or slide actions.	
Cursor Data Area:					
	LW0~1: X-axis Points LW2Rise:use the sampli data value of the curve			torage the current	
	uch zooming (only for mu ol Zoom Function:	lti-touch hards	ware)		

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 are used 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 channels can be done in the same matter.

4.6.7.3.2 Channel

Channel Se	etting		V Fro	m the Start Add	ress, the Sampli	ing Address is	s Continuou
Channe	Samplin		Start	Address	Data Type	Rema	ark
1 I	LW100		LW101		16-bit Unsigne	•	
1 Channe	Setting						
1 Channe	-						
Dot M	-	e Line Color		Line Width (Line Type [-	
Dot M	ark: connecting line		• • • •	Line Width (Line Type [-	
Dot M	ark: connecting line	ection in X-	axis Direction	Line Width (x Value: Consta		Line Type	
Dot M	ark: connecting line Proj	ection in X-	axis Direction				

• Channel No.

There is 1 channel by default.A "Data Group Chart Display" 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.

Data Block Di General Chai		Display					8
Channel No	p.:	1					. 1
Channel Se Channe	tting Samplin	- No		n the Start Ad	dress, the Sampling Data Type	Address is Cont Remark	tinuous.
	W100	_	LW200	adress	16-bit Unsigne •	Kemark	
1 Channe Dot Ma V Draw c	ark: onnecting line		<u> </u>	Line Width	• Lir	ne Type	_
Min Value	Constant •	ection in X-axi		Value: Const	ant 🔻 10	0 🗘	
Help	escription:					ОК	Cancel

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

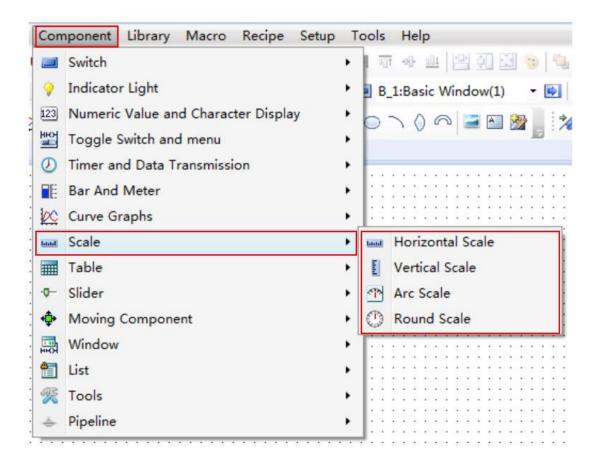
Refer to the settings in the "Scale" property TAB of the Trend Curve.

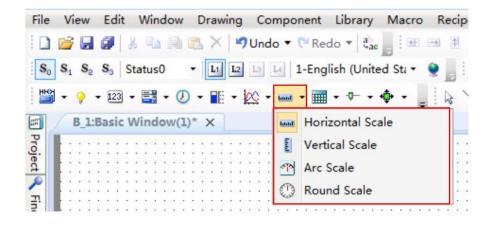
4.6.7.3.4 Display

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

4.6.8 Scale

The "Scale" includes four types: "Horizontal Scale", "Vertical Scale", "Arc Scale" and "Round Scale". You can add a Scale component by clicking the menu command or by using the shortcut tools bar.

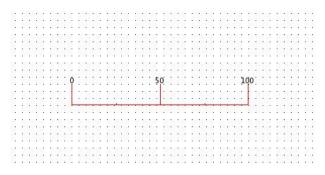




The "Horizontal Scale" is mainly used to display a progress bar. The "Vertical Scale" can be used to display the current liquid level of a tank or the charge state of a battery. The "Arc Scale" can display the value of a fuel meter, a speed meter, and other display devices. The "Round Scale" can display the revolution speed, the angle and other parameters.

4.6.8.1General

4.6.8.1.1 Horizontal Scale



First, the option "Horizontal" is selected. Then you can do other settings for the Horizontal Scale component.

Horizontal Vertical Arc Circle	Position			
✓ Line	Position: X :	116 🗘	Y :	73 🗘
Line Color V	Locked Width:	150 🗘	Height:	57 🗘
Line Width 📃 🔹				
Line Type 📃 💌				
Scale				
Main Scale Bisection: 2	*		_	
Sub Scale Division Number 2	Sub Scale Length	28 🗘	Position: U	p •
V Axis				
☑ Mark Integer: 3 ♀ Dec	imal: 0 🗘			
Fonts: Font Size: 8 - Fon	ts: 微软雅黑 ▼	For	nt 💌 📝	
	*			
Min Value: Constant 🔻 0	•			
Min Value: Constant Max Value: Constant 100	\$			

• 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 🗘			
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	\$		

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 🗘		
Sub Scale Division Number	2	Sub Scale Length 6	Position: Up ▼
Axis			
Mark Integer: 3	Decim	al: 0 🗘	
Fonts: Font Size: 8	▼ Fonts:	Arial 🗸	Font 👻 🍠
Min Value: Constant 🗸	0	\$	
Max Value: Constant 🗸	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	\$				Position:	Jp 🔻
Sub Scale Division Number	2	\$	Sub Scale L	ength 6	\$	Position:	sh .
Axis							
Mark Integer: 3	\$	Decim	al: 0 🗘				
Fonts: Font Size: 8	•	Fonts:	Arial	•	For	nt 🕶 🍠	
Min Value: Constant •	• 0		÷				
Max Value: Constant •	· 10	00	\$				

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.

ain Scale Bisection:	5	\$				
Sub Scale Division Number	2	\$ Sub	Scale Length	56 🗘	Position:	Up 🔻
Axis						
Mark Integer: 3	¢ D	ecimal: 0	*			
Fonts: Font Size: 8	▼ Fe	onts: Aria		Fo	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	\$					a 11 [1]a
Sub Scale Division Number	2	\$	Sub Scale	Length	56	÷	Position: Up 🔹
Axis							
Mark Integer: 3	\$	Decima	al: O	* *			
Fonts: Font Size: 8	•	Fonts:	Arial	•	.] [Fo	nt 🔻 📝
Min Value: Constant	·	0	\$				
		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 to hide the axis of the scale.

Main Scale Bisection:	5	÷					Position:	Up 🗸
Sub Scale Division Number	2	÷	Sub	Scale Lengt	h 56	÷	Position:	Up
Axis								Down Center
Mark Integer: 3	:	Decima	al: O	^				
Fonts: Font Size: 8	•	Fonts:	Arial		•	Fo	nt 🔹 📝	
Min Value: Constant 👻	0			\$				
Max Value: Constant -	10	0		\$				

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.

Scale				? ×
General Display				
○ Horizontal	Position			
V Line	Position: X :	116 🗘	Y :	73 🗘
Line Color	Locked Width:	150 🗘	Height:	30 🗘
Line Width				
Line Type				
Scale				
Main Scale Bisection: 5			osition: Inside	
Sub Scale Division Number 2	Sub Scale Length		Inside	e
🔽 Axis			Right Cente	
🗹 Mark Integer: 3 🗘 Deci	mal: 0 🌲			
Fonts: Font Size: 8 • Font	s: Arial 🔹	Font	→	
Min Value: Constant 🔹 0	\$			
Max Value: Constant • 100	\$			
Scale Is Reverse				
Help Description:			ОК	Cancel

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
🕺 🐚 🍓 🏝 🗙 🖉 Undo 🕶 🕅 Re	Scale 🔹 😨
itatus0 🔹 🚺 🖬 🖬 🖬 1-Eng	General Display
- ≝ - ② - ■ - ⋈ - = - ■) ○ ` ○ ○ ○ □ ■ @] Window(1)* ×	 Horizontal ● Vertical ● Arc ● Circle Position Position: X: 116 ↓ Y: 73 ↓ Position: X: 116 ↓ Y: 73 ↓ Line Color ▼ Line Width ● Line Width ● Line Type ● Starting Angle 0 ↓ End Angle 180 ↓
	Scale Main Scale Bisection: 5 V Sub Scale Division Number 2 V Axis
	Mark Integer: 3 Cecimal: 0
	Fonts: Font Size: 8 Fonts: Arial Font Fo
	Max Value: Constant 100
	Help Description: 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 8
	General Display
	○ Horizontal ○ Vertical ④ Arc ○ Circle Position Position: X: 50 ♀
	☑ Line
• • • •	Line Color Diagonal Locked Width: 250 C Height: 250 C
	Line Width Angle
20 80	Line Type Starting Angle 180 😴 End Angle 0 🐳
F 1	Scale
0 100	Main Scale Bisection: 5 3 Main Scale Length: 30
	Sub Scale Division Number 2 \$ Sub Scale Length 15
	V Axis
138	🕼 Mark Integer: 3 🗘 Decimal: 0 🗘
250-	Fonts: Font Size: 8 • Fonts: Arial • Font •
	Min Value: Constant 🔹 0

For the option "Position" in the "Scale" property box, the axis position of the scale can set "In", "Out" and "Center".

Main Scale Bisection:	5	¢	Main Scale Length:	30	\$	- ··· [
Sub Scale Division Number	2	\$	Sub Scale Length	15	\$	Position: In • In
Axis						Out Center
Mark Integer: 3	\$	Decin	nal: 0 🗘			L
Fonts: Font Size: 8	•	Fonts	Arial		For	nt 🕶 🍠
Min Value: Constant •	•	0	¢			
Max Value: Constant		100	\$			

4.6.8.1.4 Round Scale

For the "Round Scale", the only difference with the "Arc Scale" is that there is not "Angle" settings. It is shown as below.

Scale				? ×
General Display				
🔘 Horizontal 🔘 Vertical 🔘 Arc 🖲 Circle	Position		r	
√ Line	Position: X :	50 🗘	Y :	160 🗘
Line Color 💌 🍠	Locked Width:	250 🗘	Height:	250 🗘
Line Width	7			
Line Type				
Scale				
Main Scale Bisection: 5	Main Scale Length:	30 🗘	Position: I	n •
Sub Scale Division Number 2	Sub Scale Length	15 🗘		
V Axis				
Mark Integer: 3	mal: 0 🗘			
Fonts: Font Size: 8 • Font	s: Arial •	Fo	nt 🕶 📝	
Min Value: Constant 🔹 0	\$			
Max Value: Constant 👻 100	\$			
Scale Is Reverse				
Help Description:			OK	Cancel

The settings of the "Position" for the Scale component are referred to: <u>Detailed manual/General</u> <u>functions/Position</u>.

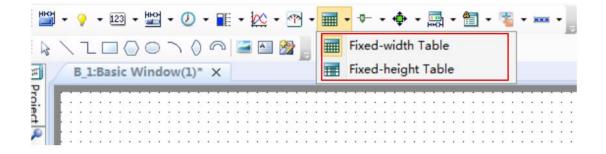
4.6.8.2Display

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

Com	ponent Library Macro Recipe Setup	Tools Help
	Switch	🔸 패 아 프 알 취 회 영 👊 백
9	Indicator Light	▶ B_1:Basic Window(1) • 🛃 🛅
123	Numeric Value and Character Display	* *** ** * * * *
НЮ	Toggle Switch and menu	
Ø	Timer and Data Transmission	•
E	Bar And Meter	•
100	Curve Graphs	•
had	Scale	•
	Table	Fixed-width Table
-0-	Slider	► Fixed-height Table
ф	Moving Component	•
	Window	•
^	List	• • • • • • • • • • • • • • • • • • • •
R	Tools	•
	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.

		60	-			10	-			10	-			10	-			10	-			10	-			10	-	
3		8		3		Ξ.				5	3	3		5	3			5	3			5	3			Ξ.		2
1	1	1	- 22	1	1	1	- 33	1	1	÷.	-	•	1	÷.	1		÷	÷.	1		1	а.	3	1		1		1
1		1	-24			1	-24			1	2		•	1	2		•	÷.	2		•	2	2		•	÷.		
•	1	2	-	2		•		•		•		•	1	•		•	•			•	•	1	1	1		3		2
																					1							
2	1	1	- 25	•	:	1	- 55	•		1		•		1		•	1	1	1	•	1	1	1	1		1		÷
•		1	- 51		1	1	- 24			2	1		1	1	1	1	•	1	1	1	1	2	1	1	•	2	1	1
•	•	2	10		1		13	•	•		1	•	1		1	•	•	Ċ.,	•		1	÷.	1	•	:	÷.	•	•
•					- 1						•	•	1		•		•		•		1		•		•		•	
2		37	- 55	:	t							-	+								-	87			1	37	- 52	
•	•	•					1	•	•	2			1		1	•	•	2		•	1		•	•	•			•
•	•	•	1					٠.	•	•							•	•	•			•	•	1	•	•	•	•
•	•	•				•			•			•						•			ł		•		•		•	
÷	1	27	25		Ľ	27	25	1		27	51		1	27	5		1	3			1	27	5	1		2	53	1
•	•	•	1	•		•		•				•	-			•	•			•	-	÷.		•	•	2		•
•	•	•		•	•	•		•	•	•		•	•	•		•	•	•		•	•	•		•	•	•	•	•
•																						۰.				۰.		
•		12	\sim			12	\sim			12	20			12	21			1				12				2		20
•	•	•	÷	•		•						•	•		÷		•	э.	÷		•		÷		•	э.		
•																												
		۰.								۰.				۰.				۰.				۰.				۰.		

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.

- 6	•	•	•	÷	•	•	•	÷	•	•	•			•				•				•			•	•	•	÷	•	•
	•••					•				•	1			•				•			•	•	1			•			•	•
- 53		2		13				2			8	13	e.		5	13	e.		÷	3			÷	13			÷	13		20
	•	•	•	•	•	•	•	•	•	•	•				•					•					•	•	•		•	•
																						•				•			÷	
					Т			_		-			_		_		_	_	1 .											
1				12	्			12		ŀ	1	12	e.			12	•	•	Ŀ	12	e.			12				10	•	150
- 6						•				ŀ				•		•		•	Ŀ						•	•	•			
- 6			•	-			•																							
						•				ŀ				•	4			•	Ŀ				4							
12				2	ा	·	•	-2		ŀ		12	•	•	÷	- 2	•	•	ŀ	13	e.		÷	1			÷			150
	•					•				ŀ	•			•												•				
- 6																												-	•	
										ŀ				•				•	1											
10	1			12	4					÷									١,	12	e.			12						120
-		•								•				•								•				•				
- 6			•	÷			•				•																		•	
						•				•				•	4			•	4			•	4			•				
		1	•	10		e.		12	e.	•	1	•	e.		1	•	e.	e.	•	:0	e.		÷	:0	•		÷	10	•	150

4.6.9.1General

The "General" property TAB of the "Fixed-width Table" is shown as below.

Table	? ×
General Display Position	
Position: X: 57 🗘 Y: 19 🗘	
□ Locked Width: 274 ↓ Height: 210 ↓	
Sheet Background Color: Backgroun Outline Type: Line Width: Outline Col Split Line Type: Line Width: Split Line Col Split Line Type: Split Line Vidth: Split Line Col Split Line Vidth: Split Line Vidth	
Split Line Type: Line Width: Split Line C V Split Line C V	
Column No.: 2 C 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 General Display Position Position: X		8
Help Desc	ription:	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 manual/General</u> <u>functions/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 🗘			
		Height: Backgroun ¥	161 🗘 Line Width: Line Width:		Outline Col ♥ Split Line C ♥	
Row Count: Column No.: Select Select Mode: Grid Position:	2 2 2 2 Select by Rov	Equal V	and the second second	prizontal Split Line ertical Split Line		

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 General Display Position Position: X : 292 \$ Y : 250 \$	
Locked Width: 160 ↓ Height: 100 ↓ Sheet Background Color: Backgroun ♥ ♥ Outline Type: ♥ Line Width: ♥ ♥ Split Line Type: ♥ Line Width: ♥ ♥ 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: ♥	Outline Col V Split Line C V
Help Description:	OK Cancel

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 C Height: 100 C
	Sheet Background Color: Backgroun 👻 🍠
<u> </u>	Outline Type: 📃 🔹 Line Width: 🔤 🔹 🚺 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 () Control Setting Position Position: X : 60	s Display			8
Locked Width: 160 Sheet Background Color: Outline Type: Split Line Type: Row Count: Column No.:	 Height: 100 Backgroun Line Line Une Equal Height 3 Equal Width 	Width: v Width: v Hide Horizontal Split Line Hide Vertical Split Line	Outline Col 👻 🥖	
Select Mode: Select by Grid Position:	Row • Select Col	c v		
Help Description:				OK

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 Co	lc 🕶 🍠
and a second reaction of the		
irid Position:	Select by Row Select by Column Select by Cell	
	Select by Cell	

> Grid Position

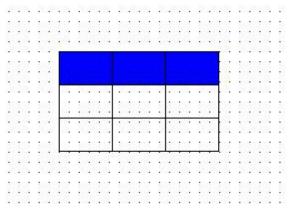
For the option "Grid Position", you need to give a word register to record the selected row number if the select mode is "Select by Row". The first row number is 0.

Select Mode:	Select by Row	•	Select Colc 💌 📝
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 Mode:	Select by Column 🔻	Select Colc 👻 🍠
Grid Position:	LW0	

The effect of the "Select by Row" mode is shown as below.



The effect of the "Select by Column" mode is shown as below.

2.7	20	. *		12	20	1		22	23	10		27	25	10		12	20			12	23	1		12	50
		•	•	•		•	•				•			•	•			•	•	•		•	•	•	
												•		•		•		•		•					
S				-					-	_					<u> </u>				_	Ξ.				۰.	
202	53											22	54			22	52			Ł	53			22	50
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33	•												61				51		•	Ļ.					
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2.2															Ι.					L					
22	1			_	_		_			1	1	<u>.</u>	- 83	1	Ŀ	1	- 22			1	10	:			12
2	2				2			1				1				1	-2-				2			8	23
88	2			8	- 33			Ξ.	- 33			5	- 33			Ξ.	33			ς.	3			ε.	22
	•				•												•				•				•
35	5		1	35	30		1	85	- 55	1		87	- 55	1	1	87	-		1	5	33		1	3	32
2	•	•	•	2		•	•	2	1	•	•	2	•	•	•	2		•	•	2	•	•	•	2	•
•	•	•	•	•	•	•	•	•		•	•	•		•	•	•		•	•	•	•	•	•	•	

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

row number and the second records the selected column number. The first row number and the first column number are 0.

Select Mode:	Select by Cell		Select Colc 💌 🖋
Grid Position:	LWO		
L	W0:Selected one	column, ar	nd the up column is 0.

The effect of the "Select by Cell" mode is shown as below.

•	/																									
				1				13		1		13				13			1	13				1	•	
	•	•	•	•	•	•	•			•					•				•					•		
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			1		H		-		1.1.1	_		-								-	-		8	22		22
										- 1						I .										
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		•						12		a.		10				12			1	12				12	•	
							•				•				•				•						•	

4.6.9.2 Control Settings

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

4.6.9.3 Display

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

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

	. I. I.				C + 1C **	D' I	
ieneral S	cale	Background Graphi	cs Slider Graphics		Control Settings		
				Direction:	Display Rightwo	ard 💌	
inimum Va	alue:	Constant 🔹	0				
aximum V	alue:	Constant •	100 🗘	Min Scale:	1	*	
			Level 1	Increas	1.00	 inimum scale per each click	
				Writing		utaneously while sliding	
ead and V	Vrite ∆	ddress:			raise enange sin	and any mile shalling	
Use Add							
		ocal Register]					
c	Chult	ocur register]					
ddress Ty	mer []]	N	•				
	0	÷	System Regist	ter			
	1 V	¥.	of stern negrs				
	nge) D	DDDDD(0~799999)	Occupy: 1 - W	ord			
	nge) D	DDDDD(0~799999) Data Tvn					
ormat(Rar		Data Typ	Occupy: 1 + W e: 16-bit Unsigned				
ormat(Rar		Data Typ					
ormat(Rar		Data Typ					
		Data Typ					
ormat(Rar		Data Typ					
ormat(Rar		Data Typ					
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• 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 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>.

General 😡	Scale	Backgrou	ind Graphics	Slider Graphics	Dynamic Graphie	cs Control Settings	Display
					Direction:	Display Rightward	+ +
linimum Va	alue: V	ariable 🔹	LW0				
laximum V	alue: V	ariable 🔻	Standard	Byte Address In	put		23
			🔲 Use Ar	dress Tag			1
				OCAL:[Local Reg	ister]		- ·
Read and V	Vrite Ad	dress:					
Use Add	lress Ta	9					
Deivce: LO	CAL:[Lo	cal Registe	Address	Type: LW		•	
			Address:	0		System Register	r
	_		Format(R	ange) DDDDDD(()~799999) O	ccupy: 1 - Wor	d
	pe: LW				Data Type: 10	5-bit Unsigned	*.
A <mark>ddres</mark> s Ty		×	Addre	ss Index			
	0	1.99.2					
Address:	-						
Address Ty Address: Format(Rar	-						_

• 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 editor/Standard</u> 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",

ieneral	Scale	Background Graphics	Slider Graphics	Dynamic Graphics	Control Settings	Display
		Constant Constant	0 ×	Direction: Min Scale	Display Upward Display Downw Display Leftwar Display Rightwar	ard d

• 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 "Min Scale". 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 real time 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: Detailed manual/ Component/ Scale.

4.6.10.3 Background Graphics

The settings of the "Background Graphics" property TAB are referred to: <u>Detailed</u> manual/General functions/Graphic edit.

4.6.10.4 Slider Graphics

The settings of the "Slider Graphics" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/Graphic edit</u>.

4.6.10.5 Dynamic Graphics

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

4.6.10.6 Control Settings

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

4.6.10.7 Display

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

4.6.11 Moving Component

You can click the menu command "Component/Moving Component/Moving Component" to add a moving component in your project. 4.6.11.1 General

Read Address	: LWO				
Screen Moving Range	Axis Upper Limit	Constant	•	799 🔷	
	Axis Lower Limit	Constant	•	0	
Move Proportionally	Input Lower Limit	Constant	•	0	
Inversely Proportiona	Input Upper Limit	Constant	•	799 🔹	
Move in Y-Axis Direction	1				
Read Address	LW10				
Screen Moving Range	: Axis Lower Limit	Constant	•	0 🔦	
	Axis Upper Limit	Constant	•	479 🔷	
Move Proportionally	Input Lower Limit	Constant	•	0	
Inversely Proportiona	Input Upper Limit	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</u> manual/General functions/Address editor/Standard Byte Address Input.

• Screen Moving Range

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:<u>Detailed</u> 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 "Axis Lower 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.

• Inversely Proportional

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 a inverse proportion.

4.6.11.1.2 Move in Y-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/Label</u>.

4.6.11.4 Graphics

The settings of the "Graphics" property TAB are referred to: <u>Detailed manual/General</u> <u>functions/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/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 a bit 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	
Ø	Timer and Data Transmission	•
E	Bar And Meter	•
100	Curve Graphs	•
had	Scale	• • • • • • • • • • • • • • • • • • •
	Table	• • • • • • • • • • • • • • • • • • • •
-0-	Slider	•
	Moving Component	•
	Window	Bit Control Window
	List	Word Control Window
R	Tools	•
÷	Pipeline	
_		

4.6.12.1.1 General

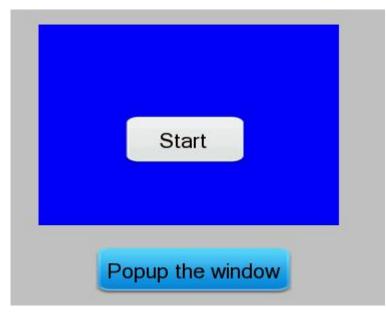
The "Bit Control Window" component is similar to the "Word Control Window" component. The differences with the "Word Control Window" component are pointed out as below. The other details are referred to: <u>Detailed manual/Component/Window/Word Control Window</u>.

• Bit register triggers the pop-up of window

The option "Trigger Bit" is used to specify a bit 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.

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.

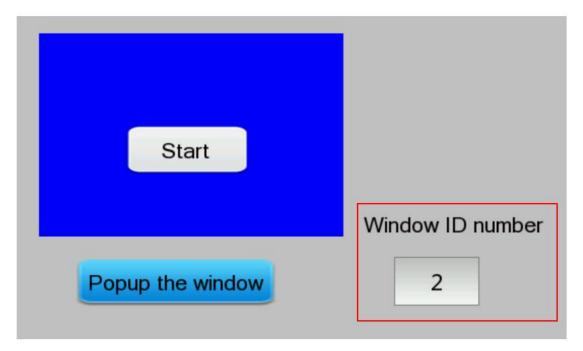


• Use Variable Window ID number

The function of "Use Variable Window ID number" is used to dynamically specify a pop-up window by using a word register.

General Display				
Bit trigger pop-up the specified window		egister con	trol the popu	p window
Bit register triggers the pop-up of window	v			
Trigger Bit: LB0		Popu <mark>p</mark> On	Popup Of	f
🔽 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 component is 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/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.

Con	ponent Library Macro Recipe Setup	Tools Help
	Switch	› 〒 � 브 알 쥐 돼 😕 🐘 🐂 💻
9	Indicator Light	▶ B_1:Basic Window(1) ▶ ☐ 🛅
123	Numeric Value and Character Display	* **** * **
Нюн	Toggle Switch and menu	· · · · · · · · · · · · · · · · · · ·
0	Timer and Data Transmission	•
E	Bar And Meter	•
100	Curve Graphs	•
htad	Scale	• • • • • • • • • • • • • • • • • • • •
	Table	•
-0-	Slider	•
ф	Moving Component	• • • • • • • • • • • • • • • • • • • •
	Window	Bit Control Window
-	List	Word Control Window
R	Tools	•
÷	Pipeline	•

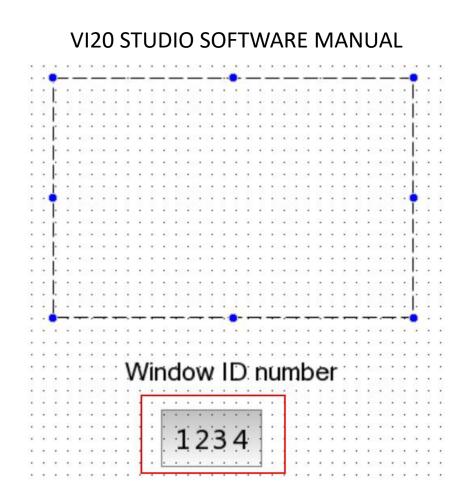
4.6.12.2.1 General

General	Display gger pop-up the	specified window	v 💿 Word register co	ontrol the popup	window
		pop-up of wind	.		
	p Window ID:	LWO			
			asic Window of the co the value is not 0.	orresponding W	indow ID
🔲 Wi	t <mark>h Window</mark> Conti	ol Bar:			
🔳 Va	riable pop-up wi	ndow position			
Va Va	riable window si:	ze			
Help	Description:			ОК	Cancel

• Word register control the pop-up window

For the option "Popup Window ID", a word 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.

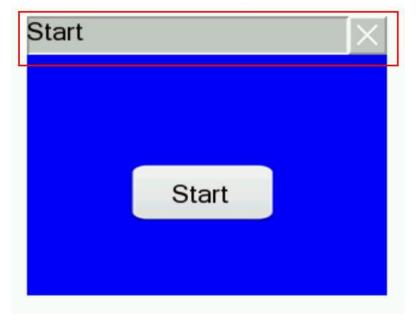


• With Window Control Bar

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: Detailed manual/General functions/Font settings.

Vith Window Control Bar:	Close Button I Title	Set Title
	Note: If window title is set in the pop-up window, other title setting	/
Set Title		
Set file		
Language: 1-English (U	Inited S 🔻 🍳	
O Use Text Library	Text Library	
Use Labels		
	pel Contents To Text Library	
Start		
Copy Current Text To	All Languages	
	Fant Tamplatas (D	
Import from Favorite	Font remplates.(I)	
Import from Favorite I Vector Font () Graphic	Font	
	Font	Cance

After set the window control bar, the simulation running result is shown as below.



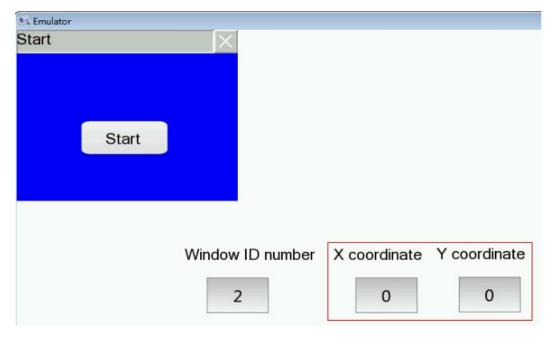
• Variable pop-up window position

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.



N. Emulator		
	Start	×
	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.

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 🔨	
Start	
Window ID number	Window Width Window Height
2	200 200

Emulator		
	Start	X
	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/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" are basically the same to the "Alarming and Event History". Please refer to: <u>Detailed manual/Component/List/Alarm and Event History</u>.

O Al	: arm Bar(Marquee) armig and Event History urrent Alarming and Events	Show Group: Browse Method: From 1[0] • To 32[0] • ScrollBar Scrollbar Width 20 • Alarm and Events Login Itel Slide Note: Only for capacitive screen. Browser Reg. Browser Reg.
	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	=
	Alarming Event Emergen	Move Up
1	Date of Alarming Event	Date of Alarming Event
1	Time of Alarming Event	Time of Alarming Event
1	Count of Alarming Events	Counting
1	Alarming Event Contents	Content Restore Default
	Trigger Status	•
Alarr Date	ming Status Display:	e width: Scroll Interrupt Step: 5 Pixel Speed: 10 X 0.1s Trigger: Trigger Trigger Confirmed: Unconfirmed Unconfirmed Unconfirmed Unconfirmed: / 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	
1	Count of Alarming Events	Counting	-
1	Alarming Event Contents	Content	
	Trigger Status		
	Confirm Status		
	Restore Date		
	Restore Time		
	Confirm Date		=
	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 table can not be checked.

• Table

The settings of "Table" property TAB is referred to: <u>Detailed manual/General functions/Table</u> <u>drawing</u>.

• Display

The settings of "Display" property TAB is referred to: Detailed manual/General functions/Display.

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.

Al	: arm Bar(Marquee) armig and Event History urrent Alarming and Eve <mark>n</mark> ts	Show Group: Browse Method: From 1[0] • To 32[0] • ScrollBar Scrollbar Width 20 • Alarm and Events Login Slide Note: Only for capacitive screen. Browser Reg. Browser Reg.
	splay Language: 1-English	▼ ♥ Show Title Title Font Setting Sorting Mode: By Date ▼ ne 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	
	Alarming Event Emergen	Move Up
V	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	
94.000 TO 100	ming Status Display:	e width: Scroll Interrupt Step: 5 Pixel Speed: 10 x 0.1s Trigger: Trigger Trigger Confirmed: Unconfirmed Confirmed: Confirmed
0970787 1929	Format: YY*MM*DD ▼ Spacing: 0 ♀	Date Separator: / Column Spacing: 10 🗢

• 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 the project tree. The details are referred

to: Detailed manual/Setup/System Settings/Alarm and Event.

Browse Method

Browse Method:		11
ScrollBar Scro	llbar Wi	dth 20 🜩
Slide Note: Or	nly for ca	apa <mark>citive</mark> screen.
Browser Reg.	114/0	

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 "Scroll bar 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 is that 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: <u>Detailed manual/General functions/Address editor/Standard Byer Address Input</u>.

> Show List

	<u>e' l t</u>	ne font for Title and Table. List Font Setting O Ascending O Descending
Use	Display Item	Title Description Select Color
	Serial No.	Confirm Mode: Single Click •
E	Alarming Event Serial No	
	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	*
	ning Status Display:	e width: Scroll Interrupt Step: 5 Pixel Speed: 10 x 0.1s Trigger: Trigger Trigger V Recovery: Restore Resume V firmed: Unconfirmed Confirme V

"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 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 manual/General</u> <u>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 bar can 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 Mode: Single Click 🔻
	Alarming Event Group		E	
	Alarming Event Emergen			Move Up
	Date of Alarming Event	Date of Alarming Event		Move Down
V	Time of Alarming Event	Time of Alarming Event		More bown
	Count of Alarming Events			
1	Alarming Event Contents	Content		Restore Default
	Trigger Status		*	

For the order of the contents arrangement, you can use the button "Move Up" or "Move Down" to modify it. The content on the to prow 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	Scroll O Interrupt	Step: 5	Pixel Speed:	10 🗢 x 0.1s
--	--------------------	---------	--------------	-------------

The excess contents will be truncated directly if you select the "Interrupt" mode.

"Alarming Status 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 separator among year, 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/ General</u> functions/ Drawing/ Table Drawing.

• Search And Control

The "Search And Control" property TAB is shown as below.

✓ Enable Search Fund	tion
and the second second second second second	Search By Time Range Search By Sequence By Serial No. By Level Search by Group
Register Query N	Iode LW0 📓 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:	LBO m
	LB0 1: show the results filtered by range.
	2: no filtering
Search Register:	
	LW10~LW21 Use maximum 12 registers, depending on different search methods.
and the second second second	
Use Control Function	
_ ose control runcut	50 C
Se control runcue	л П
	л П
Export CSV	

Enable Search Function

Check the option "Enable Search Function" to use the search function. "Search mode"

☑ Enable Search Function

 Search By Date
 Search By Time Range
 Search By Sequence
 By Serial No.
 By Level
 Search by Group
 LW0
 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 are seven search 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 "Search By Date" 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, 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: Detailed manual/General functions/Address editor/Standard ByteAddress Input.

"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 setting 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 manual/General functions/Address editor/Standard Bit Address Input</u>.

"Search Register"

The "Search Register" 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 search is 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: Detailed manual/General functions/Address editor/Standard ByteAddress Input.

Search Register:	LW10			
	LW10 : Year (Input unsigned number YYYY, e.g. 2015)			
	LW11 : Mo	onth (Input unsigned number MM between 1 to 12)		
	LW12 : Da	y (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	LW0:1: Hide the	Confirmed Alarming Events
	LW0:2: Hide the Recovered Event	LW0:3: Hide the	Confirmed and Recovered Event
Control Register:	LW0:0: Display All Alarming Events		

Export CSV

The option"Export CSV" is referred to:<u>Detailed manual/ General functions/ Drawing/ Export</u> CSV.

• 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.

	arm Bar(Marquee) armig and Event History	Show Group: From 1[0] To 32[0] Alarm and Events Login
οu	urrent Alarming and Events	Alarm and Events Login
how	List	
Dis	play Language: 1-English	▼ Show Title Sorting Mode: By Date ▼
V (Jse Labels	List Font Setting O Ascending O Descending
Use	Display Item	Title Description
	Serial No.	*
	Alarming Event Serial No	
	Alarming Event Group	_
	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	
	Alarming Event Contents	Content Restore Default
	Trigger Status	•
Mar	quee moving mode: Righ	nt To Lef 🔻 Step: 5 🔦 Pixel Speed: 10 🗘 x 0.1s
Alarr	ming Status Display:	Trigger: Trigger 📕 Trigger (🗸 🏸 Recovery: Restore
		nfirmed: Unconfirmed Confirmed: Confirmed
Date	Format: YY*MM*DD •	Date Separator: / Time Format: HH:MM:SS •
Line	Spacing: 0	Column Spacing: 10 🔹

• 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

V	Jse Labels		List Font Setting	Ascending	Descending
Use	Display Item	Title Description		1	
	Serial No.			*	
	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			+	
Marc	quee moving mode: Righ	t To Lef 🔻 Step: 5	Pixel Speed:	10 🔷 x 0.1s	
Alarr	ning Status Display:	Trigger: Trigger	Trigger (💌 📝	Recovery: Resto	ore Resume 💌
	Unco	nfirmed: Unconfirmed	C	Confirmed: Confi	rmed Confirme 🕶

"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 Settings/Language</u> <u>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.

"List Font Setting"

The button "List Font Setting" is used to set the font of the title bar. The details are referred to: Detailed manual/ General functions/ Drawing/ Font settings.

"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: Detailed manual/Library/Text Library.

[] L	Jse Labels		List Font Setting	O Ascending
Use	Display Item	Title Description		
	Serial No.			-
	Alarming Event Serial No			
	Alarming Event Group	2		E
	Alarming Event Emergen	9. 0.		
	Date of Alarming Event			
V	Time of Alarming Event			
	Count of Alarming Events			
V	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 bar can be set to display by checking it. But the gray Display Items cannot be checked.

Use	Display Item	Title Description		
	Serial No.		*	
	Alarming Event Serial No			
0	Alarming Event Group		=	
	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		
	Count of Alarming Events			
1	Alarming Event Contents	Content		Restore Default
	Trigger Status		-	(nestore bellaar)

You can use the button "Move Up" or "Move Down" to modify the order of the display items arrangement. The content on the to prow 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 Lef 💌	Step:	5 🖨 Pixel	Speed:	10 🔷 x 0.1s
----------------------	----------------	-------	-----------	--------	-------------

"Alarm Status Display"

The alarm bar only displays the triggered alarms and events. So only the Trigger Color can be changed.

"Date Format"

Alarming Status	s Display: Trig	gger: Trigger	Trigger (👻	Recovery:	Restore	Resume 👻 📝
	Unconfir	med: Unconfirme	d	Confirmed:	Confirmed	Confirme 👻 📝
Date Format:	YY*MM*DD ▼	Date Separator:	/ •	Time Format:	HH:MM:SS	•
Line Spacing:	0	Column 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 separator among year, 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 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.

ta Soi Pa	use: LBO LBOO: R	mperature_H []] Refresh the latest sam Pause the refreshing.		owse Method: Scroll Bar Scro Slide Note: Only Browser Reg. Hide Column Reg			
w List ngua Use	ge: 1-Engl	ish (Uni ▾) 💽 💟 [e same font for Title	Display Title Ba Bar and Table	Table Font Settings	O Asc	ng <mark>Mode:</mark> ending scending	
lse	Display Tl	Title Discription	List Fonts Co	Data Type	Integer	Decimal	Leading Z
1	Serial No.	Serial No.	· · /				
J	Date	Date	· · ·				
J	Time	Time	- · /				
1	Channel1	Channel1		Single-precision Flo	4	0	
1	Channel2	Channel2		16-bit Unsigned	4 🔹	0	
				Up 1	Down	Re	eset Default
	rmat: YY*M acing 5	M*DD ▼ Data ▼ Column Sp	Separator: /		Format: [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, you can quickly build

one by clicking the button " I The details are referred to: <u>Detailed manual/Setup/System</u> <u>Settings/Data Sampling</u>.

• Pause

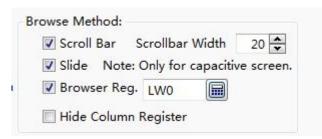
A bit register address can be set to pause or start the display of the historical data sampling. For example: set a bit address LB0 for the option "Pause". Then when LB0 is OFF, the latest data sampling is refreshed. When LB0 is ON, the refreshing is paused.

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

When checking the option"Scroll Bar", the list will appear scroll bar for viewing. The scroll bar 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 is that 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: <u>Detailed manual/General functions/Address editor/Standard Byte Address Input</u>.

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.

Show List

Channel Link

Jse	Display Tl	Title Discription	List Fonts Co	Data Type	Integer	Decimal	Leading Z
1	Serial No.	Serial No.	– – /				
J	Date	Date	•				
V	Time	Time	– * /				
1	Channel1	Channel1	– – /	Single-precision Flo	4	0	
V	Channel2	Channel2		16-bit Unsigned	4 🗘	0	

➢ 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 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 manual/General</u> <u>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	- · /		2	-	
V	Channel1	Channel1	· · ·	Single-precision Flo	4	0	
1	Channel2	Channel2		16-bit Unsigned	4 🚔	0	

☑ Use Lable ☑ Use same font for Title Bar and Table Table Font Settings ◎ Descending

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.

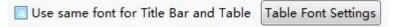
Use	Lable 🗹 Use	same font for Title	Bar and Table	Table Font Settings	O Des	scending	
Use	Display Tl	Title Discription	List Fonts Co	Data Type	Integer	Decimal	Leading Z
	Serial No.		V				
J	Date		🗷				
J	Time		- · 🗹				
1	Channel1		- · 🖉	Single-precision Flo	4 🗘	0	1
V	Channel2		/	16-bit Unsigned	4	0	

Use Lable 🕑 Use same font for Title Bar and Table Table Font Settings 💿 Descending

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 newest record will display on the first row.

List Settings

Jse	Display Tl	Title Discription	List Fonts Co	Table Font Settings	Integer	scending	Leading Z
V	Serial No.			Data Type	Integer	Decimal	Leading 2
~	Date	Date					
1	Time	Time					
V	Channel1	Channel1	•	Single-precision Flo	4	0	
1	Channel2	Channel2		16-bit Unsigned	4 🗘	0	

➤ 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 Settings/ Language</u> <u>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 manual/General</u> functions/Drawing/Font settings.

➢ 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	- · Z		4		
V	Channel1	Channel1	•	Single-precision Flo	4	0	
1	Channel2	Channel2		16-bit Unsigned	4	0	

☑ Use Lable ☑ Use same font for Title Bar and Table Table Font Settings ◎ Descending

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	Display Tl	Title Discription	List Fonts Co	Data Type	Integer	Decimal	Leading Z
1	Serial No.		_ v				
J	Date		_				
1	Time						
J	Channel1		Y	Single-precision Flo	4	0	
1	Channel2		•	16-bit Unsigned	4 🗘	0	

Use Lable 🛛 Use same font for Title Bar and Table Table Font Settings 💿 Descending

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**.

Use same font for Title Bar and Table 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 newest record will display on the first row.

List Settings

rial No. Date Time nannel1 nannel2	e Time				
Time nannel1	e Time				
nannel1				57 	
10,000,000,000	iel1 Channel1				
annel2		Single-precision Flo	4	0	
ACCESSION 1000 1000 1000	el2 Channel2	 16-bit Unsigned	4 🗘	0	
	iel2 Channel2	16-bit Unsigned	4	0 🌩	
		11-	Dawa		eset Defaul
			Up	Up Down	Up Down Re

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 to prow 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 separator among year, 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. The line space is a unified value, and the column space can be set one by one and can be set to the same value.

4.6.13.2.2 Table

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

4.6.13.2.3 Search

• Enable Search Function

Check the option Enable Search Function to use the search function.

	able Search () le Search Functio						
	irch <mark>B</mark> y Date (gister Query Mo	🛛 Search By Time de	Range 🔘 S	earch By Sequer	nce		
Searc	h Trigger Bit:						
Searc	h Register:						
Expor	rt CSV						
Help	Description:					OK	Cancel

➢ 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 **Search By Date** 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 Byte Address Input**.

I Enable Search Function	
O Search By Date O 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 setting the trigger bit 0, the list will display the results which are not filtered. The bit address input method is referred to: <u>Detailed manual/General functions/Address editor/Standard Bit Address Input</u>.

Search Register

Search Register:

LW10 EW21: Depending on different search methods, take up to 12 words.

The **Search Register** 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 search is 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/ Export</u> <u>CSV</u>.

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 Operator Log

The function of the **Operation Log** is to record the required detailed operation of the HMI device, such as a button is triggered at a certain time, a value is modified at another certain time, and so on. The Operation Log component displays the detailed operating records in the list form. You can search the records or export them.

Note 1: For the created components, the operations are not recorded by default. To record the operation of a component, check the **Records Operation** 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>.

	Settings			Security Settings				
Alway				Minimum Press Time: 0 💭 (X0.1S)				
Cond	itional			Require confirmation prior to execution				
				Waiting Time 100 🖨 (X0.1S)				
				Records Operation				
				Minimum Operation Interval: 0 🖨 (X0.15)				
				Notification Settings Before Writing After Writing				
				Notify Bit Address: Notify Byte Address:				
				Trigger Macro:				
Keybo	ard							
Us Us	e Keyboard			Audio				
			Play Audio					

Note 2: Only when the user privilege is 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.

angu	y the List age: 1-l e Lable	English (United S ▾) 💽	✓ Display Title Bar Title Font S e Bar and List	Sorting Mode:
	Use	Display the Project	Title Bar Description	7
	V	Serial No.	Serial No.	-
		Date	Date	-
		Time	Time	Up
		User Name	User Name	- Op
		Operation Log	Operation Log	Down
Data	Format:	DD*MM*YY Date T	ime Split: / 🔻 Time Fo	Restore to default sorting

Browse Method

🔽 Scrollbar	Scrollbar Width	20
Screen	Note: Only for capac	itive scre
Browser F	and the second second second second	itive scre

There are three browse methods: Scroll bar, Screen 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 "Scroll bar 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 that 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: <u>Detailed manual/General functions/Address</u> editor/Standard Byte Address Input.

Display the list

Use	Display the Project	Title Bar Description	
	Serial No.	Serial No.	
V	Date	Date	
	Time	Time	Up
	User Name	User Name	
V	Operation Log	Operation Log	Down
			Restore to default sorting

➢ 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/ 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.

➢ Title Font Setting

It is used to set the font of the title bar. The details are referred to: <u>Detailed manual/General</u> <u>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
1	User Name	User Name
1	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	Display the Project	Title Bar Description
1	Serial No.	
1	Date	
1	Time	
1	User Name	
1	Operation Log	

Use Lable

Vse same font for Title Bar and List

The details of the Text Library are referred to: <u>Detailed manual/Library/Text Library</u>.

➢ 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**.

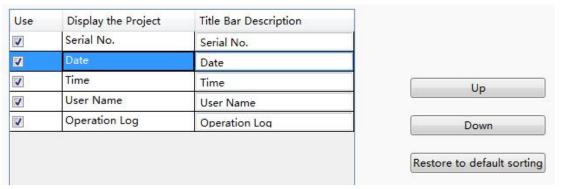
Use same font for Title Bar and List

Table Font Setting

The details are referred to: 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 newest record will display on the first row.



List Settings

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 to prow 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 separator among year, 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 functions/</u> Drawing/ Table Drawing.

4.6.13.3.3 Checking

• Enable Search Function

Check the option Enable Search Function to use the search function.

General Table Checking (Display		
Check By Date Use register to control	○ Check By Time Range the search mothod.	© Check By Sequence	Check By User Name
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 Check By Date 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 Byte Address Input.

◎ Check By Date ◎ Check By T	ime Range	Check By Sequence	Check By User Name
• Use register to control the search mothod.	LW0		
	LW0 0:Search 1:Search By 2:Search By 9 3:Search By 9	Time 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 manual/General functions/Address</u> editor/Standard Bit Address Input.

Search Register

The **Search Register** 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 **search is** 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 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)

• Export CSV

The option **Export CSV** is referred to: <u>Detailed manual/ General functions/ Drawing/ Export</u> 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>.

2 . 2 . 20

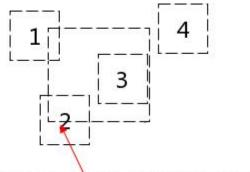
4.6.14 Tools

The Tools component includes Touch Trigger, Canvas, Calendar Clock and QR-Code.

File View Edit Window Drawing	Component Library Macro Recipe Setu	p Tools Help
i 🗋 💕 🖬 🕼 🕹 🖦 🕮 🛝 🗡 🤊	💷 Switch	🔸 📅 해 🏨 🔛 🔛 🕲 🖣
S ₀ S ₁ S ₂ S ₃ Status0 → L1 L2	💡 Indicator Light	🕨 🛛 B_1:Basic Window(1) 🛛 👻 💽
🔛 - 🢡 - 123 - 🔛 - 🕗 - 🔳 - ½	123 Numeric Value and Character Display	* *** * * *
	Toggle Switch and menu	• •
	⑦ Timer and Data Transmission	•
Public Window* B_1:Basic	Bar And Meter	•
Project 💊 Find	20 Curve Graphs	•
# •	Scale	•
	Table	•
	-Ø- Slider	•
d R	Moving Component	•
pla	🛱 Window	•
<u>e</u>	1 List	•
and Replace Reference	% Tools	🕨 🐮 Touch Trigger
fere	🔶 Pipeline	Canvas
ince		😴 Calendar Clock
		QR-Code
		Linguisti 1.475

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 register specified 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.

Trigger Condition: Bit Status Changi	ng 🔘 World Value	e Changing 🔘 C	ondition Judgr	nent
Frigger Address:			C,	
Trigger Mode: OFF	->ON	 Auto Res 	et	

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.

Simulation Click

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 Simula	tion Type	
Simulati	on Click 💿 Simulation Sliding 🔘 Simulation Zoom	
Touch Control	Parameters	
LWO		
The sliding an decline.	gle, 0 for the right slide, 90 slide up, 180 slide to the	l <mark>eft, 270 to</mark>
LW1		
The sliding ve	locity, uni <mark>t: pixel</mark> 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.

	mulation Zoom
Trigg	er Simulation Type
C	Simulation Click 🔘 Simulation Sliding 🔘 Simulation Zoom
Touc	n Control Parameters
LW	1 🗐
7	m ratio 0~200 in percent less than 100 is reduced with more than 10

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/ Address editor/ Standard ByteAddress Input</u>.

4.6.14.1.2 Triggering Condition

amplification.

Trigger Condition		
Bit Status Ch	anging 🔘 World	Value Changing 🔘 Condition Judgment
Trigger Address	EB0	
Trigger Mode:	OFF->ON	▼ Auto Reset

The **Trigger Condition** supports **Bit Status Changing**, **Word Value Changing** and **Condition Judgment**. The settings are referred to: <u>Detailed manual/Component/Timer and Data</u> <u>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.

	Brush		• 🖉
Address			
Use Add	iress Tag		
Deivce: LO	CAL:[Local Register]		•
Address Ty	k within a Byte Register pe: LB	•]	
Format(Rar	0	System Reg	ister
	nge) DDDDDD(0~7999		ister
Format(Rar	nge) DDDDDD(0~7999		
Format(Rar Address Refresh	nge) DDDDDD(0~7999 Index The length of occup	pancy address: 163	
Format(Rar Address Refresh	nge) DDDDDD(0~7999	pancy address: 163	
Format(Rar Address Refresh Timing Re	nge) DDDDDD(0~7999 Index The length of occup	pancy address: 163	

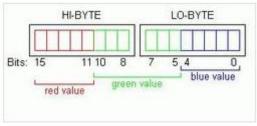
Position:	X :	Ø	\$ Υ:	0	\$
Locked	Width:	128	\$ Height:	128	0
Always D	isplay				
2010 C 000 C 00	nal Display				

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 the occupied LB addresses number is 16384. It is displayed in the **General** property page. If any 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 Multi color Brush

The settings of the **Multi color Brush** are similar to the monochrome brush. The default canvas color is white. Each pixel of the canvas is controlled by using word register addresses. The color of pen brush is 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 indicate B (BLUE). The last 3 bits in the low byte + the first 3 bits in the high byte are used to indicate G (Green). The last 5 bits in the high byte are used to indicate R (RED).



2000	
60000	
50000	

4.6.15 Pipeline

The Pipeline component includes three types: Horizontal, Vertical and Elbow.

1	Con	nponent Library Macro Recipe Setup	Т	ools	Help
1		Switch	۲	1 1	i 🐠 😐 😫 🏹 🖼 🕯
	9	Indicator Light	۲	B	1:Basic Window(1)
¢	123	Numeric Value and Character Display	•		* * * *
*	НЮ	Toggle Switch and menu	۲	12	
	Ø	Timer and Data Transmission	•	L	
C		Bar And Meter	٠		
	100	Curve Graphs	۲	L .	
	hand	Scale	۲	L .	
		Table	۲	L .	
	-0	Slider	۲	L .	
	ф	Moving Component	•	L .	
		Window	•	L .	
		List	۲	L .	
	R	Tools	+		
	÷	Pipeline	+	-	Horizontal
1	-			非	Vertical 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.

and the second second	el Piple wall thickness: 1 Color	
🕑 Fill		
Background Color 💌	Fill Type Gradient •	
Foreground Color 💌	Gradual Approach Horizontal •	
Gradient Filling Effect		
Help Description:		OK Car
telp Description:		OK Car
Help Description:		OK Car

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.

Width(radial): 5 \$ Pixel Length(flow direction): 180 \$ Pixel low Block Settings Block Spacing: 8 \$ Pixel Block Length: 12 \$ Pixel Block Spacing: 8 \$ Pixel Flow Direction: Left To Right • Flow Speed: Varia • LW0 Imit -1~-10 indicate the reverse flow, the smaller the value flow faster. 0 indicate stop flowing. -1~-10 indicate the forward flow, the greater the value flow faster. LW1 indicate graphics library state LW2 indicate flicker speed 0 indicate no flicker,1~10 control flicker speed, the greater the value of blink faster. Flow by condition (Only releate speed if not checked) Help Description: OK	eline Flow Block Flow Block ow Area Settings	Graphics Dynamic Graphics Display	6
Block Length: 12 Pixel Block Spacing: 8 Pixel Flow Direction: Left To Right • Flow Speed: Varia • LW0 -1~-10 indicate the reverse flow, the smaller the value flow faster. 0 indicate stop flowing. 1~-10 indicate the forward flow, the greater the value flow faster. LW1 indicate graphics library state LW2 indicate flicker speed 0 indicate no flicker, 1~10 control flicker speed, the greater the value of blink faster. Flow by condition (Only releate speed if not checked) Flow by condition (Only releate speed if not checked)		Length(flow direction): 180 🗘 Pi	ixel
Block Length: 12 Pixel Block Spacing: 8 Pixel Flow Direction: Left To Right • Flow Speed: Varia • LW0 -1~-10 indicate the reverse flow, the smaller the value flow faster. 0 indicate stop flowing. 1~-10 indicate the forward flow, the greater the value flow faster. LW1 indicate graphics library state LW2 indicate flicker speed 0 indicate no flicker, 1~10 control flicker speed, the greater the value of blink faster. Flow by condition (Only releate speed if not checked) Flow by condition (Only releate speed if not checked)	ow Block Settings		
-1~-10 indicate the reverse flow, the smaller the value flow faster. 0 indicate stop flowing. 1~10 indicate the forward flow, the greater the value flow faster. LW1 indicate graphics library state LW2 indicate flicker speed 0 indicate no flicker,1~10 control flicker speed, the greater the value of blink faster. Flow by condition (Only releate speed if not checked)	Sector States and Sector States	Block Spacing: 8 C Pixel	
0 indicate stop flowing. 1~10 indicate the forward flow, the greater the value flow faster. LW1 indicate graphics library state LW2 indicate flicker speed 0 indicate no flicker,1~10 control flicker speed, the greater the value of blink faster. Flow by condition (Only releate speed if not checked)	Flow Direction: Left To Right	Flow Speed: Varia LW0	
Flow by condition (Only releate speed if not checked)	0 indicate stop flowing. 1~10 indicate the forward flow LW1 indicate graphics library s LW2 indicate flicker speed	w, the greater the value flow faster. itate	ue of blink faster
		ntrol flicker speed, the greater the valu	ue of blink faster.
	Flow by condition (Only releat	e speed if not checked)	
		e speed if not checked)	OK Cance

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.

		-				E		
back	gro	backspace	button	button002	button1		Status0	Status1
0				~ 10				
circle	e dot	Enter	flowblock	Forbidden	Frame002			
Impo	rt	Add a new Gr	aphic			*	Favorites	Edit Graphics
🔲 Sha	dow Ef	fect						

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.

ipeline	Flow	Block	Flow Blo	ock Gr	aphics	Dyna	amic G	iraphics	Displa	у			
Positio	n												
Positio	on:	X :	270	\$	Y	:	120	\$					
🔲 Loc	ked	Width:	200	\$	Heig	ht:	44	\$					
Alwa	avs Di	splay											
		al Displ	ay										

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.

Fill	Background	Color 💌 🍠	Fill Type	Gradient	•	
		Color 👻 📝		roach Horizont	al -	
Gra	dient Filling I	Effect				
	_					
					-	Ċ.

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.

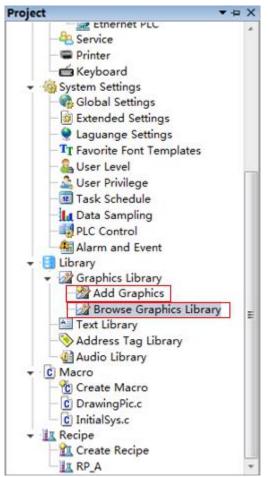
Graphics Dynamic Graph	Collapes Branches	Shape	Only Vector Graphics Only Editable Graphics	
backgro_ backspac	 Jointón Jointón Jriame Arrow Sensor Conveyor Conveyor Alestor Selety Convencion Sitrater Convencion Arrow 	F		Add To Favorites Category
	s e.Chimney	Elbow006	Elbow007 Elbow008 Elbow009	dahi New Graphics
Import Add a new	a fuser	*		Talit Graphics
Shadow Effect	-s i.Pipeline			Rename Graphics
Change the Filing	s j.Edit			Delete Graphics
Help Description:	s LDial s m.Computer s n.Language s o.Valve s p.Fan a g.Motor s r.Elbow	Status:		
	Adl Ilename Delet	Status0		Exit
	11 A. 10 A.		[Select and Exit

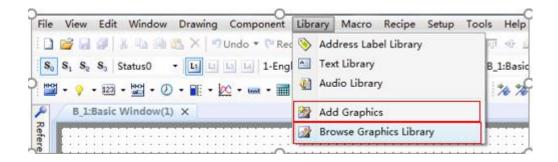
4.7 Library

4.7.1 Graphics Library

Many graphics need to be used in the project configuration. The VI20 Studio 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 Add Graphics and Browse Graphics Library. You can use any of these commands by clicking the menu command Library/Add Graphics or Library/Browse Graphics Library. You can also double-click the Library/ Add Graphics or Library/ Browse Graphics Library in the project tree.





4.7.1.1 Add Graphics

The "Add Graphics" window is shown as below.

Status Count: 2 Modify on current graphics library Preview	Select Graphics
Preview	
	ОК
	Cancel

4.7.1.1.1 Name, Status Count, Width and Height

You need to give a name for the new added graphic. A graphic may have many statuses. You should set the number of the statuses for the option **Status Count**. And you should also set the Width and the Height for your graphic.

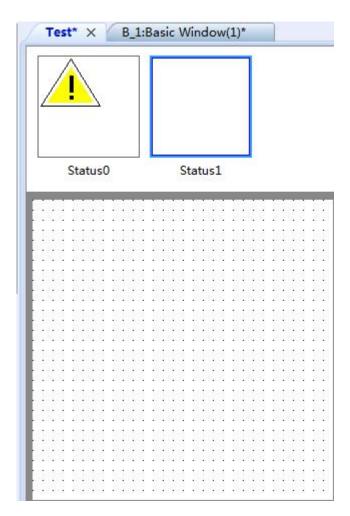
4.7.1.1.2 Modify on current graphics library

Please check the option **Modify on current graphics library** if you want to modify the selected graphic from the graphics library. Then you can click the button **Select Graphics** to select a graphic from the library.

Name: Test Status Count: 1	× 2
Modify on current graphics library	Select Graphics
Preview	
Status0	
	OK Cancel

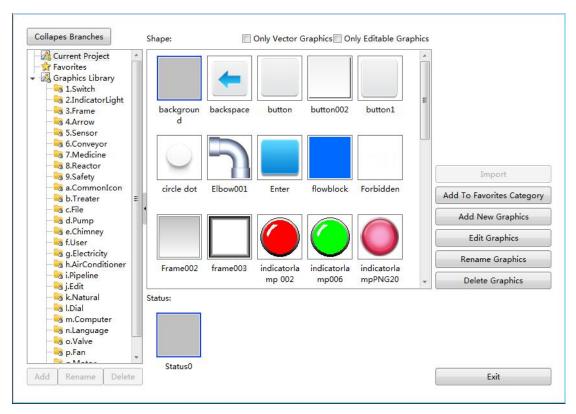
4.7.1.1.3 Edit

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.



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.



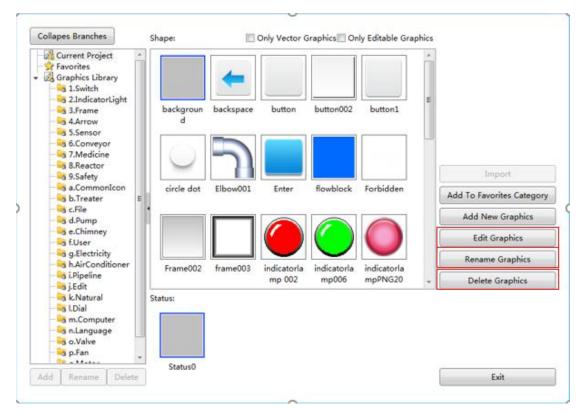
4.7.1.2.1"Only Vector Graphics" and "Only Editable Graphics"

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 Graphics Library S 1.Switch 2 2.IndicatorLight	hackassius	hartenare hutton hutton003 hutton1

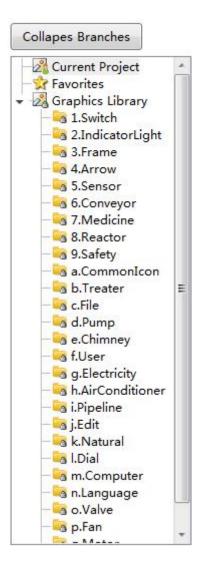
4.7.1.2.2 Add, Edit and Rename Graphics

You can add a new graphic to the library by clicking the button **Add New Graphics**. After select a graphic in the library, 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 Graphics Library, 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.

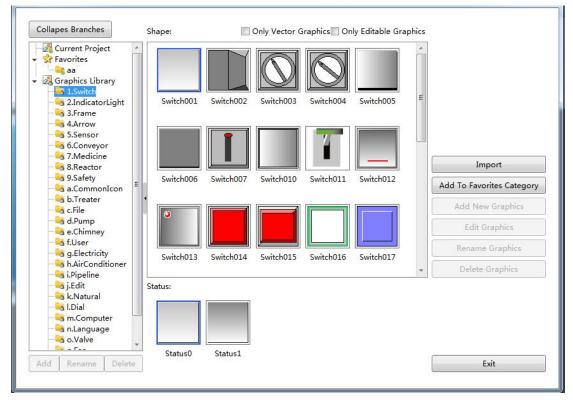


4.7.1.2.4 Favorites

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 Grag	ohics Only Editable Graphics
Current Project	Test AirConditi oner015	Import
- 8.Reactor - 3 9.Safety	-	Add To Favorites Category
b.Treater		Add New Graphics
- s e.Chimney		Edit Graphics
- g.Electricity		Rename Graphics
		Delete Graphics
- s j.Edit - s k.Natural - s l.Dial - s n.Computer - s n.Language - s o.Valve	Status:	
Add Rename Delete	Status0 Status1 Status2	Exit

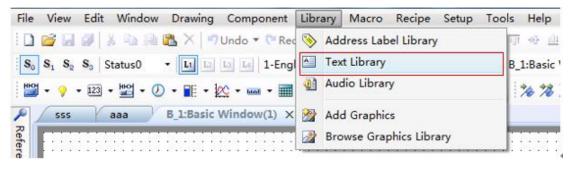
The selected graphic of the Graphics Library can be added to the Favorites or a category of the Favorites by clicking the button **Add to Favorites Category**.

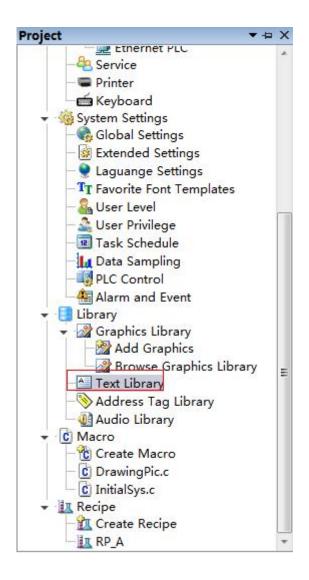


4.7.2Text Library

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 modify it 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.

A	в	DEFGH	Search Language	Display Sort	by Name 🔲 🛙 U V W X	Display All Language
确定						
N	ame				Status Number	Reference Number
- Ex	ample	e_1	1 🗘	0		
St	tatus	1-English (United States)	2-Chinese (Simplified, PRC)		I.	
0		Test	测试			- 2
- Ex					1 🗘	0
St	tatus	1-English (United States)	2-Chinese (Simplified, PRC)			
0		ок	确定			
Nev	w	Delete			Cor	nfirm Cancel

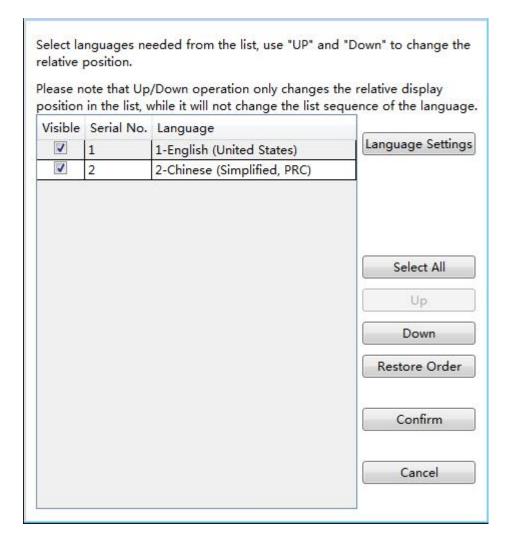
4.7.2.1 Search

After enter the name required to find and click the button **Search**, all items which match the content will 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.



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" are referred to: <u>Detailed manual/ Setup/ System</u> Settings/Language Settings.

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 displays simultaneously 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.

	Name			Status Number	Reference Number
	Example	21		1 🗘	0
i.	Status	1-English (United States)	2-Chinese (Simplified, PRC)		
1	0	Test	澳试		

The item in the table is shown as below.

Name	li ge		Status Number	Reference Numbe
Examp	ole_1		2 🗘	0
Status	1-English (United Sta	ates) 2-Chinese (Simplified, PRC)	L	-
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

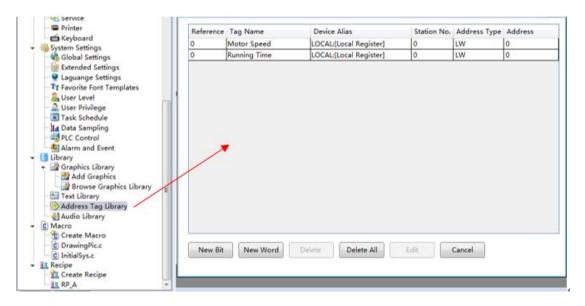
The selected item will be deleted after you click the button **Delete**.

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.





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 manual/General</u> <u>functions/Address editor/Standard Bit Address Input</u>.

	Tag Nam	ne	Device	Alias	Station No.	Address Type	Address
0	Motor Sp	haad		(Local Register)	lo		0
0	Running	🖌 Create Bi	t Address			×	0
		Tag Name				=+	
			CAL:[Local x within a B	yte Register			
		Address Ty Address:	pe: LB 0	÷	▼ System Reg	ister	
		Format(Rar	nge) DDDDI	DD(0~799999)			
		<u></u>			OK Car	ncel	
New Bit	New	Word	Delete	Delete All		Cancel	

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: <u>Detailed</u> <u>manual/General functions/Address editor/Standard ByteAddress Input</u>.

Address	lo lie	
Address		
		0
Word Address 1		0
L:[Local Register]	▼ System Register	
	OK Cancel	
	L:[Local Register]	L:[Local Register] LUX System Register DDDDDDD(0~799999)

4.7.3.4 Delete

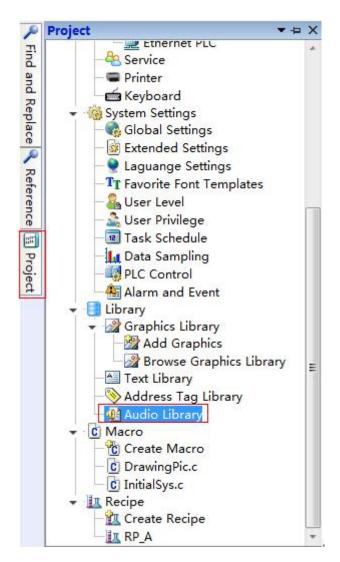
Delete the selected tag. 4.7.3.5 Delete All Delete all tags. 4.7.3.6 Edit Modify the selected tag.

4.7.4 Audio Library

In the VI20 Studio software, you can use some specific audios. 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.





The Audio Library is opened as below.

Audio Name	File Name	Reference Times	File Size(KB)	Audio Lengtł	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 Libra
					Export Audio Library
					Clear

4.7.4.1 Import Audio

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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 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 Libra
					Export Audio Library
					Clear
Sleep Away		mei Sleep Away :Sleep Away.mp3	Audio	e:4729K8 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.

Audio Name	File Name	Reference Times	File Size(KB)	Audio Lengtł	Import Audio
Sleep Away	Sleep Away.mp3	0	4729	200.6	
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	lame: Kalimba		e:8217KB	
00:00/05:48	File Nar	ne: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) 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 Libra
					Export Audio Library
					Clear
Kalimba		ame: Kalimba e:Kalimba.mp3	Audio	e:8217KB Length:348.1s nce Times:0	

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 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 Libra
					Export Audio Library
					Clear
Kalimba		ame: Kalimba ie:Kalimba.mp3	Audio	e:8217K8 Length:348.1s nce Times:0	

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	File Name	Reference Times	File Size(KB)	Audio Length	Import Audio
Sleep Away	Sleep Away.mp3 0)	4729	200.6	
Kalimba1	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
Kalimba1	Audio Name:	Pennika and	Audio I	e:8217KB .ength:348.1s nce Times:0	

4.7.5 Watch Address Table

Insert Watch Address button will be used in the alarm content display of the **Alarm and Event Detail Setting**. You can set the **Watch Address Table** in the following ways.

	Audio
Condition	Trigger Buzzer 📝 Buzzer Timeout 10 🔷 (s)
	🔲 Audio 🛛 Audio Library 🕟 👘 Loop
	• Action
	Triggering Confirming Recovery Action
Add Modify Delete	Macro:
ext and Record	
Description: 🔲 Text Lib.	Text Lib.
anguage: 1-English (United S 🔻 💽 Save to Text	Lib. Word Address:
	Popup Window:
	Print Information to Printer
Copy Current Text To: All Languages Insert Wate	ch Address

You can click the button as shown in the figure to enter the **Watch Address Table** (path: Alarm and Event Display/Alarm and Events Login/Create/Insert Watch Address), you can also enter it through the tool bar (path: Library /Watch Address Table).

Name	Addres
ire Alarm	LWO
Add Modify Delete C	lear Select And Quit

Add: You can add new watch address entry. Click Add, set the watch address name, such as Fire Alarm, and set the address of the watch entry, such as local register LW0, set the data format, there are various data types to choose; click Confirm after setting finished, you can see the figure as below.

Modify: You can modify the created watch address entry.

Delete: You can delete the selected watch address entry.

Clear: You can delete all watch address entries.

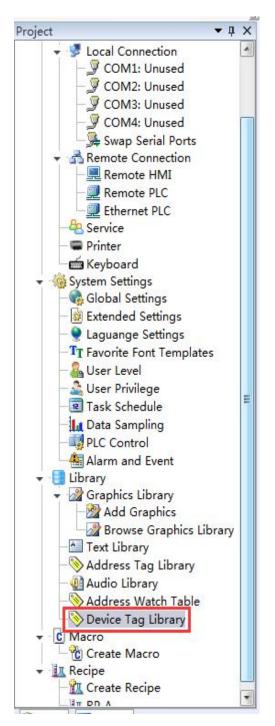
Select and Quit: When you enter the Watch Address Table from the Alarm and Event Detailed Setting page, select the watch address entry you are using, click the Select and Quit button to complete setting.

Watch Addre	1999	Fire Alar	m				
Deivce: LOC	AL:[Local Re	gister]		•			
Address Type	e: LW		•				
Address:)	1	System Re	gister			
Address I	ndex						
Data Forma	it						
Data Type:	16-bit Uns	igned 🔹					
Integer di	gits	4 🗘 D	ecimal Point:	0 🗘	🔲 Display P	ositive Sign	📃 Zero Padding Left
						Co	onfirm Cancel

4.7.6 Device Tag Library

The "**Device Tag Library**" saves the device addresses in the tag form. This makes it easy for the users to use and modify the addresses.

You need add the contents of the tag first when using the devices of tag type. The added tag should be the tags on the tag type devices.



r	
Serial Ports Ethernet Port	
Serial Ports	
Ethernet Port	
Edicificerore	
Para and a second se	
Add Equipment Delete	Save
Add Equipment Delete	Save
Construction of the second sec	

Add Equipment: Click the 'Add Equipment' button, select the Serial Port Type, and select the 'Manufacturer' and 'Device Type'. Then click 'OK' to finish adding after selecting device, the added device should be the tag type device here, such as the figure shown as below.

Serial Port Type:	Serial Ports C Ethernet Port				
Manufacturer:	VEICHI				
Device Type:	VEICHI V5-MC104	•			

Add Tags

 flexem abc 	Name: abc Description:			
	Name	Data Type	Description	Delet
	abc	REAL		
Add Category Add Data	Group	Modify	. Stat	Close
Add Category Add Data		Modify Data Type flexem.ab/		Close ion No. Delete

AD Mars 950 CIDTAC	Name	Data Type	Station No.	Delete
AB Micro850_CIPTAG	ABC	flexem.abc.abc	• 0	Î
		flexem.abc.abc		
		BOOL		
		SINT		
		USINT		
		INT		
		UINT		
		DINT UDINT		
		REAL		
		INCAL .	_	
	<u>k</u>			
	<u>.</u>	Add Import	Export Data	Туре
Add Equipment Delete		Add Import		Type ave

dd: You can add tags manually, enter the tag name, select the data type and station number, click

'Save' after finishing adding.

Import: You can import the tags directly in the form of file, this will facilitate users to quickly establish a tag library. The tag file format can be imported is CSV file. The CSV format files can be exported by the tag type PLC software, you can also make it with Excel, about the table format, you can refer to Export the CSV File.

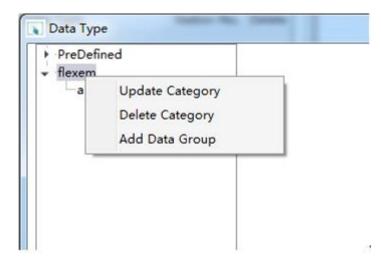
Export: You can export the added contents of the tag library as CSV format files, which you can quickly import to other devices to use.

Data type: You can classify and group the data type of the device tags, this will facilitate users to quickly select the data type they need. Click the '**Data Type**' button, click the '**Add Category**', then you can define the category name, click the '**Add Data Group**', you can add the elements of the group - data type. Click '**Close**' after the definition.

After defining the data type, you can see the data type just defined in the 'Data Type' page, as shown below: you can select the data type for the 'flexem / abc.REAL', the nature of this type is 'REAL'.

Delete Data Type:

Right-click the data category then you can modify category, delete category, and add data group. Right-click data group then you can delete the data group.



 PreDefined flexem 	Name: abc
abc	Description:
Delete D	ata Group
	Name

4.8 Macro

4.8.1 Create 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.

Create Macro Sa	7.	Save A		Сору	Paste	*7 Undo	C* Redo	Add New Address	% Compiling	e Help	
Name Macro InitialSys DrawingPic macro_1	Cod	le								Read Write I System Func Compution Operator	
			•			te Macro ame: r		K Cancel			
Create Delete Import Macro Cod	Expe	dit .									
Address State	ment								In	put assistant	Find and Replace

(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.

Create Macro Save Save A	I Cut Copy Paste Undo Redo Add New Addre	s Compiling Help	
Alias Name Address	TransData.c X 1 Winclude <macro.h> 2 3 int MacroMain() 4 { 5 // Here to add macro code. 6 7 return 0; 8 }</macro.h>	D System	Irite Function Functions ation and Convertion Functio or
Create Delete Edit Insert at Cursor Position Address Statement Macro Code	*		tant Find and Replace

You can edit the macro code in the code editor window.

4.8.2 Edit Macro

Click the menu command '**Macro**/ **Edit Macro**', you can open the '**Macro Instruction**' window. It is shown as below.

Create Macro	Save	Save All) Cut	Paste	9 Undo	C* Redo	Add New Address	74 Compilin	g Help	
Name Ma InitialSys DrawingPic TransData	scro Co	de							Read Write System Func Compustion Operator	nctio
Create	54) []	Eda								

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.

4.8.3 Enable Password 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.

Ċ	Create Macro Edit Macro						
	Enable Password Verification						
	Up	date Mad	ro Passv	word			

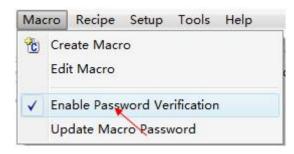
Password:	123456	
Confirm Password:	123456	
E C	OK	Cancel

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 used only after you entering the correct password. The 'Verify Password' window is shown as below.

Verify Password	X
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.



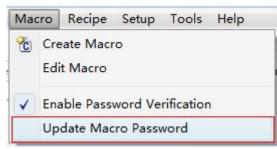
If you want to modify the macro password, the details are referred to: <u>Detailed</u> <u>manual/Macro/Update MacroPassword</u>.

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.

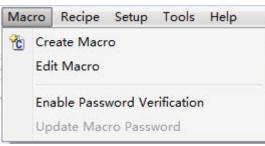
4.8.4 Update Macro Password

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	2
Old Password:	123456	
New Password:	654321	
Confirm Password:	654321	
6	OK Car	ncel

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, the button 'OK' is unavailable.

After click the button '**OK**', a '**Warning**' window will pop up to message that the old password is error if the old password is not correct.



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.

eneral 🥥	Data Information					
Name: RP	늬	Recipe Length:	1 0	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_: 0.0~999.1	5		1
	Bit	address index range:	RPBI_: 0.0~0.15	2		
	Curre	ent recipe ID register:	RPI_: 0	÷		-
		dress as Recipe index				_
🗐 C	lear current recipe l	bit address.				
E C	lear current recipe l	bit address.				
	lear current recipe l lote: Clear all recipe					
	8					
	8					
	8					
	8					
	8					

4.9.1 General

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 you give a name 'coffee' for a recipe, then the whole name of the recipe is 'RP_ coffee'. The recipe word 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 by each 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 recipe in the "Address of Recipe Storage" area. It is shown as below.

Name: RP_ coffee	Recipe Length	n: 10 ‡	Data Entry	Array Formula:	1000 \$
Address of Recipe Stora	ge	18	1		
	Word address range:	RPW_coffee: 0~99	999		
We	ord address index range:	RPWI_coffee: 0~9			
	Bit address range:	RPB_coffee: 0.0~9	9999.15		
	Bit address index range:	RPBI_coffee: 0.0~9	9.15		
c	urrent recipe ID register:	RPI_coffee: 0			
Use External	Address as Recipe index pe bit address.				
🔲 Clear current reci					
🔲 Clear current reci	pe bit address.				

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 the address 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 Use External 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 is set **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.

	Data Information					
Name:	RP_ coffee	Recipe Length:	10 🗘	Data Entry	Array Formula:	1000 🗘
Addr	ess of Recipe Storage					
	Word	address range:	RPW_coffee: 0-	-9999		
	Word addre	ss index range:	RPWI_coffee: 0	~9		
	Bit	address range:	RPB_coffee: 0.0	~9999.15		
	Bit addre	ss index range:	RPBI_coffee: 0.0	0~9.15		
	Current rec	ipe ID register:	RPI_coffee: 0			
	Use External Address a					_
	Clear current recipe bit add	dress. LBO				
N	Clear current recipe bit add lote: Clear current recipe bit etting to OFF.			e will be cleare	d, after clearing fi	nished,
N	lote: Clear current recipe bit	address. LBO is C		e will be cleared	d, after clearing fi	nished,
N	lote: Clear current recipe bit etting to OFF.	address. LBO is C		e will be cleare	d, after clearing fi	nished,

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 is set 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.

Name: F	RP_ coffee	Recipe Length:	: 10 ‡	Data Entry	Array Formula:	1000 \$
Addre	ss of Recipe Storage					
	Wor	d address range:	RPW_coffee: 0-	9999		
	Word add	ress index range:	RPWI_coffee: 0	~9		
	В	it address range:	RPB_coffee: 0.0	~9999.15		
	Bit add	ress index range:	RPBI_coffee: 0.0	~9.15		
	Current r	ecipe ID register:	RPI_coffee: 0			
	Use External Addres	s as Recipe index				
	te: Clear current recipe b ting to OFF.	it address. LBU is C	JN:Current recip	e will be cleare	d, after clearing fi	nished,
	Note: Clear all recipe bits	addresses LB1	(1		
V						
No	te: Clear all recipe bits ac ting to OFF.	idresses. LB1 is ON	N:All Current Rec	ipes will be cle	ared, after clearin	g finished,
No		ddresses. LB1 is OM	N:All Current Rec	ipes will be cle	ared, after clearin	g finished,
No		ldresses. LB1 is OM	N:All Current Rec	ipes will be cle	ared, after clearin	g finished,
No		ldresses. LB1 is ON	N:All Current Rec	ipes will be cle	ared, after clearin	g 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.

	Number of words	Is Data Group	Data Group Length	Data Type	Data Nam
0	1	No		16-bit Unsigned	

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.

Name:		
Address Offset	0	
Data Type:	16-bit Unsigned 👻	
🔲 Data Grou	q	

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 set here. 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.

Name:		
Address Offset	10	
Data Type:	16-bit Unsigned 👻	
🔽 Data Grou	ıp Length 2 🖨	
	ок	Cancel

4.9.2.1.5 Length

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.

4.9.2.1.6 Move Up

For many data entry, the selected data entry will be moved up a row after click the button '**Move** Up'.

4.9.2.1.7 Move Down

For many data entry, the selected data entry will be moved down a row after click the button 'Move Down'.

4.9.2.2 Insert

After select an entry in the list and then click the button '**Insert**', a new entry will be added before the selected entry.

4.9.2.2.1 Add

After click the button 'Add', a new data entry will be added after the last data entry.

4.9.2.2.2 Delete

The selected data entry will be deleted from the list after click the button 'Delete'.

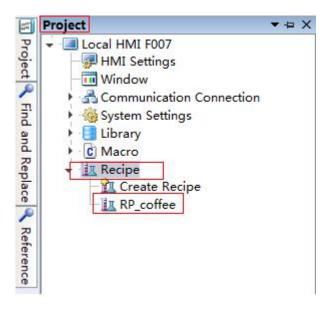
For example, the recipe "RP_coffee" has only one entry and the data type of the entry is "**16-bit Unsigned** ". The Recipe Length is 10. The data setting of the entry is shown as below.

Address Offset	0		
Data Type:	16-bit Unsigned 🔹		
🔽 Data Grou	p Length 10	•	

After click the button '**OK**' to confirm the entry setting, the '**Data Information**' setting page of this recipe is shown as below.

	Number of Words	Is Data Group	Data Group Length	Data Type	Data Nam
0	10	Yes	10	16-bit Unsigned	Coffee Data

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/ HMI Settings'. It is shown as below.

1odel:	F007					
Description		Ethernet Setting	9			
Size:	7	Auto IP Add	lress (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	Use system bit	register SRB10000 to s	elect IP address assigning i	method	
SD/TF Card:	Yes	(Auto-allocate				
COM1 :	RS232\RS485-2\RS485-4	Use FTP Protocol				
COM2 :	RS485-2	Rotation Display				
COM3 :	RS232					
COM4 :	RS485-2	A Long Company	rizontal Display)	Preview		
CAN :	None	Vertical (Ro	tate 90 degrees Cloc	•		
Expansion P	Port:None	O Vertical(Rot	ate 90 Degree count	A		
Vedio:	None	O Upside Down(Rotate 180 Degree				
Audio:	None		12 IRU			
		Color Setting		© 24 Bit Color (16777216	<u></u>	
		10 Bit Color	(65535 Color)	© 24 Bit Color (16///216	Color)	
			[
			Exchar	nge HMI Confirm	Cancel	

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
ubnet 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

Preview
A

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)

② 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'.

1odel: VI20-07	70S-F/VI20-070S-FE				
Connect the	e FLink: Not Use 🔹				
Description		Ethernet Setting			
Size:	7	Auto IP Address (DHCP) Static IP Address			
Resolution:	1024 X 600				
Color:	24BIT Color				
Touch Type:	Resistive Touch Panel				
Key:	0				
Ethernet:	Yes				
Main USB: 1 SD/TF Card: Yes		Use system bit register SRB10000 to select IP address assigning method (Auto-allocate or static)			
					COM1:
COM2:	RS485-2	Use FTP Protocol			
COM3:	RS232				
COM4:	None	Rotation Display			
CAN:	None	Normal (Horizontal Display) Preview			
Expansion Port:	None	🔘 Vertical (Rotate 90 degrees Clockwise)			
Video:	None	Vertical(Rotate 90 Degree counterclockwise)			
Audio:	None	Upside Down(Rotate 180 Degree)			
Compatible Mod	del: None	Color Setting			
		16 Bit Color (65535 Color) 24 Bit Color (16777216 Color)			
		Exchange HMI			

The "Change HMI Model" dialog will pop up after you click the button "Exchange HMI".

ource HMI Model:	VI20-070S-F/VI20-070S-F	Target HMI Model:	VI20-101S-F/VI20-101S-FE -
Source HMI Descri	ption	Target HMI Descrip	otion
Size:	7	Size:	10.1
Resolution:	1024 X 600	Resolution:	1024 X 600
Color:	24BIT Color	Color:	24BIT Color
Touch Type:	Resistive Touch Panel	Touch Type:	Resistive Touch Panel
Key:	0	Key:	0
Ethernet:	Yes	Ethernet:	Yes
Main USB:	1	Main USB:	1
SD/TF Card:	Yes	SD/TF Card:	Yes
COM1:	RS232\RS485-2\RS485-4	COM1:	RS232\RS485-2\RS485-4
COM2:	RS485-2	COM2:	RS485-2\RS485-4
COM3:	RS232	COM3:	RS232
COM4:	None	COM4:	None
CAN:	None	CAN:	None
Expansion Port:	None	Expansion Port:	None
Video:	None	Video:	None
Audio:	None	Audio:	None
Compatible Mod	lel: None	Compatible Mod	el: 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

Setu	ip Tools Help	
	HMI settings Communication Settings	·····································
	System Settings	Global Settings
2	Options	 Extended Properties Language Settings
		TT Favorite Font Templates
		🔒 User Level
 		Task Schedule
:::		🚹 Data Sampling
		PLC Control
:::		🚑 Alarm And Event

4.10.2.1 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 Tem	plates User Leve
Backlight And Screen Dim the brightne: Turn off Backligh Dim down and w Turn on backl Screensaver: Screensaver: Screensaver Windo Require Password Password Lev	ss: Lowest	 ♥ Initial Main Win Main Win Drop-dov ♥ (min) ♥ (min) ♥ Clock ♥ (min) Clock Source: ♥ Source: ♥ Histori Address: Touch Aut ♥ Touch 	ndow: B_1:Basic Window Macro Macro Code Macro Code dow(HOME) ndow(HOME) : B_1:Basi m window the drop-down window of the drop-down window of the time souce of events ical data etc. SRWD~7: Year/Month/Di Minute/Second/Milliseco dio	c Window(1 • or not?

4.10.2.1.1 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 the VI20 Studio software Tools.

Note: The uploaded project file is a special archive. The project can be opened after decompiling the VI20 Studio software.

• Decompilation

If you check "**Decompilation**" and set the "**Password**", the project can be allowed to decompile by the VI20 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 file after compiling is the least. But it cannot be uploaded or decompiled. On the other hand, it is safest way to protect your project.

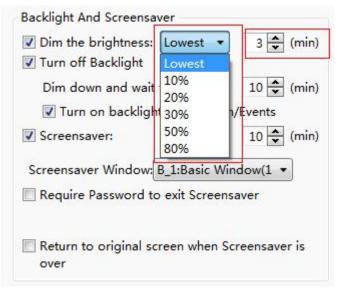
• Download Password

The project in HMI may be replaced by the download content if the option is not checked. After checking the option, then you need to enter the password every time you want to download projects from the HMI, to avoid the original projects to be replaced.

4.10.2.1.2 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.



• 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 means it will keep 10 minutes after the backlight lightness is adjusted. Then the backlight will be turned off.

Note: The configuration screen will be invisible 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 Screensaver Window will be switched to display when the time is up. The Screensaver Window 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.

4.10.2.1.3 Local Register Endian Order

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.

4.10.2.1.4 Scroll bar

For some components without setting the scroll bar width, you can set it in the "Scroll bar Width" option. For example, you set the scroll bar width for the pop up window component here.

4.10.2.1.5 Initialization

• Initial Window

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.

4.10.2.1.6 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.

4.10.2.1.7 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 to 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.

4.10.2.1.8 Clock

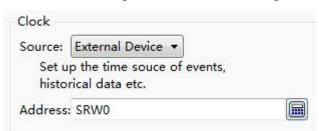
The "Source" of Clock can be set "HMI Internal Clock" or "External Device".

Source:	HMI Internal Clock 🔻	
Set u	HMI Internal Clock	nts,
histo	External Device	

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.

Clock	
Source:	HMI Internal Clock 🔻
Set u	p the time souce of events,
histo	rical data etc.
Address	SRW0~7: Year/Month/Day/Hour/
Address	Minute/Second/Millisecond/Week

If you select the "External Device", the registers address can be changed.



4.10.2.1.9 Touch Audio

Touch Audio		
☑ Buzzer Is Enabled	Buzzer Time: 50mS	•
Enable Contro	ol:	
▼ Touch Audio Enable	ed.	
🔲 Enable Contro	ol:	

• 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, and1s.



• 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.

Buzzer Time: 50mS	•
ol: LBO	
ed.	
ol: LB1	
	ol: LBO

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. **4.10.2.2 Extended Settings**

	ded Settings v Basic Window line Blurring	Laguange Settings S Window D Slow Slow Slow	Favorite Font Temp Default Settings In	plates	User Level
Performance:	10 - 2 - X	Slow			
		Use	Out In new Window by Hor Swiping Around ble Ipomoea return to		-
Dperate Log Save Settings: Unsave HMI SD Card Unsave: Data will lost upon pov Max Items 1000	wer off or restar Auto Stop ill not be added s reached. Or d	t. On' If co when the r	nt initialization before o t show © Displays the mmunication errors, di ight bottom corner	value 0 or s	state 0

4.10.2.2.1 Public Window 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.



The effect of the "Above Basic Window" is shown as below.

This is the Basic Window.

4.10.2.2.2 Performance

If you check the option "**Disable Vector Font Borderline Blurring Processing**", the display effect of the fonts will have some burr. It does not look smooth and good, but the display speed is faster. You can use this option to 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 not check this option generally.

If you don't check the option "Disable Vector Font Borderline Blurring Processing", the display effect is shown as below.

Static Text

If you check the option "Disable Vector Font Borderline Blurring Processing", the display effect is shown as below.

Static Text

4.10.2.2.3 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 default in the "Basic" property TAB of the new window. Another window effect is "Fade out". The fade effect is only valid for the capacitive HMI device.

une Dackground a	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 wind	low serial num(The No. of all the windows after will be added by 1)
Window No. (By Type	e):		2.0	Window number (used for window 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
	2			📝 Fade in
Bottom Layer:	None			Fade out
Bottom Layer: Middle Layer Top Layer:	None			Note: fade is only valid for the capacitive screen.

Note: The fade effect will produce an effect on the speed of switching windows obviously. The economic HMI model are not suggested to be used.

• Switch Window by Horizontal Sliding

Slow In	
Slow Out	
Switch Windo	ow by Horizontal Sliding

After the "Switch Window by Horizontal Sliding" option is checked, the windows can be switched by 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.

ction/Condition	Execute	Operation Target	
de to the left	Switch Page	Next Window	
de to the right	Switch Page	Previous Window	
			Add
			Move Up
			Move Down
			Delete
			Edit

If you click the '**Slide left** / **right**' button, then the function of horizontal sliding will take effect, the function is only valid for the capacitive HMI.

If you click the 'Disable Ipomoea return to the main window option', then the function of 'Ipomoea return to the main window' is disabled, the function is enabled by default, you can check the option if you do not need it. It can be controlled by the special register 'SRB10012=1, too'.

Operate Log Save Settings:

O Unsave	Save Settings: MI © SD Card © USB1
Power-off	sustain.
Subdirecto	ry Name: LOG
Save CSV	/ File meanwhile
Maximum 9	Saving Limit:(No Limit) 0 🌩 Day
On Cache F	Full: Delete Old Records 🔻
☑ When fre	ee space is less than: 512KB 🔹
☑ When fre Notify Regi	

This settings is the global settings, the operating steps can be recorded without setting the operate log control, the default is not saved, you can choose to save to the local HMI, SD card, USB1. The address of storing operate log is retained after power down, you can define the subdirectory name

by yourself. The files saved is .db files.

Save CSV File meanwhile:

The operate log will be saved as .db file and CSV file at the same time. The CSV file can be opened directly and viewed with Excel.

Maximum Saving Limit:

There is no limit when select 0days, you can click the option 'Delete Old Records' when the cache is full, the new operate log will continue recording, 'Discard New Records', it will not record the operate log any more if the cache is full.

You can set the '**Notify Register**' when the cache is full, as shown below, LB0 is set to 1 when the free space is less than 512KB.

I When free spa	ice is less t	han: 512KB	•
Notify Register:	LB0		

You can set a flag bit to clear the historic records of the operate log.

4.10.2.3 Language Settings

User Priv	ilege	Task Schedule	Data Sampling	PLC Control	Alarr	n And Event
Global Set	ttings	Extended Settings	Laguange Settings	Favorite Font Terr	nplates	User Level
anguage Language	Count:	2	Default Imp	Font port from Favorite Fo	nt Templa	ites.(I)
No.	Langu	E		or Font () Graphic F		
1		h (United States)	Font:	Microsoft Sans Serif	•	
2		se (Simplified, PRC)	Size:	16 • B I	- 3	
Default La			Us	e Current Font for All	l Languag	es(F)
1 : English		CARACTER AND				
SRW10050). When t	O. by using system regi the project is download vill be restored.				

4.10.2.3.1 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	ttings	Extended Settings	Laguange Settings	Favorite Font Tem	plates User Level
anguage			Default	Font	
Language	Count:	8	• Im	port from Favorite Fo	nt Templates.(I)
No.	Langu	lage	© Vect	or Font 🧕 Graphic Fo	ont
1	Englis	h (United States)	Font:	Arial 🔹	
2	Chines	se (Simplified, PRC)	Size:	16 • B I	× 🖻
3	Turkis	h (Turkey)	5120.		
4	Frenc	h (France)	-		
5	and the second sec	h (France)			
6		n (Italy)		Arial	C
7		sh (Spain) guese (Portugal)		Ana)
8	_	an (Germany)			
	Thai (Bulga Catala Czech Danis Greek Finnis	amese (Vietnam) Thailand) Irian (Bulgaria) an (Catalan) h (Czech Republic) h (Denmark) k (Greece) h (Finland)		rent Font for All	Languages(F)
Default La	0.0	ew (Israel) arian (Hungary)		-	
1 : Englis	h (United	States)	•		
SRW10050). When t	O. by using system regi the project is download vill be 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.

4.10.2.3.2 Default Font

Refer to: Detailed manual/ General functions/ Font settings.

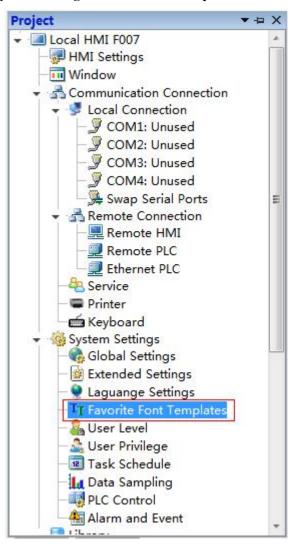
4.10.2.4 Favorite Font Templates

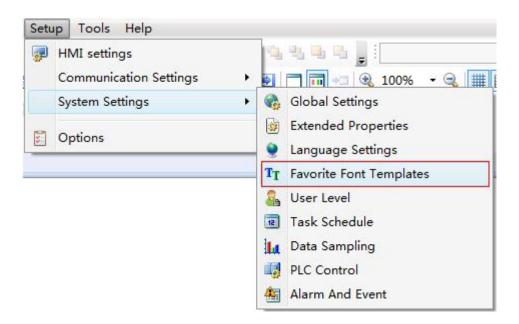
The function is used to save the common font styles as a template. You can use this template when

you set the font style.

4.10.2.4.1 Open the "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".





4.10.2.4.2 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: Detailed manual/General functions/Font settings. At last, click the button "OK" to confirm and save the settings.

User	Privilege	Task Schedule	Data Sam	pling	PLC Control	Alarr	n And Event
Global	Settings	Extended Settings	Laguange Se	ettings	Favorite Font Tem	plates	User Level
ont Ten	nplates List			Font Ten	nplates Settings	<mark>2</mark> ≁	
No.	Template	e Description		Descript	ion: Font1		
1	Font1(Gra	aphic Arial 16)		O Vecto	r Font 🛛 🖲 Gra	phic Font	
				Font:	Arial	500.082.000	-
				101.000	Contraction		
				Size:	16 • B		·
					Arial		
					<mark>3</mark> ⊷		
	1 ₽	Add(A) De	lete(D)				
							Land Inc.

4.10.2.4.3 Use a font template

For example, a font template is used in the property settings of a Static Text component.

ieneral Display		I <u>A</u> •
Language Independent Languages: 1-English (United S 🔹 💘	Position Fixed Point: X: 0 C Y: 0 C	
O Use Text Library Text Library	Import from Favorite Font Templates.	
	Please select Font Template:	Edit Template(E
Ø Use Labels	No. Template Description	(
Tag Contents	1 Font1(Graphic Arial 16)	
Import from Favorite Font Templates.(I) Vector Font Graphic Font Font: Microsoft Sans Serif • Size: 16 • B Z	Preview	
Multi-line Alignment	Arial	

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.

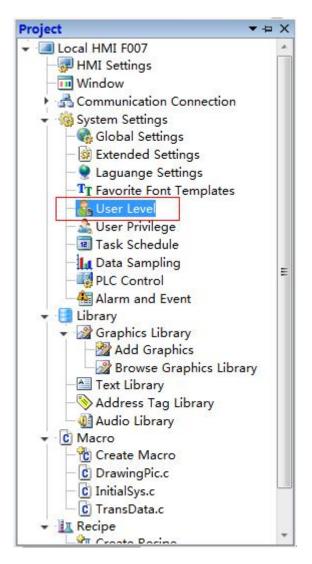
•			12			•	13	e.		•	12			•	12		
•	•	•	•	•	•	•	•	•	•	•		•	•	•		•	•
•			•	•	•			•				•	•	•		•	•
		1	E	0	n	n	p		-1	1c							•
			١.	¢	IJ	U,	μ	ļ		r c	2				12	•	
•	•	•									•	•	•	•		•	•
•		•		•	•			•	•		-	•	:	•	-	•	•
		12			•	12											
	•	•	10			•	10	÷	20		12		•		12		
	•			•	•	•		•	•	•		•	•	•		•	•

4.10.2.5 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.

4.10.2.5.1 Open

The "User Level" settings page can 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".



97	HI	MI	5	et	tin	g	5											14 4 4 4 ₆ .				
	Cd	om	m	u	nic	a	tic	n	S	et	tin	g	s				۲		🖬 📲 🔍 100% 🛛 🗨 🔍 🏢			
	Sy	st	en	n l	Se	tt	ing	35									۲	🚯 Globa	al Settings			
5	0	pti	01	15						_		_	_	_	_	_		🔮 Langi	ided Properties uage Settings rite Font Templates			
• •	-	1	•	•								÷			:	÷		-				
			:							:			1		2	-		🔏 User	Level			
		10		•	:		 101			:	а. С.	22 12	18	900 303	000 500	:		🕫 Task	Schedule			
		1	•	:	:		•		-	:	÷			•		•	: :	Lt Data	Sampling			
		1																-				
		1.1	:	•					1	:	:		1		:			PLC C	Control			

4.10.2.5.2 Edit

User Privilege	Task Schedule	Data Sampling	PLC Control	Alarr	n And Event
Global Settings	Extended Settings	Laguange Settings	Favorite Font Ten	nplates	User Level
User Level Count:	3 •				
Password Level	Predefined Password	Grade Description			
OLevel Password	None				
1Level Password	888888	Level1			
2Level Password	888888	Level2			

The "User Level" settings page is shown as below.

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.

4.10.2.5.3 Use

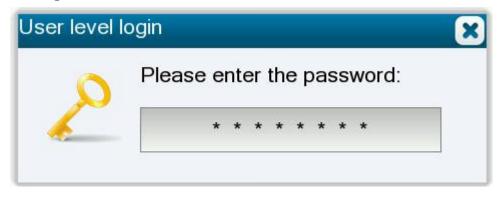
For example, set the user level function for the "Bit Switch" component.

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 as below.

Note: High-level users have low-level user operation permissions.

witch Indicator Light Lable Graphics Dynamic Graphics	Control Settings Display					
Activation Settings Always Indicating Invalid Mark Conditional Hide when condition not meet. Non-operable when the part is hidden. Automatic pop-up password window.	Security Settings Minimum Press Time: 0 (X0.15) Require confirmation prior to execution Waiting Time 100 (X0.15) Records Operation					
🗹 Level User Min Level: 0:	Minimum Operation Interval: 0 (X0.15)					
Privilege User 0: 1:Level1	Notification Settings					
Logic Control 2:Level2	Before Writing After Writing					
	Notify Bit Address:					
	🖾 Notify Byte Address:					
Audio						
Play Audio	Trigger Macro:					
Keyboard						
Use Keyboard						

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.



4.10.2.6 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. **4.10.2.6.1 Add**

User Name:	user2	Initial Password 888888	
Logout Time:	10 🗘 n	nin(0 indicates never logout)	
Check	Permission No.	Description	
1	1	Permission1	-
1	2	Permission2	
	3		
	4		
	5		
	6		
[E7]	7		
	8		=
	9		
	10		
	11		
	12		
	13		
	14		
	15		
	16	Admin	
	17		
	18		
	19		
	20		
	21		
	22		

4.10.2.6.2 Set User name and password

You can set different User Name, 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 Logout Time.

User Name:	user2	Initial Password	888888	
Logout Time	e: 10 🗘 r	nin(0 indicates never logout)]	-
Check	Permission No.	Description	12	
-	1	Permission1		
1	2	Permission2		
	3			
	4			
[77]	5			



You can use the **User Privilege** in many situations, such as the control settings, the window switch, the value input, and so on.

witch Indicator Light Lable Graphics Dynamic Grap	phics 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 Privilege: 1:Permission1 •	Security Settings Minimum Press Time: 0 (X0.15) Require confirmation prior to execution Waiting Time 100 (X0.15) Records Operation Minimum Operation Interval: 0 (X0.15) Notification Settings Before Writing After Writing Notify Bit Address: Notify Byte Address:
Audio	
🔲 Play Audio Keyboard	Trigger Macro:

4.10.2.6.4 Call

You can find some 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 users.

 Power-on Screen Public Window Drop-down window Basic Window Create Basic Window(1) B_1:Basic Window(2) B_2:Base Window(2) B_29001:User privilege(29001) B_29002:User login(29002) B_29003:Add user privilege(29003) B_29004:Delete user privilege(29004) B_29005:Change password(29005) B_29006:Setup privilege(29006) Keyboard Window System Window 	Window	▼ ₽ ×
 Drop-down window Basic Window Create Basic Window B_1:Basic Window(1) B_2:Base Window(2) B_29001:User privilege(29001) B_29002:User login(29002) B_29003:Add user privilege(29003) B_29004:Delete user privilege(29004) B_29005:Change password(29005) B_29006:Setup privilege(29006) Keyboard Window 	- Power-on Screen	
 Basic Window Create Basic Window B_1:Basic Window(1) B_2:Base Window(2) B_29001:User privilege(29001) B_29002:User login(29002) B_29003:Add user privilege(29003) B_29004:Delete user privilege(29004) B_29005:Change password(29005) B_29006:Setup privilege(29006) Keyboard Window 	- Public Window	
Create Basic Window B_1:Basic Window(1) B_2:Base Window(2) B_29001:User privilege(29001) B_29002:User login(29002) B_29003:Add user privilege(29003) B_29004:Delete user privilege(29004) B_29005:Change password(29005) B_29006:Setup privilege(29006) Keyboard Window	- Drop-down window	
B_1:Basic Window(1) B_2:Base Window(2) B_29001:User privilege(29001) B_29002:User login(29002) B_29003:Add user privilege(29003) B_29004:Delete user privilege(29004) B_29005:Change password(29005) B_29006:Setup privilege(29006) Keyboard Window	- 🛄 Basic Window	
Image: B_2:Base Window(2) Image: B_29001:User privilege(29001) Image: B_29002:User login(29002) Image: B_29003:Add user privilege(29003) Image: B_29004:Delete user privilege(29004) Image: B_29005:Change password(29005) Image: B_29006:Setup privilege(29006) Image: Keyboard Window	- Create Basic Window	
Image: B_29001:User privilege(29001) Image: B_29002:User login(29002) Image: B_29003:Add user privilege(29003) Image: B_29004:Delete user privilege(29004) Image: B_29005:Change password(29005) Image: B_29006:Setup privilege(29006) Image: Keyboard Window	- B_1:Basic Window(1)	
Image: B_29002:User login(29002) Image: B_29003:Add user privilege(29003) Image: B_29004:Delete user privilege(29004) Image: B_29005:Change password(29005) Image: B_29006:Setup privilege(29006) Image: B_29006:Setup privilege(29006) Image: B_29006:Setup privilege(29006)	- B_2:Base Window(2)	
B_29003:Add user privilege(29003) B_29004:Delete user privilege(29004) B_29005:Change password(29005) B_29006:Setup privilege(29006) Keyboard Window	- B_29001:User privilege(29001)	
 B_29004:Delete user privilege(29004) B_29005:Change password(29005) B_29006:Setup privilege(29006) Keyboard Window 	- B_29002:User login(29002)	
B_29005:Change password(29005) B_29006:Setup privilege(29006) Keyboard Window	- B_29003:Add user privilege(29003)	E E
B_29006:Setup privilege(29006) Keyboard Window	- B_29004:Delete user privilege(2900)4)
Keyboard Window	- B_29005:Change password(29005)	
System Window	Keyboard Window	
	System Window	

4.10.2.7 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	avorite Font Te	emplates	User Level
User Privilege	Task	k Schedule	Data Sa	mpling	PLC Control	Alarr	m 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	
Description Schedule-1	
Enable Control	
Mode Week Day Every Other Day HMI Address Start Time	Execution upon Start
Week Day Sun Mon Tue Wed Thu Fri	
End Time	Word Setting
	🔲 Trigger Macro:
	Popup Window
	Use Buzzer:
	🔄 Play Audio
	OK Cancel

4.10.2.7.1 Description

You can give a name for the task schedule in the **Description** edit box. This description can facilitate the identification in programming.

4.10.2.7.2 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.

4.10.2.7.3 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 🔘 W	eek Day 💿 Every Other Day 🔘 HMI Address
Start Time	
6 🗣 Hour	0 – Minute 0 – Second
WCCK Day	◉ Sun ◎ Mon ◎ Tue ◎ Wed ◎ Thu ◎ Fri ◎ Sat
End Time	
🗷 Set End Tin	ie
21 🔹 Hour	0 📥 Minute 0 📥 Second
Week Day	◉ Sun ◎ Mon ◎ Tue ◎ Wed ◎ Thu ◎ Fri ◎ Sat

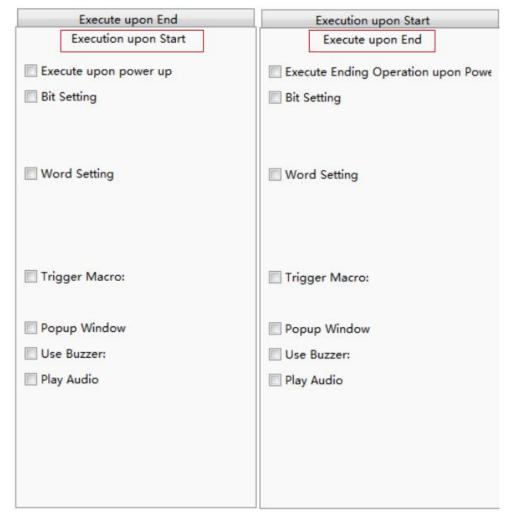
• HMI Address

Use word registers to set the mode.

	s (9 Registers) L	WO	
Mode:	LW0 0 Specified V	Week Day, =1 Ev	ery
Other D	ay	-	
Start Ti	ne:Hour:LW1 Minut	te:LW2 Second:LV	N3
Start W	eek: LW4 Bit0~Bi	t6 are correspor	ding to
7 week	lays starting From	Sunday To Satur	day.
	e:Hour:LW5 Minute	A REAL PROPERTY OF A READ REAL PROPERTY OF A REAL P	
			nding to
Finish V	/eek: LW8 Bit0~B	nto are correspo	nuniq to

4.10.2.7.4 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.



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 to trigger a Macro.

- Popup Window
- This operation is to pop 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.

4.10.2.8 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.

GIC	bal Settings	Extende	ed Settings	Laguange Setti	ngs	Favorite	Font Ten	nplates	User Leve	ł
U	ser Privilege	Task	c Schedule	Data Sampli		PLC Cor			m And Event	
No.	Description		Address	Sampling I	Cycle/1	rigger Ac	Pause A	ddress	Clear Addr	R
1	Temperature_	Humidity	LW0	Cyclic	1S					0
										_

4.10.2.8.1 Property Setting

After clicking the button **New** in the **Data Sampling** property TAB, the **Data Sampling Property** dialog will pop up. It is shown as below.

operty Setting 🥥 Channel Setting 🥥	
Description:	Sampling Mode
Data Sampling Starting Address	Cyclic Triggered
🔲 Use Address Tag	Sampling Cycle 1 📥 X S 📼
Deivce: LOCAL:[Local Register]	•
Address Type: LW Address: 0 Syst Format(Range) DDDDDD(0~799999) Occupy: 1	tem Register
Address Index	Data Record © Unsave © HMI © SD Card © USB1
Control Setting	I Setting 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
Pause Control	and add new entries.
Clear Control	
Execute on Designated Window Openned	

• 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 Starting Address

A word 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 sampling data 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.

• Sampling Mode

The Sampling mode can be Cyclic or Triggered. The default is Cyclic.

• Cyclic

The unit of the Sampling Cycle can be s or **0.1s**. 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 Word Trigger Condition, you can refer to:

Detailed manual/General functions/Drawing/Logic Control.

Property Setting () Channel Setting () Description:	Sampling Mode
Data Sampling Starting Address Use Address Tag Deivce: LOCAL:[Local Register] Address Type: LW Address: 0 System Register Format(Range) DDDDDD(0~799999) Occupy: 1 v Word	Cyclic Triggered Address: Word Trigger Mode: ® Bit Word Trigger Condition: ON<->OFF ON<>OFF OFF->ON
Address Index	Data Record © Unsave © HMI © SD Card © USB1 Unsave: Data will lost upon power off or restart.
Control Setting Pause Control Chamber Setting Chamber Setting	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.
Execute on Designated Window Openned	

• 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 maximum is 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.

ata Record	
Unsave	🛛 HMI 🔘 SD Card 🔘 USB1
Unsave: Dat	a will lost upon power off or restart.
Max Items	1000 🗢 🔲 Auto Stop
	op", new entries will not be added when the umber of entries reached. Or delete old entries v entries.

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.

ower-off sust	HMI OSD Card OUSB1
ubdirectory N	Name: SAMPLE
Maximum Savi	ing Limit:(No Limit) 0 🌩 Day
On Cache Full:	Delete Old Records 🔻
When free s	pace is less than: 128KB +

The **Maximum Saving Limit** option is set **0** Day by default. That means 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** option is set several days 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 **Discard New Records** option. It is a fixed-saving mode which the new records are no longer saved when the Flash memory is full.

Power-off sust	ain.
Subdirectory N	Name: SAMPLE
Maximum Savi	ing Limit:(No Limit) 0 🜩 Day
On Cache Full	Delete Old Records 🔻
When free s	Delete Old Records
Villen nee a	Discard New Records

If you check the option **When free space 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 $16\text{KB} \sim 2\text{MB}$. 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 the free space is less than 128KB. All saved history records will be deleted when the bit register LB1 set ON. The settings are shown as below.

ata Record O Unsave Power-off susta	MI OSD Card OUSB1
Subdirectory Na	ame: SAMPLE
	g Limit:(No Limit) 0 🌻 Day Delete Old Records 🔹
When free sp Notify Register:	LB0
Clear Record	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**.

4.10.2.8.2 Channel Setting

The **Channel Settings** property TAB is shown as below.

roperty Setting	Channel Setting 🚷				
Chan Address	Туре	Word Count	Number	Notes	
					Samples Each Time:
Please add at lea	ist one channel informatio	on.			Add

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.

oper	ty Setting	Channel Setting				
han	Address	Туре	Word Count	Number	Notes	
	LWO	16-bit Un	signed • 1	1		
						Samples Each Time:
						Add
						Delete

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 64word registers for the type of **Character String**.

opert	y Setting Char	nnel Setting				
Chan	Address	Туре	Word Count	Number	Notes	
5	LWO	16-bit Unsigned	1 🕶 1	1		
		16-bit Unsigned 16-bit Signed 32-bit Unsigned 32-bit Signed 16-bit BCD 32-bit BCD Single-precision Character String	l Floating-point Nun	nber		Samples Each Time:

You can create many channels by clicking the button **Add**. The addresses of the data record are continuous and specified automatically. It is shown as below.

	n Address	Туре	Word Count	Number	Notes	
1	LWO	16-bit Unsigned •	1	1	1	
2	LW1	32-bit Unsigned •	2	2		
3	LW3	Single-precision -	2	2		
						Samples Each Time:
						1 📥
						24 Contraction (1997)
						Add
						Add
						Delete
						Delete

• Samples Each Time

The default value of **Samples Each Time** is 1. That means that one data is sampled each 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.

-	the second second second	nnel Setting				
	Address	Туре	Word Count	Number	Notes	
_	LWO	16-bit Unsigned *		3		
<u> </u>	LW3	32-bit Unsigned 🔹		6		
	LW9	Single-precision *	2	6		
_		10. 10				Samples Each Time:
						3 🚖
						Add
						Delete
						Delete

In this example, $LW0 \sim LW2$ is occupied by the first channel, $LW3 \sim LW8$ is occupied by the second channel, and $LW9 \sim LW14$ is occupied by the third channel. The number of address 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.

Period	ty Setting Channe	el Setting				
han	Address	Туре	Word Count	Number	Notes	
	LWO	16-bit Unsigned 🔹	1	1	Liquid level	
	LW1	32-bit Unsigned 👻	2	2	Pressure	
	LW3	Single-precision 🝷	2	2	Flow	Samples Each Time:
						1
						Add
						Delete

• Sample Using Serial Address

You can set the non-serial address sampling channel if the option is not checked.

Property Setting 🥹	Non-Serial Address Channel 🥹		
Description: 《样他用连续始步		0	Sampling Mode © Cyclic © Triggered Sampling Cycle 1 🔦 X S 🔹
Control Setting	Channel Set	ting	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
Pause Control			maximum number of entries reached. Or delete old entries and add new entries.
Execute on Desi	gnated Window Openned		OK Cance

• Non-Serial Address Channel

Click the Non-Serial Address Channel button, then the Non-Serial Address Channel page will display.

nopend	Setting 🧿	Non-Serial Address Channel 🥹				
amples I	Each Time:	1 🗢			Add	Word Channe
Channel	Address	Туре	Word Count	Number of words been used	Notes	
	d at least o	ne channel information				
ease ad	d at least o	ne channel information.	***			

• Add Word Channel

Click the **Add Word Channel** button, there will be a entry of data sampling, then you can click the address button to edit the address, then you can choose device and address type. The length of the sampling points can be set by the option of Samples Each Time. You can click the **Add Word Channel** again, continue to add a channel, the new channel address can be defined by yourself, and it does not need to continue with the last channel address. As shown in the following figure:

Property	Setting Non-					*******
Samples I	Each Time:	5 韋				
Channel	Address		Туре	Word Count	Number of words been used	Notes
1	LW0		16-bit Unsigned	. 1	1	
2	RW5		Single-precision Floating-point Number	• 2	2	
}	SRW3		32-bit Signed	, 2	2	

It can be seen that the sampling addresses of multiple channels could be non-continuous addresses.

• Samples Each Time

The default is 1, which means 1 point per sample. When the value is set more than 1, the sampling points of each channel is changed to the set value.

4.10.2.9 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 one the current screen window is, as long as the conditions are met.

After clicking the menu command **Setup** / **System Settings** / **PLC Control**, the **PLC Control** settings page will be opened. It is shown as below.

Glol	bal Settings	Extended Settings	Lagua	inge Settings	Favorite Font Ten	nplates	User Level
	er Privilege	Task Schedule		a Sampling	PLC Control		n And Event
NO.	Address		Туре	Content			
					C		1.7
				Add	Delete	Clear	Edit

Click the button Add in the PLC Control settings page, the PLC Control Details settings dialog will pop up. It is shown as below.

PLC Control Details	8
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 •	Property Turn on Back Light Clear Address on Switched Window
Address Index	OK Cancel

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.

PLC Control Details	
Control Type: Switch Basic Window Switch Basic Window Valid on Wind Report Current Window No. Trigger Address Use Address LOCAL: Sheet Print Force Buzzer off Address Type: LW	Property Turn on Back Light Clear Address on Switched Window
Address: 0 System Register Format(Range) DDDDDD(0~Occupy: 1 Vord Data Type: 16-bit Unsignt V	
	OK Cancel

4.10.2.9.1 Switch Basic Window

You can switch the basic window of the HMI by changing the value of a register.

PLC Control Details			
Control Type: Switch Basic Windo Valid on Window Opened Trigger Address	• wo	Property Turn on Back Light Clear Address on Switched Window	
Use Address Tag			
Deivce: LOCAL:[Local Register]	•		
Address Type: LW Address: 0	• System Register		
Format(Range) DDDDDD(0~Occup			
Address Index	16-bit Unsigne 🔻		
		ОК	Cancel

• 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.

	1.1.00 xx1	ngs Extended Settings Laguange Settings Favorite Font			t Templates User Le			
	bal Settings					and the second diversion of th	User Level	
	er Privilege	Task Schedule		ta Sampling PLC Control			Alarm And Event	
ю.	Address		Туре	Content				
	LOCAL:[Loca	al Register]:LW100	Word	Switch Basic V	Vindow			
				Add	Delete	Clear	Edit	

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 VI20 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**.

4.10.2.9.2 Report Current Window No.

The current window number can be recorded to a register.

PLC Control Details				×
Control Type: Report C Valid on Window Oper Trigger Address Use Address Tag Deivce: LOCAL:[Local Reg		Property		
Address Type: LW Address: 0	▼ System Register 0~…Occupy: 1 ▼ Word			
D Address Index	ata Type: 16-bit Unsign ▼			
			ок	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.

4.10.2.9.3 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.

Control Type: Back Light Control 🔹	Property
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	 Back Light on Back Light off Adjust to Lowest Brightness Trigger Condition Bit Word Condition Trigger Mode: OFF->ON Auto Reset
Address Index	

• 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 Lowest Brightness

If the option **Adjust to Lowest Brightness** 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.

PLC Control Details	x
Control Type: Back Light Control	Property Back Light on Back Light off Adjust to Lowest Brightness Trigger Condition Bit Word Condition
	Add Modify Delete

The detailed of **Condition** setting is referred to: <u>Detailed manual/ General functions/ Drawing/</u> Logical Control.

4.10.2.9.4 Execute Macro Instruction

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 Type: LB Address: 0 System Register Format(Range) DDDDDDD(0~ Address Index	Property Execute Macro Macro Code Edit Trigger Condition Bit Word Condition Trigger Mode: OFF->ON Auto Reset
	OK

• Execute Macro

You can select a Macro from the list. The selected Macro will be executed when the Trigger Condition is achieved. If you have not created a Macro, 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/ Drawing/</u> Logical Control.

4.10.2.9.5 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.

PLC Control Details	
Control Type: Auido Control	Property Buzzer Buzzer Time: 1 (s) 0 represents buzzer sounds permanently. Ouse Audio Audio Library (b) Trigger Condition Bit Word Condition Trigger Mode: OFF->ON Auto Reset
	OK Cancel

• 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 an audio 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/ Drawing/</u> Logical Control.

4.10.2.9.6 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.

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

4.10.2.10 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	ont Templates	User Leve
User Privilege	Task Schedule	Data Sampling	PLC Cont	rol Ala	irm An <mark>d</mark> Event
Group: All[0]	•		Language:	1-English (Un	ited States)
Group ID Urgenc	y Level Trigger Conditi	on		Content	
Create	isert Clear Current	Group Delete	Edit	Сору	
Historical Event S	aving Event Count Pri	int			
	MI OSD Card OUSB				
O Unsave O HI Power-off sustain		1			
	n.	1			
Power-off sustain Subdirectory Na	n.				
Power-off sustain Subdirectory Na Maximum Saving	n. me: EVENT				
Power-off sustain Subdirectory Na Maximum Saving On Cache Full:	n. me: EVENT g Limit:(No Limit) 0				
Power-off sustain Subdirectory Na Maximum Saving On Cache Full:	n. me: EVENT g Limit:(No Limit) 0 🗳 Delete Old Records 💌				
Power-off sustain Subdirectory Na Maximum Saving On Cache Full:	n. me: EVENT g Limit:(No Limit) 0 - Delete Old Records - ce is less than: 128KB				
Power-off sustain Subdirectory Na Maximum Saving On Cache Full:	n. me: EVENT g Limit:(No Limit) 0 - Delete Old Records - ce is less than: 128KB				

4.10.2.10.1 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**.

Global Settings	Extended Settings	Laguange Settings	Favorite Fo	ont Templates	User Level
User Privilege	Task Schedule	Data Sampling	PLC Cont	rol Ala	rm And Event
Group: All[0] All[0]	•		Language:	1-English (Uni	ited States) 🔹
Group I[2[0] 3[0] 4[0] 5[0] 6[0] 7[0] 8[0] 9[0]	gger Conditi	on		Content	
Create 10[0] 11[0] 12[0] Historice 13[0] 14[0]	It Count Pri	nt	Edit	Сору	
Power-off sustain Subdirectory Nan Maximum Saving On Cache Full:	n. me: EVENT	Day			
	Register:				

4.10.2.10.2 Language

Global Settings	Extended Settings	Laguange Settings	Favorite For	nt Templates	User Leve
User Privilege	Task Schedule	Data Sampling	PLC Contro	ol Aları	m And Event
				-	
Group: All[0]	•		Language:	1-English (Unite	ed States)
Group: All[0]	•			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.

4.10.2.10.3 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.

Global Settings User Privilege	Extended Settings Task Schedule	Laguange Settings Data Sampling	Favorite Font Templa PLC Control	 User Level And Event	▼ B I <u>A</u> ▼ ≣ ≣ ≡ ↓□ □, □* □
Group: 1[0] Group ID Urgency Create Ind Historical Event Sa Unsave Ulu Unsave: Data will Max Items 1000 Alarm entry lim new one.	ving Text and Recc Description: Language: 1-	Modify	vel: High vel: Delete Text Lib.	Action Action Triggering Macro Bit Add Word	Confirming Recovery Action : dress: Address:
	Copy Current	Text To: All Languages d Color:			
Help					

• Group ID

If you select **All** for the **Group** in the settings page, the **Group ID** can set any one of $1\sim32$ here. If you select any one of $1\sim32$ 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.

• Trigger Condition

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: Detailed manual/General functions/Address editor/Standard Bit Address Input and Detailed manual/General functions/Address editor/Standard Byte Address Input.

- 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: Detailed manual/Libray/Text Library.

➢ 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.

Open	1-English (I	onneu s	

• Insert Watch Address

The display content of the alarm is the contents of the register address, the data type of the address support the string type.

up ID: 1 🔹 Urgency Level: High 🔹	
rigger Condition	Audio
	Trigger Buzzer Buzzer Timeout 10 (s)
Condition	
	Audio Library
•	Action
	Triggering Confirming Recovery Action
Add Modify Delete	to so a second s
00/072 100	Macro:
ext and Record	Bit Address:
Description: Text Lib. Text Lib.	
anguage: 1-English (United S 🔹 🌒 Save to Text Lib.	Word Address:
1-English (United States)	
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Popup Window:
•	Print Information to Printer
	OK Cancel
Watch Address Namer	OK Cancel
S Watch Address Name: www	OK Cancel
S Watch Address Name: www	OK Cancel
S Watch Address Name: www	OK Cancel
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register]	OK Cancel
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Text and Record - Address Type: LW	
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Address Type: LW Description: Te Format(Range) DDDDDD(0~Occupy:	▼ .tem Register
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Text and Record Description: Te	▼ .tem Register
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Address Type: LW Description: Te Format(Range) DDDDDD(0~Occupy:	•
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Address Type: LW Address: 0 \$ys Format(Range) DDDDDDD(0~Occupy: Address Index	•
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Address Type: LW Address: 0 \$ys Format(Range) DDDDDDD(0~Occupy: Address Index Data Format	•
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Address Type: LW Address: 0 \$ys Format(Range) DDDDDDD(0~Occupy: Address Index Data Format Data Type: 16-bit Unsigned	tem Register 1 → Word
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Address Type: LW Address: 0	tem Register 1 → Word
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Address Type: LW Address Type: LW Address: 0 Sys Format(Range) DDDDDDD(0~Occupy: Address Index Data Format Data Type: 16-bit Unsigned Integer dig 16-bit Unsigned 32-bit Unsigned 32-bit Unsigned	tem Register 1 → Word 0 ↓ Display Positive Sign Zero Padding Le
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Address Type: LW Address Type: LW Address: 0 \$ Sys Format(Range) DDDDDDD(0~Occupy: Address Index Data Format Data Type: 16-bit Unsigned 16-bit Unsigned 32-bit Unsigned 16-bit BCD	tem Register 1 → Word 0 ↓ Display Positive Sign Zero Padding Le
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Address Type: LW Address Type: LW Address: 0 Sys Format(Range) DDDDDD(0~Occupy: Language: 1-Engli Address Index Data Format Data Type: 16-bit Unsigned 16-bit Unsigned 32-bit Signed 32-bit Hexadecimal	tem Register 1
S Watch Address Name: www Use Address Tag Deivce: LOCAL:[Local Register] Add Address Type: LW • Address Type: LW • Address: 0 \$ Sys Format(Range) DDDDDDD(0~Occupy: Language: 1-Engli Address Index Data Format Data Type: 16-bit Unsigned 16-bit Unsigned 32-bit Unsigned 32-bit Unsigned 32-bit Unsigned 32-bit Unsigned 32-bit BCD	tem Register 1 → Word 0 ↓ Display Positive Sign Zero Padding Le

• Audio

Audio	
Trigger Buzzer 🛛 Buzzer Timeou	it 10 🔷 (s)
Audio Audio Library Sleep Away	\odot

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.

You can try to hear the audio by Click the button



• 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	n
Macro:	InitialSys 🔻	Macro Code	Edit
🔽 Bit Add	ress: ON	OFF	
	LBO		
Vord A	ddress:	Value	0
	LW0		
V Popup	Window: B_2	2:Base Window(2) 🔹
📃 Print In	formation to	Printer	

The actions of **Triggering** refer to the actions that they will be executed when the alarm or event occurs. The actions of **Confirming** refer to the actions that they will be executed when the alarm or event is acknowledged by manual. The actions of **Recovery Action** refer to the actions that they will be executed when the alarm or event exists.

Macro

Select a Macro 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.

Word Address

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.

4.10.3 Communication Settings

4.10.3.1 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. Communication Connection ? X Ethernet PLC Service Printer Keyboard COM1 COM2 Remote HMI COM3 Remote PLC Onnect Device(Master) Provide Service(Slave) Unused Manufacturer: VEICHI Device Type: VEICHI V5-MC104 Device Alias: Device Alias can't be null! Show alias by default.Device3 1 🔷 Synchronize Station No. Pre-set Station No.: Constant • Broadcast Station: Master Station No.: 0 Communication Setting **Compatible Model** VEICHI V5-MC104 Communication Type: RS232 • Baud Rate: 9600 • Data Bit: 7 • Stop Bit: 1 -Parity Bit: Even • Reset Advance Instructions Help OK Cancel

4.10.3.1.1 Unused

The option **Unused** is the default. It means the selected COM port is not used to communicate.

4.10.3.1.2 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 connected PLC.

Ethernet	PLC	Service	Print	er	Keyboard
COM1	COM2	COM3	Remot	e HMI	Remote PLC
Unused		Connect Device	(Master)	O Provid	e Service(Slave)
Manufa	cturer: VEICHI				*
Device	ABB				× =
Device	- Allas	Technology			
Pre-set Static	Second Se				
Broadcast S	tation: ANCHC BACNET DELTA				
Communicat	DLTmet				
Communic	ation Ty Envicod				
Baud Rate:	EPower FATEK				
Data Bit:	Fuji	1			
Stop Bit:	GE				*
Parity Bit:	Eve	en 🔹			
Reset		Advance			
	Instructions				

• Device Type

The **Device Type** refers to the corresponding type of the connected PLC.

Ethernet	PLC	Service	Printer	Keyboard
COM1	COM2	COM3	Remote HMI	Remote PLC
Unused	0	Connect Device	(Master) 💿 Pro	vide Service(Slave)
Manufac	turer: VEICHI			•
Device	Type: VEICHI \	/5-MC104		-
Device	Alias:	/5-MC104 Mas Can E De Hum-	snow anas by derau	teevices
Pre-set Statio	n No.: Constan	it •	Synchro	onize Station No.
Broadcast St	ation:	Ma	ster Station No.:	0 🗢
Baud Rate: Data Bit: Stop Bit: Parity Bit: Reset	tion Type: RS2 960 7 1 Eve	• 00		

• Pre-set Station No.

The option **Pre-set Station No.** is used to set the PLC station number. You can set it by Constant or Variable.

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 manual/General functions/Address</u> <u>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 and Even 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	s): 300	Bit Register Interval:	64
Protocol Timeout	1: 30	Protocol Timeout2:	3
Word Register Interv	al: 16	Max Bit Registers:	128
Max Word Register	rs: 60	Time Interval:	5
Retry S Word and Byte Port C			
	raer	22 L'1 L	
16-bit Integer: 21	-	32-bit Integer: 4321	

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 be stand need not to be changed.

4.10.3.1.3 Provide Service (Slave)

The touch screen is used as the slave device.

Remote PLC	Ethernet P	LC	Service	Printer	Keyboard
COM1	COM2	COM	3	COM4	Remote HMI
Unused	C C C	onnect Devi	ice(Master)	Provid	le Service(Slave)
Device Type:	Barcode			•	
Device Alias:	Service				
Server Station No.:	Constant •			1 🜲	
Communication Set Communication T Baud Rate: Data Bit: Stop Bit: Parity Bit: Reset Instruc	ype: RS232 9600 8 1 None Advar		Compatib Serial Bar	ole Model Code Scanner	

• Device Type

The Device Type includes Bar code, 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 the Device 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		
2 2 2	Variable	10241	Law 22 Park

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: <u>Detailed manual/General functions/Address</u> 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 and Even 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)	: 200	Bit Register Interv	al: 2
Protocol Timeout1	: 0	Protocol Timeout	t2: 0
Word Register Interval	2	Max Bit Register	rs: 32
Max Word Registers	: 64	Time Interv	al: 0
Retry Sto			
Word and Byte Port Or 16-bit Integer: 21	uer •	32-bit Integer: 43	21 .
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.

4.10.3.2 Remote Connection

The Remote connection contains three connection modes: **Remote HMI**, **Remote PLC** and **Ethernet PLC**.

4.10.3.2.1 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.

	mote PLC	Ethernet	PLC Sen	vice	Printer	Keyboard
С	OM1	COM2	COM3	co	M4	Remote HMI
ID	Device Alias	s IP	Port	Devi	ce Type	
		e connected via of the remote H		device ali	ias, local HM	II can easily visit t

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** settings dialog will pop up. It is shown as below.

Re	emote PLC	Ethernet	PLC	Sen	vice	Printer	Keyboard	
C	COM1	COM2	COM2 CC		ОМЗ СС		Remote HMI	
ID	Device Alias	s IP		Port	D	evice Type		
		e connected vi of the remote		et. Using	device	alias, local HN	/II can easily visit t	

• Remote HMI

For one HMI device, any other HMI devices in the same Ethernet network of the LAN is the **Remote HMI**. For example, there are two HMI devices connected in the same Ethernet network: one is named HMI1, and the other is named HMI2. HMI2 is the **remote HMI** of HMI1. Similarly, HMI1 is the **remote HMI** of HMI2.

After clicking the button Add in the Remote HMI settings page, the Remote HMI settings dialog will pop up as below:

Remote HMI	×
Remote HMI Add	ress:
◎ Use IP	
Fixed •	192.168.0.1 Port No.: Constant • 3000 •
Device Type:	FE4070 •
Device Alias:	Alias cannot be null, Default:Device1
	OK Cancel

• Use IP

You can set the IP address of the remote HMI: Fixed or Variable.

The default setting is **Fixed 192.168.0.1**. Example: If the IP address of HMI1 is **192.168.0.10** and the IP address of HMI2 is **192.168.0.20**, when editing the project setting of HMI1 to access HMI2, the IP address here should be the IP of HMI2, that is **192.168.0.20**.

When you select the IP address as **Variable**, a **word register** address needs to be given as the start address. It will automatically occupy 4 word registers, which is corresponding to the 4 network segments of the IP address respectively. It is shown as below:

Remote HMI		23
Remote HMI Add	ress:	
Ose IP Variable	▼ RW0 Port No.: Constant ▼ 3000 🖨	
Vallable	RW0~RW3: correspond to the 4 segments of IP address]
Device Type:	FE4070 •	
Device Alias:	Alias cannot be null, Default:Device1	
	OK	el

The variable address is the 4 word registers RW0~RW3. You can input the IP address of the Remote HMI to the 4 word registers respectively.

• Port No.

You can set the **Port No.** of the remote HMI to **Constant** or **Variable**. The default setting of Port No. is **Constant** 3000. You could also set the Port No. to **Variable** and use a word register to change the port number of the remote HMI. The default Port No. is suggested usually. Please note that all the Port No. of the connected HMI must be the same. Otherwise, the connection may fail.

• Device Type

The **Device Type** refers to the type of the remote HMI device to be accessed.

• Device Alias

The default setting is **Device 3**. It cannot be null. You can also set a device alias which is easy to understand, such as **HMI for Machine 3**.

Click the button **OK** to confirm the above settings of accessing one **Remote HMI**, which is shown as below.

	Ethernet	PLC		Service	PI	rinter	Keyboard
(COM1	C	COM2 COM3 Remote		mote HMI	Remote PLC	
ID	Device	Alias	IP		Device Type	e	
1	1			58.0.1	VI20-070S-F	/VI20-070S-FE	
	oto UMI a	an ho -		d via Ethore et	Using doci-		Al con osciluvicit th
	note HMI c il register c				. Using device	e alias, local HI	MI can easily visit the

Click the button **OK** to save the settings, and then you can find the **Remote HMI** device in the register addresses, which is shown as below.

Numeric	Input							-?
ieneral	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
		Numeric Display 💿 ddress Is Different	Numer	ric Input 《) Characters Display rd	Characters Input Characters Input Cha	ut	
Read A	ddress:							
📃 Use /	Address Tag							
Deivce:	LOCAL:[Local Reg	ister]		-				
Address Address Format(Device4 192.1680.1 RECIPE: [recipe re- s Type: Lvv s: 0 \$	System R	egister Vor					

After finishing the setting of **Remote HMI**, the local HMI can access all the register data of the **Remote HMI**, including the **LW**, **RW**, **SRW**, **LB**, **SRB** and other registers.

You can add other **Remote HMI** devices as above.

4.10.3.2.2 Remote PLC

The **Remote PLC** refers to the devices which are connected with the remote HMI, including the PLC, the inverter, the servo, the instruments, and so on.

After clicking the menu Setup / Communication Settings / Remote Connection, the Remote HMI setting page is opened as the default. Click the Remote PLC tab to open the Remote PLC setting page. It is shown as below.

com	munication (onnect	tion							-?-
C	COM1	CC	DM2	CC	OM3	C	DM4		Remo	te HMI
Re	emote PLC		Ethernet	PLC	Serv	vice	Prin	ter	Ķ	eyboard
ID	Device Alia	is	IP	1	Port	COM P	ort Dev	rice Type	e	Default Sta
	ote PLC is a c									
cces	ote PLC is a c ss to remote g the device a	PLC re	gisters th	rough th						
icces	ss to remote	PLC re	gisters th	rough th			port nu			

Click the button Add to open the edit page, which is shown as below.

Remote PLC		×
Remote HMI Address	5:	
Use IP		
Fixed •	192.168.0.1 Port No.: Constant • 3000 •	
At COM port:	COM1	
Manufacturer: F		
Device Type: F	LEXEM FL2N(MISTUBISHI FX2N COMPATIE -	
	Alias cannot be null, Default:Device1	
Default Station N	No.: Constant 🔹 1 Synchronize Station No. Advance]
	OK Cancel	
		·

• Remote HMI Address

> Use IP

Set the IP address of the **Remote HMI**.

> Port No.

Set the Port No. of the **Remote HMI**.

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 serial port No. of **Remote HMI** which the **Remote PLC** device is connected to. The default is COM1. For example, it is set COM2 if the accessed controller is connected to the COM2 port of **Remote HMI**.

> Manufacturer

The Manufacturer refers to the manufacturer of the connected Remote PLC devices.

> Device Type

The Device Type refers to the type of the connected Remote PLC device.

Device Alias

It cannot be null. You can set a device alias which is easy to understand, such as HMI for Machine 3.

Default Station 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.

Use IP						
Fixed	•	192.168.0.20	Port No.:	Constant •	3000	
			2			
At COM	port: COI	M1 •				
Manufact	turer: SIE	MENS		•		T .
Device Ty	pe: Sier	nens S7-200		•	Instructions	
Device A	_	of Device 3				
Default St	ation No.:	Constant 🔹		2 Sy	nchronize Station N	No. Advance

As above, the **Remote PLC** device is connected to the **Remote HMI**, of which the IP address is **192.168.0.20**. The type of the **Remote PLC** is Siemens S7-200 and it is connected to the COM1 port of **Remote HMI**. The station number is 2.

Click the button **OK** to add the **Remote PLC** device. You could find and access to the **Remote PLC** devices in the **Device Type** as below.

COM1		C	COM2		COM3		0M4	Remote HMI	
Remote PLC			Ethernet PLC		Se	rvice	Printer	r Keyboa	
ID Device Alias		s	IP		Port	COM Po	ort Device T	Device Type	
1			192.168.0	.20	3000	COM1	Siemens	S7-200	2
acce	ote PLC is a d ss to remote g the device a	PLC r	egisters th	rough					

								?
eneral	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
					Characters Display	Characters Inp	ut	
Read A Use Deivce:	Address: Address Tag LOCAL:[Local Reg LOCAL:[Local Reg HMI of Device 3:] PLC of Device 3:]	ister] [Remote HMI:FE407(Remote PLC:COM1:S	0]	Passwol	rd			
Addres Formati	RECIPE:[recipe re s: 0	System R	Wor					

After finishing the settings of the **Remote PLC**, the local HMI can access all the registers of the **Remote PLC** which is connected to the **Remote HMI**.

You could add more **Remote PLC** as above.

4.10.3.2.3 Ethernet PLC

The **Ethernet PLC** refers to the PLC that communicates with HMI through Ethernet communication. Like the PLC connected with serial port, Ethernet PLC also communicates though the network communication protocol which is supported by the HMI and the PLC.

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.

C	OM1	COM2	COM3		COM4		Remote HMI
Re	mote PLC	Ethernet F	PLC Se	rvice	Prin	nter	Keyboard
D	Device Alias	IP	Port	Device	e Type	Defau	ult Station No.
	net PLC is a PLC HMI can access						
	net PLC is a PLC HMI can access				IP addres		ort directly.

Click the button Add to open the edit page. It is shown as below.

Ethernet PLC(Or Se	rvice by Remote HMI)	X
The IP address o Fixed ▼	of Ethernet PLC 192.168.0.2 Port No.: Constant 502	
Manufacturer:	MODBUS Compatible	
Device Type:	Modbus TCP 🔹	
Device Alias:	Alias cannot be null, Default:Device1	
Default Station	No.: Constan - 1 Synchronize Station No. Adva	ince
🔲 Broadcast St	ration:	
	OK Can	cel

We could find that the **Ethernet PLC** setting page is similar with the **Remote PLC** setting page.

• The IP address of Ethernet PLC

The IP address of Ethernet PLC refers to the IP address of the connected PLC.

• Port No.

The **Port No.** is the communication port number between the Ethernet PLC and HMI. The **Port No.** is different for different **Ethernet PLC** devices. There is a default **Port No.** when you select the **Ethernet PLC**. Generally, it is ok to use the default port number if there is no special requirement. For example, the default port number for the **Modbus TCP** is 502.

The Manufacturer, Device Type, Device Alias, Default Station No. are same as the settings in the Remote PLC.

• Broadcast Station

The default is not selected. After selecting, you can set a station number for the broadcast station. You can determine whether to use this function or not according 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. More **Ethernet PLC** could be added as this. For example, if the **Modbus TCP** is selected as the device type, the set page is shown as below.

Com	munication Cor	nection					? <mark>-</mark> ?	
COM1 C Remote PLC		COM2	COM2 COM3		COM4		Remote HMI	
		Ethernet	PLC Se	ervice	Printer		Keyboard	
ID	Device Alias	IP	Port	Device	Туре	Defa	ult Station No.	
1			21 502	Modbu	Modbus TCP			
	met PLC is a PLC HMI can acces							
					P addre		oort directly.	

The Ethernet connection of HMI could realize the functions as **Multi HMI Connection**, **Multi HMI and One PLC Connection**, **Multi HMI and Multi PLC Connection**, and so on.

4.10.3.3 Service

Service refers to that the HMI device provides the data requested by other devices. That is the HMI is a slave device. The port is silent at this time and all the communication operations should be initiated by other master devices.

There are two kinds of services: Serial Port Service and Network Service.

		COM2	COM2 COM3 Ethernet PLC Ser		COM4 rvice Printer		Remote HMI r Keyboard	
		Ethe						
ID	Protocol Ty	/pe	Service Type		Port/COM Port		Slave Device NO.	
	Modbus TCP Server		Network Service		502		1	
2	Modbus R1	U Server	Serial Port	Service	COM1		1	
leas	e add the se	rvice of seri	al port from	1 corresp	ondent (COM port s	setting:	ş.
leas	e add the se	rvice of seri	al port from	n corresp	oondent (settings	Update

S

4.10.3.3.1 Serial Port Service

Remote PLC	Ethernet PLC	Sen	vice	Printer	Keyboard
COM1	COM2	COM3	CC	0M4	Remote HMI
Unused	Con	nect Device(M	aster)	Provide	Service(Slave)
Device Type:	Modbus RTU S	erver		•	
Device Alias:	Service				
Server Station No.:	Constant •		1	~	
Communication Set Communication Ty Baud Rate: Data Bit: Stop Bit: Parity Bit: Reset Instruc	ype: RS232 115200 8 1 None Advance	• Mo	mpatible I dbus RTU		

The Device Type supports Bar code. The scanned bar code information could be displayed with 100 continuous characters which starts from LW8900. LB8999, as the flag bit, is set ON after being scanned (it will not be reset automatically).

The Device Type supports FLEXEM SLAVE and the HMI can work as a slave or a master device. The Device Type supports Modbus RTU Server. More details are referred to: Modbus RTU Server.

Device Type:	Modbus RTU Server	•
	Barcode	
Device Alias:	FLEXEM SLAVE	
	Modbus RTU Server	
Server Station No.:	Constant 🔹	1 v

4.10.3.3.2 Network service

Network Service	×
Please Select Service Protocol Type(Slave Device Protocol):	
Modbus TCP Server	
Local IP: 192.168.0.200 Port No.: 502	
Server Station No.: Constant •	
OK Cancel	

The Device Type supports Modbus TCP Server.

4.10.3.4 Printer

Set the printer connection.

4.10.3.4.1 Communication setting

Communication type (optional): RS232, RS485-2, RS485-4 (422)

Baud rate (optional): 110, 300, 600, 1200, 2400, 4800, 9600, 14400, 19200, 38400, 56000, 57600, 115200, 187500

Data bit (optional): 7, 8

Stop bit (optional): 1, 2

Parity check bit (optional): None, odd parity, even parity

Restore: If the communication settings are changed, click this button to restore the default settings.

4.10.3.5 Keyboard

Set the keyboard connection.

4.10.3.5.1 Communication setting

Communication type (optional): RS232, RS485-2, RS485-4 (422)

Baud rate (optional): 110, 300, 600, 1200, 2400, 4800, 9600, 14400, 19200, 38400, 56000, 57600, 115200, 187500

Data bit (optional): 7, 8

Stop bit (optional): 1, 2

Parity check bit (optional): None, odd parity, even parity

Restore: If the communication settings are changed, click this button to restore the default settings.

4.10.3.6 Keyboard mapping setting

You can map up, down, forward, backward, enter and cancel to different buttons as needed. You can choose not use, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, up, down, forward,

backward, enter and cancel

4.10.4 Options

Software interface display and other settings.

Options	
General ⇒ Auto Update UI Language ⊡Hmi	Auto Update Check for Updates
	OK Cancel

• Auto update

If the **Check for Updates** is selected, the software will check the updates automatically when it is opened. You will be prompted to update if there is any update package.

UI Langua	ge	
*> Chinese	English	C• Turkish
X orean		
Current UI langua	ige: English	
Click on an icon t	o choose langua	ge.
		OK Cancel
	Chinese Chinese Korean	Chinese English Korean Current UI language: English Click on an icon to choose langua

• UI Language

You can set the UI language of VI20 software, and it will take effect after restarting

4.10.4.1 General

Options	
i⊒General I⊒Hmi	General
 General Auto Recover Window 	Automatically load the previously closed project.
	OK Cancel

• General

If you select the **Automatically load the previously closed project** option, the last closed project will be loaded automatically when you open the software.

4.10.4.2 HMI

Auto Recover
Recover Time Interval: 2 Minute
View backup project
OK Cancel

• Auto recover

Set the **Recover Time Interval** here. If you set it 2 minutes as above, the project will be automatically saved every two minutes, so as to prevent the unexpected shutdown of the software or the power failure of the computer before saving. When such a situation occurs, the software will be opened again with the project saved 2 minutes ago.

包含到库中	▼ 共享 ▼ 电子邮件 刻录 新建	文件夹			
-	名称	修改日期	类型	大小	
	퉬 Original-2015-04-26-09-57-18-污水泵	2015/4/26 9:57	文件夹		
	🌗 Original-2015-06-17-22-18-27-007	2015/6/17 22:18	文件夹		
	ル 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		
	퉬 Original-2015-07-21-10-23-50-中	2015/7/21 10:24	文件夹		

You can open the file folder Backup Projects by clicking the button View backup project.

Options	
i⊒General i≊Hmi	Designer
General Auto Recover Window	✓ Use pipeline animation effect
General ➡ Designer	
	OK Cancel

• Window

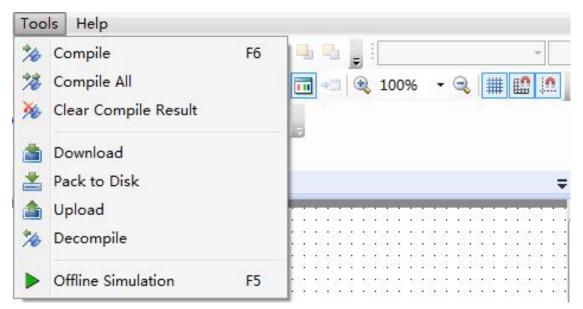
General.

• Designer

If you select the Use pipeline animation effect, you can see the dynamic liquid flow effect in the pipeline component during the project editing process.

4.11 Tools

The Tools menu in the VI20 software includes **Compile, Compile All, Clear Compile Result, Download, Pack to Disk, Upload, Decompile,** and **Offline Simulation**.



• Compile

The project will be saved automatically and the system will generate a bin directory and related files in the project folder for simulation or download if there is no error.

• Compile All

The project changes will be saved automatically and all the files are forced to recompile. (No matter if there is any change.)

• Clear Compile Result

Clear all the compilation results, user data and recipe data generated during simulation.

• Download

The system will compile the project automatically and generate a directory of upload and some relevant files for decompilation. 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 or Fpg File). You can check the delete options and check the download options (Batch Mode or Force Mode) according to demands.

The system will automatically compile the project and generate the upload directory and related files for decompilation. Then, the related files are packaged and the project is downloaded through the VI20Tools (supporting USB and network download). You can select the communication mode (USB or Ethernet), select the data source (current project or FPG package), Clear the settings and download the settings (batch download or forced download). When the previous settings are completed, you can click download button to download the configuration project

Data Source Project Prog File RW Data Recipe E:\2015-2016-1\project-fe\FirstP\bin Download Option(Project Valid) Batch Mode Force Mode Download	Protocol USB Ethernet 0.0.0.0 Scan	Delete Option(Project Valid) V Delete RW Data V Delete Recipe Data
Download	Oata Source ● Project	Delete HMI Memory Block Delete User's Info Download Option(Project Valid)
		Download

• Pack to Disk

Compile the project and package it to the disk. Then you can download it by the USB disk or the VI20TOOLS.

💽 Pack to Disk 🗾 🔀
Compile and download the project to disk, downloadable with USB disk or FSTOOLLS.
Name: FirstP_20151125_b02.fpg
Location: E:\2015-2016-1\project-fe\FirstP
Help OK Cancel

• Upload

If you select **Upload** to enable upload in the Global Settings, the configuration information downloaded in the HMI device can be uploaded by the USB or Ethernet communication mode. The configuration information can be Project, RW Data, Recipe or Logs.

🗋 🚰 🛃 🖉 👗 🐚 🎘 🦓 🗥 Vndo 🕶 🍽 Re	User Privilege	Task Schedule	Data Sampling	PLC Control Ala	arm And Event
So S1 S2 S3 Status0 - L1 L2 L3 L4 1-Eng					
Project Pro	Backlight And Scr Dim the bright Turn off Backli Dim down and	Password: 888888 Password: 888888 eensaver ness: Lowest •	A initial A initial A initial A initial A initial Main Wir Main Wir Cop-do Note: (Clock Source: Set u	Indow: B_1:Basic Window(1 Macro hdow(HOME) indow(HOME) : B_1:Basic V wn window the drop-down window or r Dnly for capacitive screen. HMI Internal Clock • p the time souce of events, rical data etc. SRW0-7: Vear(Month/Day(Vindow(1 - ot? Hour/
Global Settings Global Settings Extended Settings Laguage Settings Tr Favorite Font Templates User Level Task Schedule La Data Sampling PLC Control	Local Register Enc 16-bit Integer: 32-bit Integer: 32-bit Float: Scrollbar Scrollbar Width	dian Order 21 4321 4321 20 🔹	▼ Touch	idio ir Is Enabled Buzzer Time Enable Control: A Audio Enabled. Enable Control: OK	

Protocol					
🔘 USB					
🔘 Ethernet	10 33 34	Scan			
Vpload Data Source	,				
Project	🖱 RW Data	🔘 Recipe	O Logs		
			Upload		
Decompile					
Choose a file to	be decompiled(k. fpg)			
Choose a folder s	to save decompii	led files			
				Decompile	

• Decompile

The Fpg File can be decompiled to project if you select **Decompilation** to enable decompile function in the Global Settings.

File View Edit Window Drawing Component	System Settings						? ×
🗄 🗋 🚰 🔄 🔌 🐁 🚇 🎘 🗡 🖤 Undo 🔻 🍽 Re			1				
So S1 S2 S3 Status0 - L1 L2 L3 L4 1-Eng	User Privilege	Task Schedule	Data Sam		PLC Control		n And Event
	Global Settings	Extended Settings	Laguange S	Settings	Favorite Font Terr	plates	User Level
🔛 - 💡 - 121 - 🔛 - 🕖 - 🏬 - 🖄 - 🚥 - 🧰	Project Properties	5		Initializati	on		*
&\LOO\00 = M 2	☑ Upload	Password: 888888		Initial Wi	indow: B_1:Basic Wir	ndow(1 •	
Project • + ×	Decompilation	Password: 888888		🔲 Initial	Macro		
Project Project Construction Connection Construction Construction	Turn off Backl Dim down an	tness: Lowest 🔹 📑	3 🔹 (min)) 🔹 (min) nts	Main Wi Drop-dov Vote: C Note: C Clock Source: (Set up histor	dow(HOME) ndow(HOME) : <u>B_1</u> : vn window the drop-down wind- inly for capacitive scr HMI Internal Clock · ical data etc. SRW0~7: Year/Mont Minute/Second/Milli	ow or not reen. • vents, th/Day/Ho	? E ur/
System Settings Global Settings Extended Settings Laguange Settings Tr Favorite Font Templates GUser Level Suser Privilege Task Schedule La Data Sampling Plc Control	Local Register En 16-bit Integer: 32-bit Integer: 32-bit Float: Scrollbar Scrollbar Width	dian Order 21 4321 4321 20 •	•	Touch		er Time: 51	0mS v
Brady	Help				(OK	Cancel

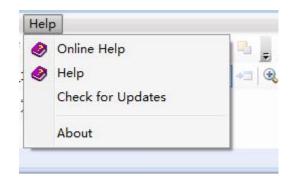
🔘 USB					
C Ethernet	U 3. 4	Scan			
Upload Data Sourc	e				
• O Project	🖱 RW Data	Recipe	🖱 Logs		
0.11.9.11	0.00.000	0			
			Upload		
Decompile					
Choose a file to	be decompiled(*. fpg)			
Choose a folder	to save decompi	led files			
	_			Decompile	

• Offline Simulation

Use the VI20Gui simulator to simulate the project running in offline. It could be used for the off-line simulation of some demonstration projects.

4.12 Help

The Help menu in the VI20 software includes: Online Help, Help, Check for Updates, and About (software version).

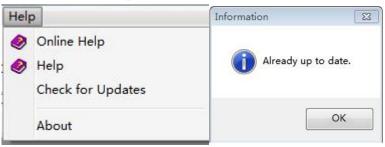


•Help

You can find the software introduction, menu, communication connection and introduction of system special registers in the **Help**.

• Check for Updates

The VI20 Software has the iterative update function.



• Contact us

Please contact us if you meet any problem while using or find any BUG. We will provide the solution as soon as possible.

• About

The current VI20 Studio 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 VI20 software, the **Standard Bit Address Input** function will be used frequently. You can input the bit address of the connected device to realize the connection between different PLC devices. You could easily find the input position in many applications that need the standard bit address input function. The input interface is shown as below.

Standard Bit Address Input	×
 Use Address Tag Deivce: Device1:[LocalCOM1:FLEXEM FL2N(MISTUBISHI FX2N (Station No.: 1 Image: Index Bit-index within a Byte Register Address Type: M Address: 0 System Register Format(Range) DDDD(0~7999) Rate: Normal Address Index 	
OK Cancel	

• Address Type:

In the VI20 software, different connection devices have corresponding bit address symbols. For example, X in VEICHI V5 series PLC represents the address of the input coil; Y represents the address of the output coil; M represents the address of the intermediate register; SM represents the system special bit address; S represents the status address, etc. As shown as below:

• Station No. Address

If the address is not connected normally after you input a specific address number, please check whether the settings (Device, Station No. and Address) are set correctly, as shown as below:

💽 Standard Bit Address Input 🛛 🕰
 Use Address Tag Deivce: Device1:[LocalCOM1:FLEXEM FL2N(MISTUBISHI FX2N (Station No.: 1 Index Bit-index within a Byte Register Address Type: M Address: 0 System Register Format(Range) DDDD(0~7999) Rate: Normal Address Index
OK Cancel

• Communication rate

If you find the data refresh rate is a little slow, you can change the communication rate as below:

Standard Bit Address Input
 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 High Speed Low Speed
OK Cancel

• Address Tag Library

You can use the address tag library before editing. Prepare the data addresses in the address tag library in advance and select the address tag you need when input them, as shown as below:

Use Address Tag	- 0	Reference	Tag Name	Device Alias	Station No.	Address Type	Address
ivce.	*	0	Y10	Device1:[LocalCOM1:FLEXE	1	Ŷ	10
tion No.: 🔶 🗌 Index							
Bit-index within a Byte Register							
dress Type:							
Iress: System Re	gister						
nat(Range)							
e: 🔍							
Address Index							
ок	Cancel						
- She	current						
					e		. In a
		New Bit	New Word	Delete Delete All	dit	Cancel	ect and Exit
	1						

• Bit-index

The **Bit-index within a Byte Register** function can be used. You need to select the **Bit-index** within a Byte Register, as shown as below.

💽 Standard Bit A	ddress Input	×
Station No.: 1	e1:[LocalCOM1:FLEXEM FL2N(MISTUBISHI FX2N (•	
	OK Cancel)

• Address index

You could select the word address with the numerical input component to control the address change. For example, the bit address is LB0 and index address is LW0, then component address will be LB (0 + LW0), as shown as below:

🕟 Standard Bit Address Input	—
Use Address Tag Deivce: LOCAL:[Local Register]	▼
Bit-index within a Byte Register Address Type: LB Address: 0 Format(Range) DDDDDD(0~799999)	▼ System Register
Address Index LW0	
	OK Cancel

• System special registers

You could quickly select the system register to use the system special register addresses, as shown as below:

V IN IS IN IN INCOMENTATION AND A STATE AN	System Special Function Register	×
Status0 Image: Status0	System Special Function Register List Information HMI OPLC Internet SRB0:Network conenction status SRB0:Reset the static IP/Re-obtain dynamic IF SRB0:Reset the static IP/Reset the st	Description SRB1=1:Reset 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	 keyboard VNC(remote monitoring) Communication User authority 	
Address Type: LB Address: 0 System Register Format(Range) DDDDDD(0-799999) Ø Address Index LW0 Help(H) OK Cancel Help Description:		Select Cancel

• Slave station index

The screen could be connected with multiple slaves at some time, so the stations number is varied. You need to use the **Index** function at this time to provide a variable station number, as shown as below:

💽 Standard Bit Address Input	x
 Use Address Tag Deivce: Device1:[LocalCOM1:FLEXEM 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	

Deivce: Device1:[LocalCOM1:FLEXEM FL2N(MISTUBISHI FX2N (
☑ Index LW0 🛛	
Address Type: C_bit	Address Type: LW Address: 0
Format(Range) DDD(0~255) Rate: Normal	Format(Range) DDDDDD(0~799999) Occupy: 1 - Worn Data Type: 16-bit Unsigned -
Address Index	

4.13.1.2 Standard Byte Address Input

In the VI20 software, the **Standard Byte Address Input** function will be used frequently. You can input the byte address of the connected device to realize the connection between different PLC devices. You could easily find the input position in many applications that need the standard byte address input function. The input interface is shown as below:

Standard Byte Address Input
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
OK Cancel

• Address Type:

In the VI20 software, different connection devices have corresponding byte address symbols. For example, D in VEICHI V5 series PLC represents the data register; SD represents the special register; T represents the timer; C_word represents the current value of 16-bit counter; C_dword represents the current value of 32-bit counter. As shown as below:

• Station No. Address

If the address is not connected normally after you input a specific address number, please check whether the settings (Device, Station No. and Address) are set correctly, as shown as below:

Standard Byte Address Input
Use Address Tag
Deivce: Device1:[LocalCOM1:FLEXEM FL2N(MISTUBISHI FX2N + -
Station No.: 1 🗢 🗖 Index
Address Type: C_word
Address: 0 System Register
Format(Range) DDD(0~255) Occupy: 1 v Word
Rate: Normal 🔹 Data Type: 16-bit Unsigned 💌
Address Index
OK Cancel

• Communication rate

If you find the data refresh rate is a little slow, you can change the communication rate as below:

🕟 Standard Byte Address Input 🛛 🕰
Use Address Tag Deivce: Device1:[LocalCOM1:FLEXEM FL2N(MISTUBISHI FX2N + 🕶 Station No.: 1 🚔 🔲 Index
Address Type: C_word Address: 0 Format(Range) DDD(0~255) Rate: Normal Ad Normal High Speed Low Speed
OK Cancel

• Address Tag Library

You can use the address tag library before editing. Prepare the data addresses in the address tag library in advance and select the address tag you need when input them, as shown as below:

🗌 Use Address Tag		Reference Tag Name		Device Alias	Station No.	Address Type	Address
Deivce:		0 d10		Device1:[LocalCOM1:FLEXE	1	D	10
Station No.:	- 1	-					
Address Type:	\searrow						
Address: System Register		•					
Format(Range) Occupy: Vord	- 1						
Rate: • Data Type: •	- 1						
Address Index	- 1						
	- 1						
OK Cancel							
	1						
		New Bit New Wor	rd Del	lete Delete All	Edit	Cancel Sel	ect and Exit

• Address index

You could select the byte address with the numerical input component to control the address change. For example, the address is D0 and index address is LW0, then component address will be D(0 + LW0), as shown as below:

💽 Standard Byte Address Input 📃 🔀					
Use Address Tag Deivce: Device1:[LocalCOM1:FLEXEM FL2N(MISTUBISHI FX2N (Station No.: 1 The Index					
Address Type: D Address: 0 Format(Range) DDDD(0~7999) Occupy: 1 v Word					
Rate: Normal 🔹 Data Type: 16-bit Unsigned 🔹					
Address Index LW0					
OK Cancel					

You could quickly select the system register to use the system special register addresses, as shown as below:

123 - 122 - 0 - 1 - 10 - w Switch Indicator Light Lable Graph	List Information	Description
Image: Standard Byte Address Input Image: Standard Byte Address Index Image: Standard Byte Address Index Image: Standard Byte Information Informat	HMI OPLC System Time SRVU2:Day SRVU2:Day SRV3:Hour SRV3:Hour SRV3:Hour SRV3:Second SRV6:Milisecond SRV6:Milisecond SRV6:Milisecond SRV6:Milisecond SRV5:Pecond SV5tem Registers Communication user level password User Permission VVC authority password File browsing	System date, Format as: 20xx
Illegal Input: Show Error Status Error Notification Help Description:		Select Cancel

• Slave station index

The screen could be connected with multiple slaves at some time, so the stations number is varied. You need to use the **Index** function at this time to provide a variable station number, as shown as below:

station No.: 1	🗘 🗌 Index			(2N + 🔻
Address Type:	D	•	System R	agistar
	DDDD(0~7999)		upy: 1	Word
Rate: Normal Address Ind		ata Type: 16-b	oit Unsigned	•

Use Address Tag Deivce: Device1:[LocalCOM1:FLEXEM FL2N(MISTUBISHI FX2N +	Use Address Tag Deivce: Device1:[LocalCOM1:FLEXEM FL2N(MISTUBISHI FX2N (Station No.: 0 • Index
Address Type: D Address: 0 Format(Range) DDDD(0~7999) Rate: Normal Address Index Address Index	Address Type: D Address: 0 Format(Range) DDDD(0~7999) Rate: Normal V Data Type: 16-bit Unsigned V V V V V V V V V V V V V
OK Cancel	OK Cancel

4.13.2 Drawing

4.13.2.1 Border settings

Double-click the figure and you can view and select border color and style.

Line Color 👻 🍠	1
Line Width	, •
Line Type	

Z

The line width and line type are selectable:

Select the color from the drop-down menu as below or use the pipette tool

Lir	ne Color	• 🖉	
U	ser Define	ed Colo	r

4.13.2.2 Filling settings

Double-click the figure and you can view and select the fill type and the fill color.

📕 Background Color 👻 🝠	Fill Type	SolidColor 🔹
		SolidColor
		Pattern
		Gradient

• Solid Color

📕 Background Color 💌 📝	Fill Type	SolidColor
User Defined Color		

Select the solid color as the fill type; and select the corresponding color as the fill color or you can

use the color pipette tool to select the	color .		
• Pattern			
Fill Background Color Foreground Color Pattern Filling Effect	Fill Type	Pattern	•

Select the fill pattern styles, pattern foreground and background colors

• Gradient

📕 Background Color 👻 🍠	Fill Type Gradient 🔻
Foreground Color 💌 📝	Gradual Approach Vertical 👻
iradient Filling Effect	
	the second se

Select the gradient method and corresponding foreground and background color.

Static Text						?
General 🤮 Display						
Language Independent	Position Fixed Point:	X :	0 \$	Y :	0	•
Languages: 1-English (United S •)	Locked W		50 \$	Height:	50	
o ose reactionary reactionary	Marquee					
Ose Labels						
Tag Contents 🥹						
1						
	Set label posi		anguage s	state separat	tely.	
Copy Current Text to All Languages	Left Rig Top Bo					
Import from Favorite Font Templates.(I)	TOP DO					
Vector Font Graphic Font						
Font: Microsoft Sans Serif 🔻						
Size: 16 • B I • V Multi-line Alignment:						
Microsoft Sans Serif						
Copy Current Properties to All Languages	2					
Help Description:				OK		Cance

4.13.3 Font Settings

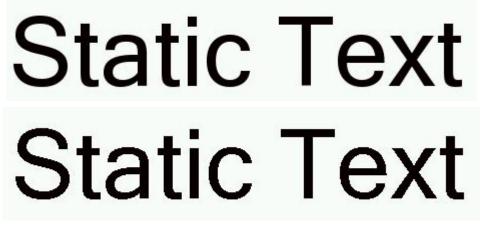
• Vector Font

According to the settings of user font properties, you could pick out the text from the corresponding font library and processed into TrueType font file (ttf format) for HMI use.

Disadvantages

• Only support the TrueType font (ttf format) installed in the current operating system;

• There will be some blurring in the font display when you disable the Vector Font Bordline Blurring Processing. The comparison effect is shown as below:



Note: Disable the **Vector Font Bordline Blurring Processing** via the path: Project / / Extended Settings.

Advantages

• Occupy Less memory. By intercepting the font in the font file, the size of the font file can be reduced. The same character in the same font type will just use 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
 - Occupy more memory because of the bitmap storage format.
- Advantages
 - Supports all the fonts installed in the current operating system.
 - Better display effect.

• Equivalent width

When displaying values / characters, each value / character is displayed according to the maximum width of a single value / character. The larger the font size is, the greater the maximum width of a single value / character is.

• For example, the max width of a single value is 17 and the max width of a single character is 22 if the font size is 16,

• Font

Set the font type. It supports all font types installed in the current operating system, such as Microsoft Sans Serif.

• Size

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 by using the pipette tool \square .

-	_	-	
6	1.00	я	
	- 24	61	
	- 75		
100	10	- 1	

• 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.

• Save to common font template

Click to add the font format set below to the font template

• Advanced

Set more character format.

Advanced
Horizontal Scaling: 100% Space Line Space: 2 Words Space: 2
Color:
Shadow Deviation: X: 2 🗣 Y: 2 🖨
OK Cancel

Position

Set the single line character position of the current components.

• Import common font template

The common fonts can be set and called uniformly. No need to adjust the font every time Click **Add** to set the font template on the right

You can directly use the created template through the button **Import from common font template** in the text creation interface.

Select the created font template and click OK.

4.13.4 Graphic Edit

backgro backspace button button102 button1 circle dot status0 Status1 status1 status1 status1 Enter flowblock forbidden Frame002 frame003 indicatorl Import Add a new Graphic Favorites Edit Graphics Shadow Effect Shadow Effect Status1	witch/Indicat witch Indicat Use Graph Current Projec	tor Light Labl	e Graphics	Dynamic Gr	aphics Cor	ntrol Settings	[Status Preview	-?
Import Add a new Graphic Favorites Edit Graphics	backgro	backspace	button	button002	button1	circle dot			Status1
				Frame002		indicatorl	1		Edit Graphics
✓ Change the border color: Frame Color ▼ Reset the Default Color □ Change the Filling	Shadow E	ffect he border colo		Frame Cold	or • 📝 🗌	Reset the Def	ault Color	Favorites	Edit Graphics

• The Current Project Graphics Library

Click and select the graphic option of the current project. You can preview the status in the right window.

• Import

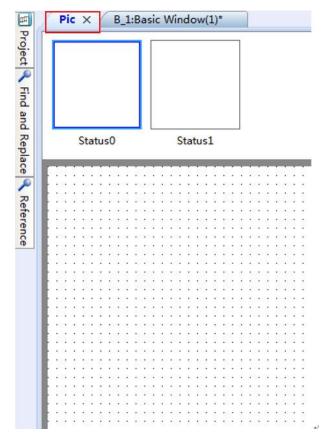
Click the button **Import** to open the system graphics library. You can select a system graphic and import into the current project graphics library.

• Add a new Graphic

Click the Add a new graphic button (see figure a below) and the user can input Graphics Name and other information in the pop-up window according to the needs. After confirming and closing all pop-up windows, the user can see that the same name editable window has been opened (see Figure b below), and the user can edit the required graphics by himself. For details, please refer to: Project/Library/Graphics Library/Add graphics.

Name: Pic	
itatus Count: 2 Width: 300 Height: 300 Modify on current graphics library Preview	Select Graphics
	OK

а



• Favorites

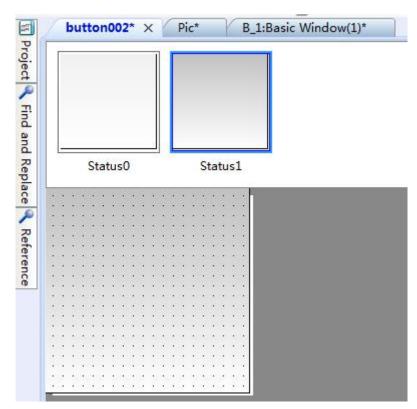
Click the button **Favorites** and you can add the current selected graphic to a specified Favorites Category. The Favorites Category can be selected, added and renamed (see Figure a). Click the button **OK** to confirm the **Add** to the Favorites Category. You can view the graphics collected in the Favorites Category (see Figure b).

Add To Favorites Category	— ×
Category Assortment: Favorites	▼ Add Category
Name: Pic	
сГ	
	OK Cancel
а	
View Graphics Library	
Collapes Branches Shape: Only Vector Graphics Only Edital Current Project Image: Current Project<	ble Graphics Import Add To Favorites Category Add New Graphics Edit Graphics Rename Graphics
-s 6.Electricity	Delete Graphics
	Exit

• Graphics Edit

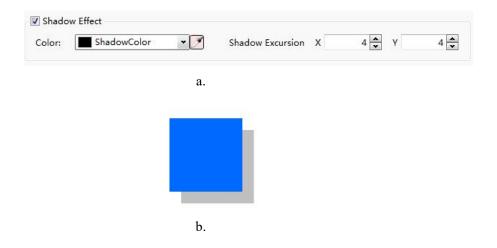
Click the button **Edit Graphics.** After confirming and closing all the pop-up windows, you can see that an editable window with the same name of the graphic is already opened (see Figure a). The graphic can be edited by the user himself. Details refer to: **Graphics Library**.

b



• Shadow Effect

Select the Shadow Effect (see Figure a), and you can add the shadow effect on the selected graphic (see Figure b).



• Border

You can change the outer border color of the current selected graphic. Note: The option is valid only when the selected graphic is vector graphic and the attribute can be modified. (see Figure a)!

	ent Library Macro Recipe Setup Tools Help	
🗋 🚰 🛃 🌡 💺 🗎 🕮 🔁 🗙 🌱 Undo 🗸 🖓		4 (i)
S ₀ S ₁ S ₂ S ₃ Status0 + L1 L2 L3 L4 1	Rectangle	
· · · · · · · · · · · · · · · · · · ·	General	
Test* X B_1:Basic Window(1)*	Rectangle Square	
fere	Border	Position
nce	📕 Line Color 💌 🍠 🔲 User change	Fixed Point: X : 140 \$ Y : 138 \$
Protect X B_1:Basic Window(1)*	Line Width	□ Locked Width: 163 Height: 130
A Status0 Status1	Line Type	Rotation
		Fix Point
ind .	Chamfer	• • •
nd T		6 <u> </u>
p		RotationAngle 0 💭 NonRotation
· · · · · · · · · · · · · · · · · · ·		
	I Fill	
i i i i i i i i i i i i i i i i i i i	Background Color V Fill Type	SolidColor User changeable Filling
• • •		
	Shadow Effect	
	Color: ShadowColor Shad	dow Excursion X 4 🗢 Y 4 🖨
	Help Description:	OK Cancel

• Fill

You can change the filling effect of the current selected graphic (see Figure a). Note: The option is valid only when the selected graphic is vector graphic and the attribute can be modified. (see Figure b)!

FIII

📕 Background Color 👻 📝	Fill Type Gradient 🔹 🔲 User changeable Fillin
Foreground Color 💌 📝	Gradual Approach Horizontal 🔻
Gradient Filling Effect	
Bradient Filling Effect	

а

Image: Second	
Image: Image: Image Image:	8 ×
Rectangle Square	
Test* × B_1:Basic Window(1)* Image: Status 0 Status 0 Status 1 Image: Status 1 Image: Status 1 Image: Status 1 Image: Status 2 Image: Status 2<	138 ≎ 130 ≎
Help Description: OK	Cancel

b

4.13.5 Control Settings

(1) Activation Settings

• Always

The component can always be operated if you select the option Always.

Switch/Indicator Light	8 ×
Switch Indicator Light Lable Graphics Dynamic Graphics Activation Settings Activation Settings Conditional	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:
Audio Play Audio Keyboard Use Keyboard	Trigger Macro:
Help Description:	OK Cancel

• Conditional

Indicating Invalid Mark

Switch Indicator Light Lable Graphics Dynamic Graphics Activation Settings Indicating Invalid Mark 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	Control Settings Display Security Settings Minimum Press Time:
Audio Play Audio Keyboard Use Keyboard	Trigger Macro:

If this function is selected, if the operating conditions are not met, a prohibited operation mark will be displayed, as shown in the figure below.



Hide when conditions aren't met.

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 Motification Settings Before Writing Addio Play Audio Keyboard Use Keyboard	Switch Indica	tor Light	Lable	Graphics	Dynamic Graphics	Control Settings	Display		
Play Audio Keyboard	 Always Conditional Level User Privilege U 	Indic Hide Non-o Auto Min	when co perable matic po	when the p p-up pass	art is hidden. vord window.	Minimum Press Ti Require confiri Waiting Time Records Operation Minimum Operation Notification Setting Before Writing Notify Bit Add	mation prior to 100 💭 () ation ion Interval: gs After Writing dress:	o execution	
	0.00000	9				🔲 Trigger Macr	ro:		
		oard							

When you check the option, the component will hide if the operating conditions are not met.

Automatic pop-up password window

Switch Indicator Light Lable Graphics Dynamic Graphics Activation Settings Always Indicating Invalid Mark Conditional Hide when condition not meet. Non-operable when the part is hidden.	Control Settings Display Security Settings Minimum Press Time: 0 (X0.1S) Require confirmation prior to execution Waiting Time 100 (X0.1S) Records Operation				
☑ Level User Min Level: 1:Level1 • 🕵	Minimum Operation Interval: 0 (X0.1S) Notification Settings Before Writing After Writing Notify Bit Address: Notify Byte Address:				
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.

Ex Emulator	C TALAN	Taxa Barr
Open	Close	
User level l	ogin •	×
0	Please enter the password:	
l he	* * * * * * *	

Level user

After checking this function, you need to enter the appropriate user level password to operate the device. It is shown as below.

Charlest	
Close	
ogin	
Please enter the password:	
* * * * * * *	
	ogin

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:	

After checking this function, you need to login by using the corresponding user privilege to operate the component. It is shown as below.

🖎 Emulator	Column (ghr) unit - Englis	a ferencication formation (Salar)	
Open	Close		
Logi	User login n	×	
	SUser:	Admin	
	Password:	88888	
	79	Cancel	

• Logic control

Switch Indicator Light Lable Graphics Dynamic Graphic	control Settings Display		
Activation Settings Always I 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	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	Trigger Macro:		

After check this function, the component can be operated when the specified conditions are satisfied. The conditions can be multiple logical operations.

Security Settings

• Minimum Press Time

witch Indicator Light Lable Graphics Dynamic Gr	aphics Control Settings Display		
Activation Settings	Security Settings		
Always Alw	Minimum Press Time: 10 🗙 (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:		
Audio			
Play Audio	Trigger Macro:		
Keyboard			
Use Keyboard			

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 before execution

witch Indicator Light Lable Graphics Dynamic Graphics	Control Settings Display		
Activation Settings	Security Settings		
Always	Minimum Press Time: 10 🗢 (X0.1S)		
© Conditional	Require confirmation prior to execution		
	Waiting Time 100 😴 (X0.1S)		
	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			

After checking this function, click the button component to automatically pop up the operation

confirmation dialog box, without having to edit the confirmation window separately, which greatly improves work efficiency. As shown below.

Open	Close		
Log	in <mark>Confirm exec</mark>	rform the operation?	

• Records Operation

ritch Indicator Light Lable Graphics Dynamic Grap	phics Control Settings Display		
Activation Settings	Security Settings		
Always	Minimum Press Time: 10 文 (X0.1S)		
Conditional	Require confirmation prior to execution		
	Waiting Time 100 🚔 (X0.1S)		
	Records Operation Open the pump		
	Minimum Operation Interval: 0 💉 (X0.1S)		
	Notification Settings		
	Before Writing After Writing		
	Notify Bit Address:		
	🔲 Notify Byte Address:		
Audio			
	Trigger Macro:		
🔲 Play Audio			
Keyboard			
🔲 Use Keyboard			

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	-
	•				•	•

Minimum Operation Interval

witch Indicator Light Lable Graphics Dynamic Graphi	ics Control Settings Display
Activation Settings Always Conditional	Security Settings Minimum Press Time: 0 (X0.15) Require confirmation prior to execution Waiting Time 100 (X0.15) Records Operation
	Minimum Operation Interval: 10 🔦 (X0.1S)
	Notification Settings Before Writing After Writing Notify Bit Address:
Audio	Trigger Macro:
Keyboard	

By using the "Minimum Operating Interval" function, continuous actions can be avoided in a short time due to touching the screen continuously by mistake.

4.13.6 Display

1. Position and size

witch	Indicat	tor Light	Lable	Graphics	Dyna	mic Graphics	Control Settings	Display	
Positi	on					- 1			
Positi	ion:	X :	85	\$	Y :	170 😴			
🔲 Lo	cked	Width:	70	Hei	ght:	50 \$			
Alve	vays Di	splay				3			
O Co	ndition	al Display							

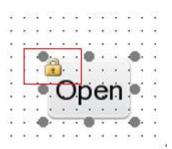
(1) At the designated position in the above figure, the display position of the component can be changed by setting the component X and Y coordinate values.

(2) At the specified position in the above figure, the size of the component can be changed by setting the value of the component width and height.

2. Lock element position and size

Alwa		70	tei		170 \$ 50 \$		
 Loci Alwa 	ked Width: nys Display	70					
Alwa	iys Display		+ Hei	ight:	50 \$		
		,					
Cone	ditional Display	,					

After the lock function is checked, the position and size of the picture are all locked and cannot be changed, and a small lock icon will appear on the component in the editing interface. As shown below.



3. Component display and hide

witch	Indicat	tor Light	Lable	Graphic	cs Dy	mamic Gra	phics	Control Setti	ngs [Display	 	 	
Positio	on												
Positio	on:	X :	85	\$	Y :	170	S 1						
Loc	cked	Width:	70	\$	Height	50 \$;						
Alw	ays Dis	splay											
Con	ndition	al Display	6										

The default setting of the software is to always display. After checking this option, the component will always be visible when the project is running.

Conditional Display

• Level User

1110011 111	dicator Light	Lable	Graphics	Dynamic Graphics	Control Settings	Display	
Position							
Position	: X:	85	\$	Y: 170 🗘			
C Lock	ed Width:	70	≎ He	ight: 50 🗘			
O Alway	s Display						
Condi	tional Display	у					
Level	User Mir	n Level:	1:Level	1 🔹 🏭			
Privile	ge User						
Logic	Control						

If you check this function, the component will be visible after you entering the appropriate user level password.

• Privilege User

Positi Positi									
Posit	lon								
	011.	X :	85	\$	Y: 1	70 🗘			
E Lo	cked	Width:	70	\$ He	ight:	50 \$			
O Alv	vays Di	splay							
		al Display	/						
E Le	vel Use	r							
V Pri	vilege	User Priv	ilege:	16:Admin	•]]				
Lo	gic Cor	ntrol							
	gie coi	iti oi							

If you check this function, the component will be visible after you login by using the corresponding user privilege.

	Contraction and the second	Lable	Graphics	Dyna	imic Gr	aphics	Control Settings	Display		
Position	n									
Positio	n: X:	85	\$	Υ:	170	\$				
C Lock	ked Width:	70	🗘 Hei	ght:	50	\$				
C Level	lege User c Control Condition LB0 ON									
AND										
Ad	▼ LB2 ON Id Mo	dify	Delete		*					

After checking this function, the hidden display of the element can be controlled by the corresponding bit state or the size of the word value, and multi-condition logic operations are supported as shown in the figure above.

4.13.7 Keyboard Setting

	c Input							8
General	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	•					
Auto	adjust position	Pop-up posit	ion		Specified	Position:		
O Dor	't use pop-up keyt	poard						
1. An ex	ternal USB keyboa	keyboard" under the ard is used. fined keyboard rathe						
			er utan	the pop-u	eyboard.			
Use	input order function	n						

(1) Mode

• Touch Control

The keyboard will be popped up if you click the HMI input component.

• Bit control

Bit control: control the pop-up and closing of the keyboard through the bit register. For example, in the figure below, when LB0 is ON, the input state is triggered.

(2) Keyboard Settings

• Use pop-up keyboard

Use pop-up keyboard: use the built-in keyboard type of the system, the keyboard type can be selected.

Numeric	: Input							?
General	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
Mode:	Touch Control	Bit control						
Keyboa	rd settings							
O Use	pop-up keyboard							
Keyboa	ard Type: K_3:Hex	numeric keyboard	-					
		imal numeric keybo						
Auto	adjust per 3Hex	imal numeric keybo numeric keyboard	ard(Ve	rtical)	Specified	Position:		
	K_4:Asci	i keyboard						
O Don'	't use pop-up keyl	board						
Select *[Don't use pop-up	keyboard" under the	e cond	itions listed	below:			
	ternal USB keyboa							
2. Prefer	r to use a user-de	fined keyboard rath	er than	the pop-u	p keyboard.			
Use	input order functio	on						
Hala	Description						OK Ca	ncel
Help	Description:						UK Ca	incel

Auto adjust position

The position of the pop-up keyboard is adjusted automatically according to the position of the HMI input component.

General Number Format Keyboard Setting Font Graphics Dynamic Graphics Control Settings Display Mode: Touch Control Bit control Keyboard settings Use pop-up keyboard Keyboard Type: K_3iHex numeric keyboard Pop-up position Specified Position: Don't use pop-up keyboard Select "Don't use pop-up keyboard" under the conditions listed below: An external USB keyboard is used. Prefer to use a user-defined keyboard rather than the pop-up keyboard. Use input order function Use input order function General USB input order function Meximum Context function Meximum C		Input							family for the second second
Keyboard settings Image: Use pop-up keyboard Keyboard Type: K_3:Hex numeric keyboard • Auto adjust position Pop-up position Don't use pop-up keyboard Select "Don't use pop-up keyboard" Select "Don't use pop-up keyboard" 1. An external USB keyboard is used. 2. Prefer to use a user-defined keyboard rather than the pop-up keyboard. Image: Use input order function	eneral	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
 Use pop-up keyboard Keyboard Type: K_3:Hex numeric keyboard Auto adjust position Pop-up position Specified Position: Don't use pop-up keyboard Select "Don't use pop-up keyboard" under the conditions listed below: 1. An external USB keyboard is used. 2. Prefer to use a user-defined keyboard rather than the pop-up keyboard. Use input order function 			Bit control						
Keyboard Type: K3:Hex numeric keyboard Auto adjust position Pop-up position Don't use pop-up keyboard Specified Position: Select "Don't use pop-up keyboard" under the conditions listed below: An external USB keyboard is used. An external USB keyboard is used. Prefer to use a user-defined keyboard rather than the pop-up keyboard. Use input order function Select "Don't use input order function	Keyboar	rd settings							
Auto adjust position Pop-up position Specified Position: Don't use pop-up keyboard Select "Don't use pop-up keyboard" under the conditions listed below: An external USB keyboard is used. Prefer to use a user-defined keyboard rather than the pop-up keyboard. Use input order function	🖲 Use p	pop-up keyboard		_					
 Don't use pop-up keyboard Select "Don't use pop-up keyboard" under the conditions listed below: An external USB keyboard is used. Prefer to use a user-defined keyboard rather than the pop-up keyboard. Use input order function 	Keyboa	rd Type: K_3:Hex	numeric keyboard	•					
 Don't use pop-up keyboard Select "Don't use pop-up keyboard" under the conditions listed below: An external USB keyboard is used. Prefer to use a user-defined keyboard rather than the pop-up keyboard. Use input order function 			14						
Select "Don't use pop-up keyboard" under the conditions listed below: 1. An external USB keyboard is used. 2. Prefer to use a user-defined keyboard rather than the pop-up keyboard. Use input order function	Auto	adjust position	Pop-up posit	ion		Specified	Position:		
Select "Don't use pop-up keyboard" under the conditions listed below: 1. An external USB keyboard is used. 2. Prefer to use a user-defined keyboard rather than the pop-up keyboard. Use input order function	-								
1. An external USB keyboard is used. 2. Prefer to use a user-defined keyboard rather than the pop-up keyboard.	O Don't	t use pop-up keyb	board						
2. Prefer to use a user-defined keyboard rather than the pop-up keyboard.				e condi	itions listed	below:			
Use input order function		ternal LICR keyboa	rd is used.						
				ar than	the new w	kauboard			
				er than	the pop-u	o keyboard.			
	2. Prefer	to use a user-def	ined keyboard rathe	er than	the pop-u	o <mark>k</mark> eyboard.			
	2. Prefer	to use a user-def	ined keyboard rathe	er than	the pop-up	o keyboard.			
	2. Prefer	to use a user-def	ined keyboard rathe	er than	the pop-u	o keyboard.			
	2. Prefer	to use a user-def	ined keyboard rathe	er than	the pop-u	o keyboard.			
	2. Prefer	to use a user-def	ined keyboard rathe	er than	the pop-u	o keyboard.			
	2. Prefer	to use a user-def	ined keyboard rathe	er than	the pop-u	o keyboard.			
	2. Prefer	to use a user-def	ined keyboard rathe	er than	the pop-u	o keyboard.			
	2. Prefer	to use a user-def	ined keyboard rathe	er than	the pop-u	o keyboard.			
Help Description: OK C	2. Prefer	to use a user-def	ined keyboard rathe	er than	the pop-u	o keyboard.			

Pop-up position

General Numbe	er Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
Mode: 🧕 Toucl								
Keyboard settin	ngs							
🖲 Use pop-up	keyboard							
Keyboard Type	: K_3:Hex	numeric keyboard	•					
			11	0 0 0				
Auto adjust j	position	Pop-up posit	ion	0 0 0	Specified	Position:		
		L	i (0 0 0	D			
O Don't use po	op-up kevb	oard						
1. An external U	ISB keyboa							
1. An external U 2. Pre <mark>fer to</mark> use	ISB keyboa a user-defi	rd is used. ined keyboard rath						
1. An external U	ISB keyboa a user-defi	rd is used. ined keyboard rath						
1. An external U 2. Prefer to use	ISB keyboa a user-defi	rd is used. ined keyboard rath						
1. An external U 2. Prefer to use	ISB keyboa a user-defi	rd is used. ined keyboard rath						
1. An external U 2. Prefer to use	ISB keyboa a user-defi	rd is used. ined keyboard rath						
1. An external U 2. Prefer to use	ISB keyboa a user-defi	rd is used. ined keyboard rath						
1. An external U 2. Pre <mark>fer to</mark> use	ISB keyboa a user-defi	rd is used. ined keyboard rath						
1. An external U 2. Pre <mark>fer to</mark> use	ISB keyboa a user-defi	rd is used. ined keyboard rath						
1. An external U 2. Prefer to use	ISB keyboa a user-defi	rd is used. ined keyboard rath						
1. An external U 2. Prefer to use	ISB keyboa a user-defi	rd is used. ined keyboard rath					OK	Canc

Specified Position

General	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	•					1
						X :	0	
O Auto	adjust position	Pop-up posit	ion		Specified			
						Y :	0	
O Don	't use pop-up keyb	ooard						
		1 10 1 11						
1. An ex	ternal USB keyboa	keyboard" under the ird is used. ined keyboard rathe						
1. An ex 2. Prefe	ternal USB keyboa	ined is used. ined keyboard rath						
1. An ex 2. Prefe	ternal USB keyboa r to use a user-def	ined is used. ined keyboard rath						
1. An ex 2. Prefe	ternal USB keyboa r to use a user-def	ined is used. ined keyboard rath						
1. An ex 2. Prefe	ternal USB keyboa r to use a user-def	ined is used. ined keyboard rath						
1. An ex 2. Prefe	ternal USB keyboa r to use a user-def	ined is used. ined keyboard rath						
1. An ex 2. Prefe	ternal USB keyboa r to use a user-def	ined is used. ined keyboard rath						
1. An ex 2. Prefe	ternal USB keyboa r to use a user-def	ined is used. ined keyboard rath						
1. An ex 2. Prefe	ternal USB keyboa r to use a user-def	ined is used. ined keyboard rath						

• Don't use pop-up keyboard:

Do not use pop-up keyboard: If you need an external keyboard or you need to use a user-drawn keyboard, you can choose not to use the system pop-up keyboard.

(3) Use input order function

Generally, this option is only set when there are multiple input components. This option can continuously input the input components according to the set input sequence.

No more input in sequence after input of number list items: check the input element of this option, after input is completed, the function of sequential input will be stopped.

Number list item input sequence: according to the settings in the group, the numeric input components of each group will be continuously input in order from small to large.

Number list item group: input components can be grouped, and each group is input in order from small to large.

General	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Se	ettings	Display	1	
Mode:	Touch Control	Bit control								
Keyboa	ard settings									
O Use	pop-up keyboard									
Keybo	ard Type: K_3:Hex	numeric keyboard	•							
			_				X :	0	•	
O Auto	o adjust position	Pop-up posit	ion		Specified	Position:	<u>, , , , , , , , , , , , , , , , , , , </u>			
							Υ:	0	*	
O Don	't use pop-up keyb	poard								
	ternal USB keyboa	keyboard" under the ord is used.	e cond	tions listed	below:					
1. An ex 2. Prefe	ternal USB keyboa r to use a user-def	ind is used. fined keyboard rath								
1. An ex 2. Prefe	rternal USB keyboa r to use a user-def input order functio	ard is used. fined keyboard rath on								
1. An ex 2. Prefe Use	ternal USB keyboa r to use a user-def	nd is used. fined keyboard rath on fter input finished								
1. An ex 2. Prefe Use	ternal USB keyboa r to use a user-def input order functio but without order at	nd is used. fined keyboard rath on fter input finished	er than							
1. An ex 2. Prefe Use	ternal USB keyboa r to use a user-def input order functio but without order at	nd is used. fined keyboard rath on fter input finished	er than							
1. An ex 2. Prefe Use	ternal USB keyboa r to use a user-def input order functio but without order at	nd is used. fined keyboard rath on fter input finished	er than							
1. An ex 2. Prefe Use	ternal USB keyboa r to use a user-def input order functio but without order at	nd is used. fined keyboard rath on fter input finished	er than							

4.13.8 Label

Adding a label for a component can be increased readability. You can set the 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.

witch Indicator Light Lable Graphics Dynamic Graphic	s 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 L	 ○ Vector Font ○ Graphic Font Font: Microsoft Sans Serif ▼ Size: 16 ▼ B I ■ ▼
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 1

1 Language

Select a language for label edit. The settings will only take effect in the selected language.

2 Language Independent

When you change the language, the label content is not affected.

3 Use Text Library

After the "Use Text Library" is checked, the label content will be filled by the selected text entry in the text library. Some common text can be ready in the text library.

4 Use Label

You need to check this option when you want to set a label for the component.

5 Tag Content

Select each state to write the label, after the current state is written, click the next state to continue to enter the label content.

Language: 1-English (United States) Language: 1-English (United States) Use Text Library Text Library Vector Font Graphic Font Font: Microsoft Sans Serif Value Save Content To Text Lib Close Import from Favorite Font Templates.(I) Close Save Content To Text Lib Close Multi-line Alignment I and Vanced Copy Text To: All Languages Set label position by language state separately. O Pos:: Left Right: Anguee Cose		aphics Dynamic Graphics	Control Settings Display
Set label position by language state separately. Status Content Pos.: Left Right: Top Bottom: Image: State separately.	Use Text Library Use Label Adaptive label size Tag Content	Text Library	 Vector Font Graphic Font Font: Microsoft Sans Serif ▼ Size: 16 ▼ B I ▼ ▼ Multi-line Alignment ■ ■ TT Advanced
	Set label position by language s Pos.: Left Right: [A] Top Bottom: A)		Status Content 0 Open

After the label content of each state is written, it can be copied to all languages and states.

Language Independent		
anguage: 1-English (United S	tates) 🔹 🔵	Import from Favorite Font Templates.(I)
Use Text Library	· Text Library	Vector Font Graphic Font
Use Label		Font: Microsoft Sans Serif 🔹
Adaptive label size		Size: 16 • B I
lag Content	Save Content To Text Lib	Multi-line Alignment:
Close	*	
	Languages All	Copy Attr. To: All Status All Languages All
Set label position by language		Status Content
Set label position by language Pos.: Left Right: [A]		Status Content
Set label position by language		Status Content 0 Open
Set label position by language Pos.: Left Right: [A]		Status Content 0 Open
Set label position by language Pos.: Left Right: AAA Top Bottom: AAA		Status Content 0 Open
Set label position by language Pos.: Left Right: AAA Top Bottom: AAA		Status Content 0 Open

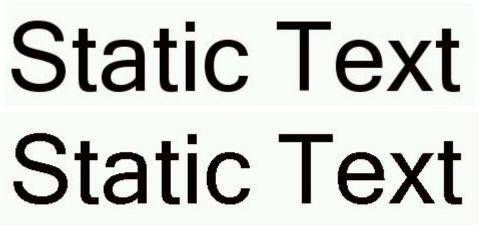
6 Label attributes

The content of each label can be set with any font, size, color, alignment, advanced settings (spacing, zoom, shadow) and other common content attributes that come with the font system.

After each state or language setting is completed, it can be copied to all states and language, avoid repeated setting work, and can call common font templates set by the system to simplify the editing of label attributes, which is efficient and convenient.

7 Vector Font and Graphic Font

Vector Font disadvantages: Only the True Type fonts (ttf format) installed in the current operating system are supported. When "Stroke Font Edge Blur Processing" is disabled, the font display will have some glitches. The comparison effect is shown in the following figure.



Note: Disable "stroke font edge blur processing", set under 4.10.2.2 extended properties.

Vector Font Advantages

• Occupy Less 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
 - Occupy more memory because of the bitmap storage format.
- Advantages
 - Supports all the fonts installed in the current operating system.
 - Display effect is good.

8 Marquee

In the VI20 Studio 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.

Language Independent		<u></u>				
Language: 1-English (United Stat	es) 🔹 🔍	<u> </u>		ANDER DADE IS	nt Templates.(I)	
Use Text Library	Text Library	O Vec	tor Font	Graphic F	ont	
Use Label		Font:	Microso	ft Sans Serif	•	
Adaptive label size		Size:	16 - B		× 🔊	
Tag Content	Save Content To Text Lib		0000	nent:	T Advanced	
Close	*	With the second	ine Ailgini			
	anguages All		Attr. To:	All Status	All Languages	All
Set label position by language sta		Status	Open			
		0				
Pos.: Left Right: AAAA		0				
		0	Close			
		-				
Pos.: Left Right: AAA		-				
Pos.: Left Right: AAA	•	-				
Pos.: Left Right: AAA Top Bottom: AAA	▼ 10 ♥ x0.1S	-				

4.13.9 Marquee

The Marquee is to display text content by scrolling text.

In this software, the main useful effects of the Marquee are: component labels and static text.

For the text attributes and static text of each component label, when the Marquee option is checked, the text will be scrolled in the form of Marquee. After checking this attribute, you can set the moving direction and moving speed of the Marquee effect. As shown below:

Static Text General Display	- P -
 Language Independent Languages: 1-English (United S •) Use Text Library Text Library 	Position Fixed Point: X : 0 ≎ Y : 0 ≎ □ Locked Width: 50 ≎ Height: 50 ≎
Use Labels Tag Contents Valve	Marquee Moving Direction RightToLeft • Step Length 10 • PixelSpeed 10 • x0.1S
Copy Current Text to All Languages Import from Favorite Font Templates.(I)	Example of the separately.
 Vector Font ● Graphic Font Font: Microsoft Sans Serif ▼ Size: 16 ▼ B Z ■ ▼ Multi-line Alignment: ■ ■ Tr Advanced 	
Microsoft Sans Serif	
Copy Current Properties to All Languages	
Help Description:	OK Cancel

Language Independent		
Language: 1-English (United S	tates) 👻	Import from Favorite Font Templates.(I)
Use Text Library	+ Text Library	🔘 Vector Font 🕘 Graphic Font
✔ Use Label		Font: Microsoft Sans Serif 🔹
Adaptive label size		Size: 16 • B I
Tag Content	Save Content To Text Lib	Multi-line Alignment:
Close	<u></u>	
Conv Text To: All Status	-	Microsoft Sans Serif
	II Languages All	Copy Attr. To: All Status All Languages All
Set label position by language		Copy Attr. To: All Status All Languages All Status Content
Set label position by language Pos.: Left Right: A		Copy Attr. To: All Status All Languages All Status Content
Set label position by language		Copy Attr. To: All Status All Languages All Status Content 0 Open
Set label position by language Pos.: Left Right: A		Copy Attr. To: All Status All Languages All Status Content 0 Open
Set label position by language Pos.: Left Right: AAA Top Bottom: AAA V Marquee		Copy Attr. To: All Status All Languages All Status Content 0 Open
Set label position by language Pos.: Left Right: AAA Top Bottom: AAA		Copy Attr. To: All Status All Languages All Status Content 0 Open

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.

2 Step Length

The unit is pixel, the number of pixels moved each time.

3 Pix Speed

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. After moving out of the size range of the component, move from the rightmost side of the component to the left, the moving speed is still 10 pixels per second, and so on...

4.13.10 Logic Control

A very commonly used function in this software is

"Logical Condition Editor", through this editor, you can easily realize the processing and judgment of various logical relations, and can minimize the use of macro instructions. You can easily find the logic condition editor in many components or situations where you need to make conditional judgments. The most common ones are "control setting/condition enable/logic control" and "display setting/condition display/logic control" of each operating element. In the "timer" element and "timing data transmission" element, when the trigger condition is selected "condition judgment", this "logic condition editor" can also be opened. No matter where you open this editor, the initial interface of its editing interface is shown in the figure below (take the switch element "Control Settings/Condition Enable" as an example):

Switch/Indicator Light	-
witch Indicator Light Lable Graphics Dynamic Graphic	s Control Settings 🥑 Display
Activation Settings Always Indicating Invalid Mark Conditional I 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)
Level User	Records Operation Minimum Operation Interval: 0 (X0.15)
Privilege User	Notification Settings
Logic Control Condition	Before Writing After Writing
O	Notify Bit Address: Notify Byte Address:
Add Modify Delete	
Audio	Trigger Macro:
Play Audio	
Keyboard	
Help Description:	
Switch/Indicator Light	
Switch/Indicator Light witch Indicator Light Lable Graphics Dynamic Graphic	
Switch/Indicator Light witch Indicator Light Lable Graphics Dynamic Graphic Position	
Switch/Indicator Light witch Indicator Light Lable Graphics Dynamic Graphic	
Switch/Indicator Light witch Indicator Light Lable Graphics Dynamic Graphic Position Position: X: 0 V: 0 V Locked Width: 50 Height: 50	
Switch/Indicator Light witch Indicator Light Lable Graphics Dynamic Graphic Position Position: X : 0 \$ Y : 0 \$	
Switch/Indicator Light witch Indicator Light Lable Graphics Dynamic Graphic Position Position: X: 0 C Y: 0 C Locked Width: 50 C Height: 50 C	
Switch/Indicator Light witch Indicator Light Lable Graphics Dynamic Graphic Position Position: X: 0 \$ Y: 0 \$ Locked Width: 50 \$ Height: 50 \$ Always Display © Conditional Display	
Switch/Indicator Light witch Indicator Light Lable Graphics Dynamic Graphic Position Position: X: 0 Locked Width: 50 Always Display Conditional Display Level User	
Switch/Indicator Light witch Indicator Light Lable Graphics Dynamic Graphic Position Position: X: 0 Uocked Width: 50 Always Display Conditional Display Level User Privilege User	
Switch/Indicator Light witch Indicator Light Lable Graphics Dynamic Graphic Position Position: X: 0 Locked Width: 50 Always Display Conditional Display Level User Privilege User Condition	
Switch/Indicator Light witch Indicator Light Lable Graphics Dynamic Graphic Position Position: X: 0 Locked Width: 50 Height: 50 Always Display Conditional Display Level User Privilege User Condition	

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 	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 Trigger Condition not satisfied
Add Modify Delete	OK Cance

As you can see from the above picture, since no conditions have been set, there will be a red exclamation mark prompt. Now click "Add", and the following interface will pop up:

Condition	Setting			×
Module: (Address:	Bit Regi	ster 🔘 Wo	rd Register	
Condition:	ON ()	OFF		
			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 " i or double-click the "Address" blank box, you can edit and select a "bit register". For example, set the address of "Bit Register" LB0, and set the Condition "ON". It is shown as below.

Condition	Setting	2
Module: 🤇	Bit Register 🔘 Word Register	
Address:	LBO	
Condition:	ON OFF	
	OK	Canad
	OK	Cancel

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.

nics 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 Bit Address: Trigger Macro:

It can be seen from this list that the "switch" element can only be operated when LB0 is ON, otherwise the operation is invalid. If in actual applications, only the condition when LB0 is ON is not enough to meet the actual needs, for example, the value of the LW0 register needs to be judged to meet the requirements, then at this time, we will add another condition. Still click "Add", at this time we select "Word Register" behind "Module" and set the register address to LW0, as

shown in the figure below:

Condition Setting	×
Module: OBit Register	Word Register
Address: LW0	
Condition:	
Read Value >	▼ A(1) None ▼
A Constant •	1
	OK Cancel

Click on the option list after "Read Value" under "Conditions", we can see that the conditions are "<", ">", ">=", "<=", "<=", "==" and "!=" in total Six condition symbols. The default after the letter A(1) is "None". After clicking it, we can see that there are two options, "AND" and "OR". The default selected after the letter A in the next line is a constant. After clicking it, you can see that there is a "variable" to choose from. From this, it can be seen that when selecting the conditions of the "word register", we can combine the various logical conditions we need in practice from these three conditions. Assuming that we select "AND" for the attributes behind A(1), there will be an extra row of register condition selections, as shown in the following figure:.

Module: OBit Register (Address: LW0	
Condition:	
Read Value >	▼ A(1) AND ▼
Read Value <	▼ B(1)
A Constant •	1 🛓
B Constant •	1

If the condition we need is "LW0>100", and the condition after "is "LW0< LW1", then the condition after reading the value in the second line is selected as "<", after the attribute of letter B, we need to add "constant "Change to "Variable", the address is set to LW1, the screen after setting is as shown in the figure below:

Condition Setting		×
Module: 🔘 Bit Register	r 💿 Word Reg	ister
Address: LW0		
Condition:		
Read Value >	▼ A(100)	D) AND -
Read Value <	▼ B(LW	1)
A Constant •		100 🔹
B Variable •	LW1	
		OK Cancel

The condition after setting is that the value of LW0 is greater than 100, and the value of LW0 is less than the value of LW1, the condition is true. After clicking "OK", you can add this condition to the condition list, as shown in the figure below:

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.	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
Logic Condition LB0 ON AND V LW0 > 100 AND LW0 < LW1	Notify Bit Address:
Add Modify Delete Audio Play Audio	☑ Trigger Macro: macro_3 ▼ Macro Code Edit
Keyboard	16
Use Keyboard	

As can be seen from the above figure, there are two conditions we set in the list. There is an option before the second condition. The default is "AND", which means that the first condition and the second condition are in a relationship with. After clicking open to see, there is an "attribute. It can be seen that the conditions before and after are not isolated, but can also be a logical "and" or a logical "or" relationship. In this way, only the logic after all the list conditions are calculated When it is "True", the conditional enable is "True", and the component can be operated or "displayed", otherwise it cannot be operated or "not displayed" is displayed.

In addition to the "Add" button below the list, you can also see the "Modify" and "Delete" buttons. When a certain condition in the list is selected, click on "Modify" to modify the condition, or Double-click a condition in the list to open the condition editor for modification. When you select a condition in the list and then click the "Delete" button, the selected condition will be deleted from the list.

Note: When there are multiple conditions in the list, they are executed in order from top to bottom.

4.13.11 Shadow Effect

During configuration, you can set the shadow effect for vector graphics, bitmaps, component graphics and text, etc. The setting panel is as shown in the figure below:

Shadow	Effect						
Color:	ShadowColor	• 🖉	Shadow Excursion	x	4	Y	4

1. Start the shadow effect:

The setting options will be displayed only after the check box in front of the shadow effect is checked, otherwise the setting options will be hidden:

Shadow Effect		

1 Color

You can use the color palette to set the shadow color.



You can also use the tool "" to set the shadow color.

2 Shadow Excursion

The Shadow Excursion includes the X-axis (horizontal) direction offset and the Y axis (vertical)

direction offset. The unit is pixel.

	(a 1	10000	10000
Color:	ShadowColor *	Shadow Excursion X	4 🔶 Y	4 🚔

Note:

- The coordinates in this software refer to:<u>Detailed manual/General functions/Drawing/</u><u>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.



4.13.12 Position

During configuration, each component has a location option. The location options of some components are in the "General Properties" tab, and the location options of some components are in the "Display Settings" tab:

Static Text General Display	8
Canguage Independent Languages: Use Text Library Text Library	Position Fixed Point: X : 230 ♀ Y : 320 ♀ □ Locked Width: 312 ♀ Height: 312 ♀
Ouse Labels Tag Contents	Marquee
Shadow Effect	Set label position by language state separately.
Copy Current Text to All Languages Import from Favorite Font Templates.(I)	
 Vector Font ○ Graphic Font Font: Microsoft Sans Serif ▼ Size: 36 ▼ B I ■ ▼ Multi-line Alignment: ■ ■ ■ T Advanced 	
Microsoft Sa ns Serif	
Copy Current Properties to All Languages	
Help Description:	OK Cancel

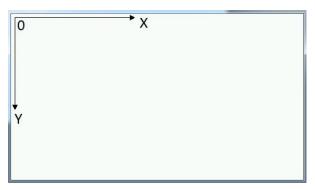
witch Indica	tor Light	Lable	Graphics	Dyna	mic Graphics	Control Settings	Display	
Position								
Position:	X :	85	\$	۷:	170 🗘			
Locked	Width:	70	Hei	ght:	50 🗘			
 Always Di Condition Level Use Privilege Logic Con 	al Display r User							
	ondition							
LE	BO ON				*			
AND + L	N0 > 1				1			
AND + LE	32 ON				*			
Add	Mo	dify	Delete					

Function Description: The X and Y attributes are used to set the display position of the component in the window. There are two types of titles during use. One is "Fixed point coordinates:", as shown on the left, and the other is "Position:", as shown above as shown on the right, using "fixed point coordinates:" as the label, the starting position of the component indicated by X and Y is determined by the "fixed point", please refer to rotation for details; using "position:" as the label, X and Y Both indicate the position of the upper left corner of the component.

Note:

The coordinate system of this software is shown in the figure below, the upper left corner is the origin, the horizontal X axis, the X axis right, the vertical Y axis, and the Y axis down.

The width and height attributes are used to set the width and height of the component. If a certain attribute cannot be set, it means that the attribute is unavailable, as shown in the figure below:



Fixed Point:	Χ:	230 🗘	Y :	320 🗘
Locked	Width:	312 2	Height:	312 2

Lock: After checking the lock, the position of the component is locked, and its position and size cannot be edited. After the component is selected on the configuration interface, the upper left corner of the component will display a lock symbol:

	Ellipse					
	General Dynamic Graphics	Indicator Light Display				
5	Ellipse O Circle					
$ (\cdot) $	V Border	Position				
Ŀ.	🗹 Border	Position Fixed Point:	X:	126 🗘	Y :	351 \$

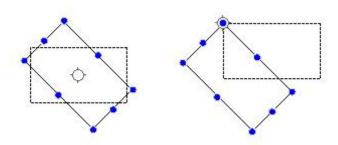
4.13.13 Rotation

Rotation	
Fix Point	<u> </u>
	6-0-6
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 angle 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>.

1 Fix Point

Each figure has nine fixed points. 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.



2 Rotation Angle

The Rotation Angle is used to set the clockwise rotation angle of the component. This angle range is 0-360 degrees.

3 Non Rotation

You can quickly set the display angle to zero by clicking the button "on Rotation".

4.13.14 Dynamic Graphics

eneral Dynamic Grap	hics Indicator Light Display
Use Dynamic Graphic	5
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.

For components such as static pictures and vector graphics, you can edit their position, size and rotation during configuration. The edited graphics will be statically displayed on the HMI. If you want to dynamically adjust the position, size and rotation of the graphics during the operation of the HMI, you need to use the dynamic graphics function.

Dynamic graphics function-use registers to dynamically control the position, size and rotation of graphics.

(1) Use Dynamic Graphics

If you want to use the dynamic graphics function, please check the "Use dynamic graphics" checkbox first.

(2) Control Address

Fill in the first address of the dynamic graphics control register and the editing method of the word register address, please refer to: <u>Detailed manual/General function/Address editor/Standard</u> <u>ByteAddress Input</u>.

(3) Control Position

If you want to dynamically control the position of the component, please check the control position check box. When controlling the position, you need to use two word registers. The register address will be displayed behind the control position. The register will control the absolute coordinates of the fixed point of the component on the screen. point. For the coordinate system on the touch screen, please refer to: Detailed manual/General function/Position.

(4) Control Size

If you want to dynamically control the size of the component, please check the "Control size" check box. When controlling the size, you need to use two word registers to control the width and height of the component separately. The register address will be displayed behind the control size. For a square for components with the same width and height as a perfect circle, only the register that controls the width is valid.

(5) Control Rotating

If you want to dynamically control the rotation of the component, please check the "Control rotation" check box. When controlling the rotation, a word register is required. The register address will be displayed behind the control rotation. The register will control the clockwise rotation angle of the component. The range is 0 360 degrees. Note:

The control of position, size and rotation is based on the "fixed point" of the component. For the description of the fixed point, please refer to: <u>Detailed manual/General function/Rotation</u>.

Tab	Checking Display	Background 💌 🍠			
	e Background Color:	Background 🕶 📝			
	ble Background Color:	Background +			
Title					
	e Bar Background Color :	Background 💌 📝			
Out	tline Style:	- * Line Width:		line Boar 💌 📝	
Spli	it Line Style:	- • Line Width:		t Line Co 👻 📝	
Dis	play Grid Line: 🔲 Row Sp	lit Line 📃 Column Split Li	ine		
Dis	but and mici		7.50		
Help Desci	ription:			ОК	Canc

4.13.15 Table Drawing

Serial No.	Date	Time	User Name	Operation Log	1	
1	08/12/15	08:40:23	admin	######		
					-	- Outline
-						

Background color

The table background color and title bar background color can be changed.

	Table Background Color: Background 🕶 🍠
	Title Bar Background Color : Background 🕶 🍠
Outline Style:	Line Width: Outline Boar
Split Line Style:	Line Width: 🗾 🔹 🖬 Split Line Co 👻 🏹

The result is as follows:

Row No.	Serial No.	Group	Level	Date	Time	Counting	Content
1	1	1	1	21/07/13	18:11:25	1	##

Line type

You can change the outer frame line type, divide the linear line width and the corresponding color.

Disable Outline		2.20	
Outline Style:	Line Width:		e Boar 👻 📝
Split Line Style:	Line Width:		ine Co 👻 📝
Display Grid Line: 📝 R	ow Split Line 📃 Column Split I	line	

The result is as follows:

Serial No.	Group	Level	Date	Time	Counting	Content
1	1	1	21/07/13	18:11:25	1	##
	Serial No. 1					Serial No. Group Level Date Time Counting 1 1 1 21/07/13 18:11:25 1

Grid

Set the display and hide of the network grid

Table Background Colo	r: Backgro	ound 🕶 📝			
Title Bar Background C	olor : Bacl	kground 💌 📝			
Disable Outline					
Outline Style:		Line Width:		Outline Boar 👻 💋	3
Split Line Style:	- •] į	Line Width:	-•][Split Line Co 👻 🥖]
Display Grid Line:	w Split Line	🔽 Column Split Lin	ie		
Table Printting Setti	ngs				

The result is as follows:

Row No.	Serial No.	Group	Level	Date	Time	Counting	Content
1	1	1	1	21/07/13	18:11:25	1	##
.1							

4.13.16 Export CSV

When you need to export the tabular data in the touch screen into a file that can be recognized by the computer, you can use the export CSV function. This function is generally in the "Query" tab of the list element, such as historical data, alarm and event list, operation log, etc. In the component, the export function will be used.

General Table Search Display		8
General Table Search Display		
Enable Search Function		
V Export CSV		
Trigger Registrator: LB0 📓 LB0 Export records when it is ON.		
Export to designated location: Image HMI Image SD USB1		
Register Setting Location:		
Sub directory name: CSV_EVENT		
Export progress indicator register:		
Export CSV method : Export by day Single File		
		1
This operation will all entries are in line with the current condition. If you use a q be derived, without the use of query, export all entries	uery, the query re	sults will
Help Description:	ОК	Cancel
Operate Log Display		-8-1
		8-1
eneral Table Checking Display		-8-1
eneral Table Checking Display		8
eneral Table Checking Display		8-1
eneral Table Checking Display		8
eneral Table Checking Display		2
eneral Table Checking Display		8
eneral Table Checking Display		2
eneral Table Checking Display		2
eneral Table Checking Display		2
eneral Table Checking Display		2
eneral Table Checking Display		2
eneral Table Checking Display		2
Enable Search Function		
Enable Search Function		2
Enable Search Function		
Enable Search Function Enable Search Function Export CSV Trigger Registrator: LB0 LB0 Export records when it is ON.		
Enable Search Function Enable Search Function Export CSV Trigger Registrator: LB0 Export to designated location: HMI SD USB1 Sub directory name: CSV_EVENT		
Export CSV Trigger Registrator: LB0 Export to designated location: HMI O SD USB1 Sub directory name: CSV_EVENT Export progress indicator register:		

OK Cancel

Description:

Help

(1) Trigger Register

The export of CSV file needs to use a bit register to trigger. When this bit register changes from OFF to ON, the export action will be triggered and the contents in the list will be exported to the CSV file. Under normal circumstances, we place a bit switch in the window to control the register. For register input method, please refer to:: <u>Detailed manual/General function/Address</u> 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.

(3) Subdirectory name

You can give a sub directory name for the exporting location.

Sub directory name: CSV_EVENT

Sub directory name: LW0 Ise 16 charaters specify a file name with maximum 32 ASCII charaters

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 manual/General function/Address</u> editor/Standard ByteAddress Input.

(4) Export progress indicator register

A register can be given to display t	he exporting	g progress if the data is large. It is shown as below	7.
Export progress indicator register:	LW20	(0-100, Reflect the current export schedule))

The exporting progress uses the percentage of completion (0-100) to represent. You can use numeric value display component or a bar graph component to display.

(5) Export CSV method

The CSV export method is divided into day-by-day export and single-file export. When you select the day-by-day export, the exported files will generate different CSV files according to the date, and when you choose the single-file export, it will be exported into a single file. When exporting to a single file, you can choose whether to customize the file name. If you don't check it, it will be named automatically according to the default naming rule. After checking, you can specify a register address and temporarily enter the file name when exporting.

Export CSV method :	Single File
User-defined File Name: LW100	LW100 Specify a file name with maximum 32 ASCI charaters or 16 Chinese characters, suffix is not

When configuring, please use the character input component to input a customized file name, and limit the length of the file name to 32 ASCII characters or 16 Chinese characters.

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.

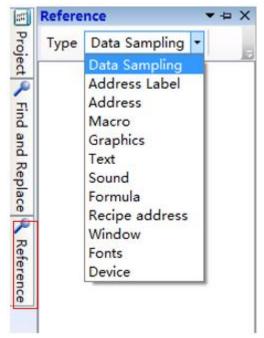
5 Use Topic

5.1 Find and Replace

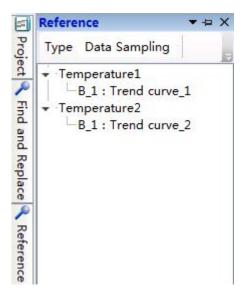
P	Find and Replace	▼ +⊐ X	
roject	Bit Address O Word Address	ress () Text	
2	Search Address:	Search	
Find			
Project 🥄 Find and Replace	Replace Address: Replace	e Replace All	
epla			
ce P	According address automatic offset		
Reference	Position to check under current postion by doubl		
e	Serial No. Location		

5.2 Reference

The citation function is to list and quickly locate the cited places in the project by listing address tags, data sampling, macro instructions, etc., which is convenient for searching.



For example, all the uses of "Data Sampling" in the current project are listed in the following after select it.



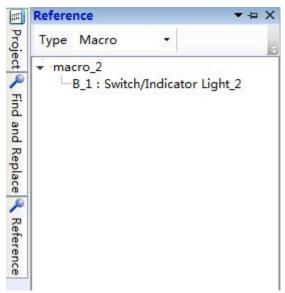
For example, all the uses of "Address Label" in the current project are listed in the following after selecting it.

	Reference 🗸	÷Χ
Proj	Type Address Label ,	
Project Reference Reference	 Y10 B_1 : Switch/Indicator Light_2 : Y10[Y10] d10 B_1 : Numerical Value/Characters_1 : d10[D 	10]

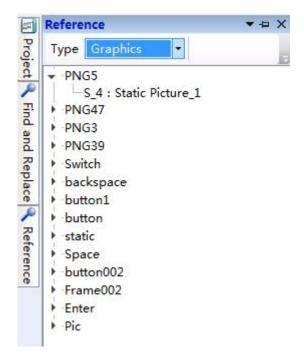
For example, all the uses of "Address" in the current project are listed in the following after selecting it.

Reference	▼ -¤ X
Type Address	
▶ SRW50	*
SRW100	
SRW70	
▶ SRW63	
SRW62	
SRW61	100
SRW60	E
SRW200	
SRB10	
SRB13	
SRB14	
▶ SRW240	
SRW220	

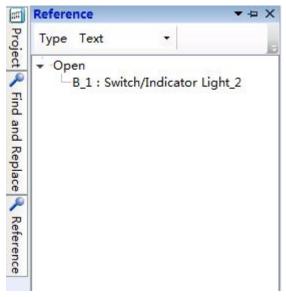
For example, all the uses of "Macro" in the current project are listed in the following after selecting it.



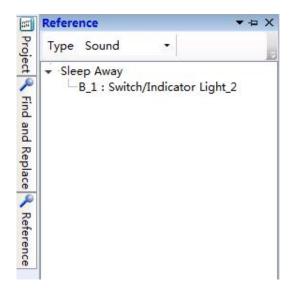
For example, all the uses of "Graphics" in the current project are listed in the following after selecting it.



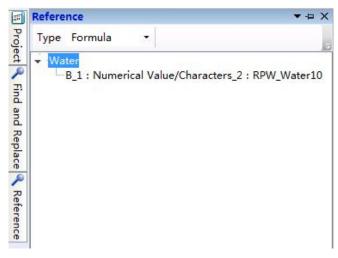
For example, all the uses of "Text" in the current project are listed in the following after selecting it.



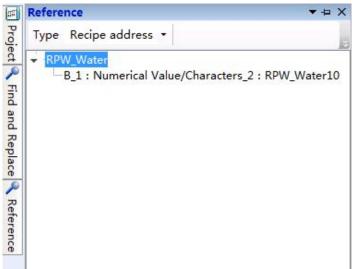
For example, all the uses of "Sound" in the current project are listed in the following after selecting it.



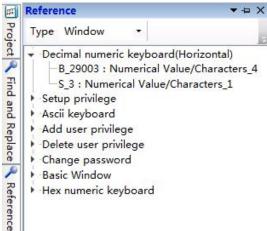
For example, all the uses of "Formula" in the current project are listed in the following after selecting it.



For example, all the uses of "**Recipe Address**" in the current project are listed in the following after selecting it.



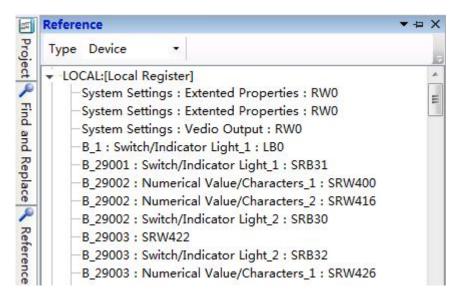
For example, all the uses of "Window" in the current project are listed in the following after selecting it.



For example, all the uses of "**Fonts**" in the current project are listed in the following after selecting it.

Reference	▼ 中	×
Type Fonts	-	8
-B_1 : Static -B_1 : Static -B_1 : Switcl -B_29001 : S -B_29001 : S -B_29001 : S -B_29001 : S -B_29001 : S -B_29001 : S -B_29001 : S	ings : Languages Setting : Language Det Text_1	

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 window in the "Outline" window.

_		1	1
III B	1:Basic Window(1)		
A	Static Text_1:[Static Text]	۲	c
A	Static Text_2:[Static Text]	۲	c
HKH	Switch/Indicator Light_1: [Bit Setting:LB0]	۲	0
	Rectangle_1: [65,44,70,54,0]	۲	0
	Rectangle_2: [218,36,37,22,0]	۲	0
100	Trend curve_1: [Temperature1]	۲	0
20	Trend curve_2: [Temperature2]	۲	0
HICH	Switch/Indicator Light 2: [Bit Setting:Y10]	۲	0
12]	Numerical Value/Characters_1: [Numeric	۲	0
1 million 1	Numerical Value/Characters_2: [Numeric		¢

The tool button " \checkmark " on the top right corner which is used to control the display mode of the outline window. The tool button " $\overset{\square}{\square}$ " is used to make the outline window show or auto hide. The tool button " \checkmark " is used to close the outline window.

Out	tline		•	џ	×
	B_1:Bas Statio Statio Statio Swite Recta	Float Show Dock as Tabbed Document Auto Hide Hide			
	Rectang	le_2: [218,36,37,22,0] urve_1: [Temperature1]	0		0
		urve_2: [Temperature2]	•		0
	and the second se	ndicator Light_2: [Bit Setting:Y10] al Value/Characters_1: [Numeric			0
		al Value/Characters_2: [Numeric			0
1		III.			,

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.

Dutlin	e		1)
Switch			6
_		۲	1
3		۲	0
		۲	0
		۲	0
		۲	0
	Switch/Indicator Light_1: [Bit Setting:SRB31][S	۲	0
10	Switch/Indicator Light_2: [Pop-up:29005]	۲	0
1	Switch/Indicator Light_3: [Pop-up:29004]	۲	0
E.A.	Switch/Indicator Light_4: [Pop-up:29003]	۲	0
•	m		

When you click the little eye tool " O " except the top one, it will change to " O " and hide the corresponding component in the window. When you click it again, it will change to " O " and make the corresponding component show in the window. The top little eye tool " O " will control all components hide or shown by clicking it.

B_1:Basic Window(1)	Hide or show all	
Static Text_1:[Static Text]	components ↔	0
Static Text_2:[Static Text]	ing:LB01	9
Rectangle_1: [65,44,70,54,0]	ing.cooj	0
Rectangle_2: [218,36,37,22,0]	Hide or show the	۲
Trend curve_1: [Temperature1]	corresponding component.	۲
🎊 Trend curve_2: [Temperature2]		۲
	ng:Y10[Y10]][Function Key:Execute Ma	2.2
12] Numerical Value/Characters_1: [N		0] @
123 Numerical Value/Characters_2: [N	Numeric Value Display:RPW_Water10]	C

When you click the right tool " ° ", it will change to " ^(a) " and lock the corresponding component in the window. When you click it again, it will change to " ° " and unlock the corresponding component. The top tool " ^(a) " 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]	Lock or unlock all of components +	
Switch/Indicator Light_1: [Bit Setting Rectangle_1: [80,41,70,54,0]	g:LB0] @	
Rectangle_2: [218,36,37,22,0] Trend curve_1: [Temperature1]	Lock or unlock the corresponding component.	>
Switch/Indicator Light_2: [Bit Setting 12] Numerical Value/Characters_1: [Numerical Value/Characters_2: [Numerical Value/Characters_2: [Numerical Value/Characters_2]		

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.

itline						ф×
B_1:Basic		dow(1) 1-[Static Taxt]		_	•	0
		Cut	Ctrl+X		۲	0
Switch	6	Сору	Ctrl+C		۲	0
Rectar					۲	0
Rectai	B	Paste	Ctrl+V		۲	0
C Trend	~	Dela	D-I		۲	0
	^	Delete	Del		•	0
Switch Switch		Company Description		in Key:Execute Macroinstruction d10[D10],d10[D10]]	9	0
		Components Properties value/cnaracters_2: [Ivumer			۲	0

5.4 Macro

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.

Create Macro Save Save Al		Сору	Paste	5 Undo	C ^e Redo	😽 Add New Address	% Compiling	⊘ Help
Alias Name Address Create Delete Edit	2 3 int 4 { 5 6	lude < MacroM	ain() e to a		ro code	*		Read Write Function System Functions Compution and Convertion Functi Operator
Insert at Cursor Position							*	
a sector water water water with								 All additional additional and a state

5.4.1.1 Shortcut Tools Bar

8		0	X		2	5	C	*	*	۲
Create Macro	Save	Save All	Cut	Сору	Paste	Undo	Redo	Add New Address	Compiling	Help

"Shortcut Tools Bar" contains "Create Macro", "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. Add New Address: Add a new address alias for the current macro. Compiling: Compile the current macro. Help: Open the help file.

5.4.1.2 Address Statement

- -Macro Instruction 5 2 Ċ 3 ø X 2 17 C % ۲ Add New Address Compiling Create Macro Save Save All Cut Copy Paste Undo Redo Help macro_3.c X Read Write Function Alias Name Address System Functions ModeSwitch X0 1 #include <macro.h> à Compution and Convertion Function Level LW0 Deperator 3 int MacroMain() 4 { 5 // Here to add macro code. 67 return 0; 8 } Create Delete Edit Insert at Cursor Position Address Statement Input assistant Find and Replace Macro Code Ready

VI20 STUDIO SOFTWARE MANUAL

"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

4

using " . You can switch to the macro code window by clicking the bottom tab "Macro Code".

5.4.1.3 Macro Code

Create Macro Save Save		Image: Weak of the second s
Name Macro Code nacro_1 add_c nacro_2 sub_c nacro_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 6 7 return 0; 8 }</macro.h></pre>	code.
Create Delete Edit Import 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.

5.4.1.4 Code Editor Window

Macro Instruction		
Create Macro Save Save Al	🔉 🗈 🙇 🤊 (*) Cut Copy Paste Undo Redo. Add New Add	tress Compiling Help
Name Macro Code macro_1 add_c macro_2 sub_c macro_3 mul_c Create Delete Edit Import Export Macro Code Macro Code	<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>	Read Write Function System Functions Compution and Convertion Function Operator
Address Statement	-	Input assistant Find and Replace
Ready		

"Code Editor" window is a code editor which is compatible with C syntax. The detailed macro codes are 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

Create M	lacro Save Save All	3 🖾 🖏 ማ Cut Copy Paste Und	 Redo Add New Address Compile 	ing Help
Name macro_1 macro_2 macro_3	Macro Code add_c sub_c mul_c	<pre>macro_3.c X macro_1.c 1 #include <macro.h> 2 3 int MacroMain() 4 { 5 // Here to add m 6 7 return 0; 8 }</macro.h></pre>		Read Write Function Read Bit Register: GetBit Read Word Register: GetBit Read Double Word Register: GetDWord Read Float Register: GetFloat Read Consecutive Registers: GetFloat Set Bit Register: SetBit Set Word Register: SetWord Set Dword Register: SetDWord Set Float Register: SetDNord Set Float Register: SetDNord Set System Functions Call Marco: CallMacro Get Error Code: GetError
Create	Delete Edit t Export	Use direction unsigned short GetW(Read one word from : @Address Alias@ : Se Address Offset : An un Patiene Value : Herien Code Preview	Read Word Register Address Alias Level Address Offset Parameter Type: Constant Constant Value Data Type: unsigned int	Delay Function: Delay Set Com Parameters: SetComParam Com Data Output: Outport Com Data Import: Inport SQL Database Access command: SqlCmc SQL Database Select: SqlSelect SQL Data Buffer Free: SqlFree Debug Function: Debug © Compusition and Convertion Function © Operator
Import	Macro Code	GetWord(@Level@,0);	Insert	

"**Input assistant**" window 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

Create M	acro Save Save	J J Image: Section of the section of t	l.
Name macro_1 macro_2 macro_3	Macro Code add_c sub_c mul_c	macro_3.c X macro_1.c X 1 #include <macro.h> 2 3 int MacroMain() 4 { Macros</macro.h>	Replace Direction © Up
		7 return 0; 8 } Search Level Next Redirect to:	
		Use directi Read Word Register Use directi Read Word Register Use directi Read Word Register Line No.: 1 Reference: macro Location	Redirect
Create	Delete Edit Export	Use directi Read Word Register Use directi Read Word Register Unsigned Address Alias Level Location	1 •

"**Find and Replace**" function can provide a more convenient method of editing the macro codes. It can perform jump between lines and you can view the macro reference here.

Create Macro	o Save Save	All Cut Cop	py Paste	Undo	C ² Redo	Add New Addres	is Co	% ompiling	<i>.</i> € Help	
macro_1 a macro_2 s	Macro Code add_c sub_c mul_c	2 3 int Ma 4 { 5 // 6 c 7	X macro de (macro croMain() Here to = a *b turn 0;		o code	£.		*	Read Wo Read Do Read Cio Set Bit Ri Set Word Set Float Set Consi 4 System Func Call Mari Get Error	Register: GetBit ord Register: GetWord uble Word Register: GetDWord at Register: GetFloat nsecutive Registers: GetMem egister: SetBit 4 Register: SetWord rd Register: SetDWord Register: SetFloat secutive registers: SetMem
Import	elete Edit Export		Conter 3.c Alias n 3.c Alias n	ame 'Mod		n' is unreferenced. eferenced.	Row	List	Set Com Com Dat Com Dat SQL Data SQL Data SQL Data Debug Fi	Parameters: SetComParam a Output: Outport a Import: Inport base Access command: SqICm base Select: SqISelect Buffer Free: SqIFree unction: Debug and Convertion Function
IVIDU	0.0006				_					

5.4.1.7 Information List

"**Information List**" window displays prompts and error messages when the macro compile. You can double-click the error message entry in 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

(1)Add a numeric value input component.

Refer to: Detailed manual/Component/Numeric Value and Character Display/Numeric Value Input.

Add a numeric value input component in the window and set the address as "LW0".

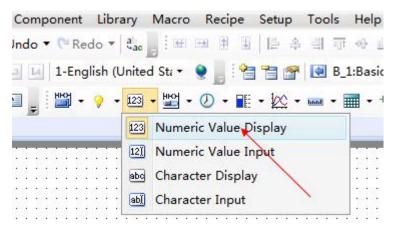
Component	Library	Macro	Recipe	Setup	Tools	Help
Jndo 🔻 😋 Ree	do 🕶 🔤			陸 冬	희 🐨	-0]- <u>illi</u>
1-Eng	lish (Unite	ed Sta •	9 📗 i 😤	1 🖀 🗬	💽 B_:	1:Basic \
- 💾 -	- 123	- 🔛 -	Ø • 🖩	- 🖄 -		• •
10	12:	Numer	ic Value D	isplay		
		Numer	ic Value Ir	put		
	::: ab	G Charac	ter Display	y		
	ab	Charac	ter Input	6		
						1

ieneral	Number Format	Keyboard Setting	Font	Graphics	Dynamic Graphics	Control Settings	Display	
Operati	on Attribute: 🔘 N	Numeric Display 🧕	Numer	ic Input 《	Characters Display	Characters Inpo	ut	
Read	ing And Writing A	ddress Is Different		Passwo	rd			
	ddress:							
Use Use	Address Tag			_				
Deivce:	LOCAL:[Local Reg	gister]						
Addres	s Type: LW	•						
Addres			egister					
Format	(Range) DDDDDD(The second se	Wor	d				
Add	ress Index							

(2)Add a value display component.

Refer to: Detailed manual/Component/Numeric Value and Character Display/Numeric Value Display.

Add a numeric value display component in the window, and set the address as "LW1".



General Number Format Font Graphics Dynamic Graphics Display	
Operation Attribute: Numeric Display Numeric Input Characters Display Chara	cters Input
Read Address:	
🔟 Use Address Tag	
Deivce: LOCAL:[Local Register]	
Address: 1 System Register Format(Range) DDDDDD(0 Occupy: 1 + Word	

(3)Add the text description.

Refer to: Detailed manual/Drawing/Static Text.

Add text description for the two numeric value components, as shown as below.



5.4.2.3 Create and Edit a Macro

(1)Create a new macro.

Refer to: Detailed manual/Macro/CreateMacro.

Create a new macro, named "Computing".

(2)Add an address statement.

Add an address statement. Define the "LW" starting address "LW0" as "LW_Start_Addr".

Macro Instruction				
Create Macro Save Save All	👗 🖏 🔁 🌱 🍽 Cut Copy Paste Undo Redo	🔫 Add New Addres	🏇 s Compiling	<i>⊗</i> Help
Alias Name Address	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>	*	Read Write Fu System Functi Compustion a Operator	
Macro Code	•) Ir	nput assistant	Find and Replace
Ready				0.0

Address Alias:	W_Start_Addr		
) Bit Address 🧕	Word Address		
Use Address T	ag		
Deivce: LOCAL:[Lo	ocal Register]		•
Address Type: LV	v	-	
Address Type: LV Address: 0	V 🔦	Syste	em Register
Address: 0			em Register • Word
Address: 0	×		
Address: 0	×		
Address: 0	×		

Macro Instruction					
Create Macro Save Save All	👗 칠 🙇 Cut Copy Paste	୍ୟ (ଧ Undo Redo	😽 Add New Addres	🏇 s Compiling	Help
Alias Name Address LW_Start_Addr LW0	Computing.c X 1 #include <macro. 2 3 int MacroMain() 4 { 5 // Here to a 7 return 0; 8 }</macro. 	h> dd macro code.		Read Write F System Funct Compution Operator	
Address Statement					
Macro Code			Ir	put assistant	Find and Replace

(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
 8
       if(x <= 300)
 9
       {
10
           y = x * 3;
                                       1/y = 3x
       }
11
                                       //or
12
       else
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 " ^{*} " 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**".

Create Macro Save Save A	II Cut Copy	🔁 🤊 (Paste Undo Re	Modo Add New Address	🏇 Compiling	Help
Alias Name Address W_Start_Addr LW0	<pre>8 if(x < 9 { 10 y 11 } 12 else 13 { 14 y 15 }</pre>	tWord(@LW_Start = 300) = x * 3; = x * 2; Compil d(@LW_St	_Addr@,0);GetWord(({ //if x //y = 3) //or Compile Successfully	Read Read Read Set B Set V et D et D et C et C m i t c i m i pua i ato	rite Function Bit Register: GetBit Word Register: GetWu Double Word Register Float Register: GetFloi Consecutive Registers it Register: SetBit Vord Register: SetWord Noord Register: SetWord Noord Register: SetWord Noord Register: SetFloat onsecutive registers: SetFloat consecutive registers: SetFloat tion and Convertion Fur r
Create Delete Edit Insert at Cursor Position				× []	m b
Platance as addressments					

10 🖬 💕	×	b	2	17	6	\$	20	۲
Create Macro Save Save Al	Cut C	opy P	aste	Undo	Redo	Add New Address	Compiling	Help
Nias Name Address N_Start_Addr LW0	8 1 9 1 10	<pre>x = Get if(x <= { y = }</pre>	Word(art_Ádd	r@,0);GetWord({* //if x //y = 3)	Read Read Read Read Read	rite Function Bit Register: GetBit Word Register: GetW Double Word Regist Float Register: GetFlo Consecutive Register
	13 14 15 16	} SetWord return		Start_	Addr@,1	Compiling Comp	ile Failure OK	gister: SetBit Register: SetWoi I Register: SetWoi legister: SetFloat cutive registers: S ons and Convertion F
Create Delete Edit		puting.c			efore '}'	token 15 2		
Insert at Cursor Position							1	
Insert at Cursor Position								nput assistant

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 *
	○ Save Screenshort to Extended Memory USB1
	🔘 Clear Event
	🔘 Clear All Formula
	O Clear RW
	O Clear All History Data
D Print	Horizontal Print O Print Vertically

	6
ctivation Settings	Security Settings
Always	Minimum Press Time: 0 🛬 (X0.1S)
Conditional	Require confirmation prior to execution
	Waiting Time 100 🔿 (X0.15)
	E Records Operation
	Minimum Operation Interval: 0 🔄 (X0.15)
	Notification Settings
	Before Writing After Writing
	Notify Bit Address:
	Notify Byte Address:
	☑ Trigger Macro:
Keyboard	Computi 👻 Macro Code Edit
Use Keyboard	Audio
	Play Audio

Run Macro Computi 🔹 🕅	acro Code Edit
Run Macro 🛛 Computi 💌 🕅	acro Code Edit

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 Transmission/Timer</u>.

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: 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

Timer	2 ×
Trigger and Stop Timer Function	
Run Macro Computi 🔹 Macro Code Edit	
Status Setting	
Audio Play	
Help	OK Cancel

5.4.2.5 Offline Simulation

Offline simulation can be executed to verify the correction of the function after the above steps are finished.

Click the "**Offline** Simulation" button" on the shortcut tools bar.

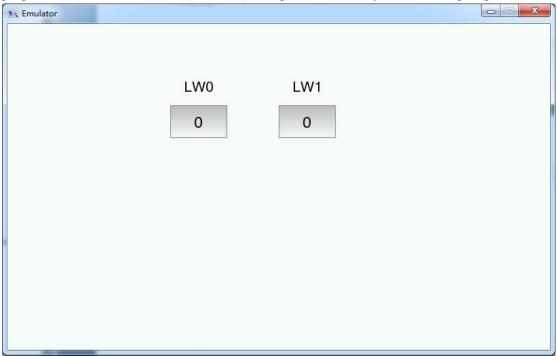
Tools	Help
리 현	· ~ # # A] [A] 😕 🐂 🦉 🖷 📳 📗
💽 B_	1:Basic Window(1) 🛛 🕶 🔄 🔲 🕶 🧟 100%
-	** ** 🎉 👛 🏝 🏇 ▶ 📘
	Offline Simulation
101010	

A "Clear Records" message box will pop up. After clicking the button "OK", the project will compile.

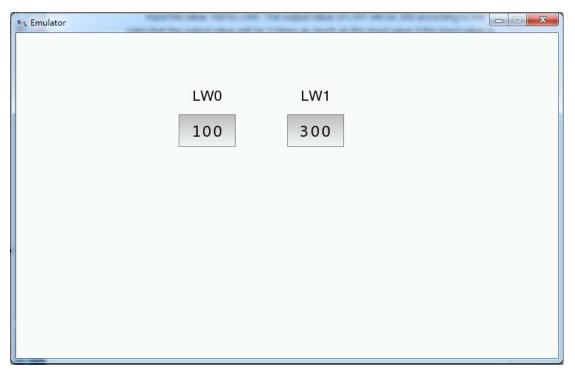
Clear Records —	
🔽 Clean up RW	data
🔽 Clean up reci	pe data
🔽 Clean up data	a sampling and <mark>h</mark> istory alerts
🔽 Clean up spe	cial registers

Offline sim	ulating	
	Build Data	

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.



Input the 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.



Input the 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 is not less than or equal to 300.

🖳 Emulator			
	LW0	LW1	
	400	800	

5.5 Online Software Upgrade

If the user can't 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 VI20 Studio software.

6 Appendix

6.1 The Use of Register

The type of HMI register includes "Word Register" and "Bit Register".

6.1.1 Word Register

LW: An internal "**Word Register**" in HMI. The data is lost when the power is off. The register address range is 0 - 799999.

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 \sim 7 saves the system time. The "**Description**" introduces the function of the selected register.

Numerio	c Display					-9-1
eneral	Number Format	Font	Graphics	Dynamic Graphics	Display	
Operati	on Attribute: 🧕 N	lumeric	: Display (Characters Display 🔘 Character	rs Input
				Passwor	d	
	ddress:					
	Address Tag					
servce:	LOCAL:[Local Reg	ietail		•		
Addres Format	s Type: LW s: 0 0 (Range) DDDDDD(ress Index	0 Oc	Contraction of the local division of the loc	Register Word		
Help	Description:					OK Cance

ist Information	Description	
I HMI O PLC	System date, Format as: 20xx	
 System Time SRW0:Year SRW1:Month SRW2:Day SRW3:Hour SRW4:Minute SRW5:Second SRW7:Weekday Network settings System Registers Communication user level password User Permission VNC authority password Input keyboard File browsing 		

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.

	Press	•	
xecute Setting:	On	•	
Address			
Use Addre	ss Tag		
Deivce: LOCA	AL:[Local Register]		•
Address Type		• Curture D	
	and the second se	System Re	egister
Format(Kange	e) DDDDDD(0~799999)		
	120200		
Address In	idex		

List Information	Description
I HMI O PLC	When pressing the touch, SRB16 is on, simultaneously the X,Y coordinate values of the touch screen will be
 Internet Hardware SRB3:Restart SRB4:restart and enter brush status SRB5:turn off the backlight SRB5:D card inserting status SRB7-9:U-disc inserting status SRB1:USB downloading line connecting status SRB1:Schear off huzzering function compulsively SRB1:Schear off huzzering function compulsively SRB1:Schear off huzzering function compulsively SRB1:Schear off huzzering function SRB1:Schear off huzzering function VINC(remote monitoring) Communication User authority 	indicated between SRW450 and SRW451
	Select Cancel

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.

-								0 0 2
Create Macro Save Save		-	-	Undo	(N	Add New Address	Compiling	0
Create Macro Save Save	an cur	Сору	Paste	Undo	Redo	Add New Address	Compring	Help
Jias Name Address	1 #iz 3 im 4 { 5 6 7 8 }	o_le X nelude t Racro // He retur	Main() re to n 0;		ro code	•	Rea Rea Rea Set Set Set Set Set Set Call Get Set Con Con SQU SQU SQU	Vrite Function d Bit Register: GetBit d Word Register: GetWord d Double Word Register: GetWord d Double Word Register: GetDWord d Float Register: SetBit Word Register: SetBit Word Register: SetWord Dword Register: SetWord Float Register: SetFloat consecutive registers: SetMem Functions Functions Marco: CallMacro Error Code: GetError ay Function: Delay Com Parameters: SetComParam n Data Output: Outport n Data Duport: Inport n Data Datport: Inport Database Access command: SqlCri Data Buffer Free: SqlFree sug Function: Debug
Create Delete Edit	Code	Preview	6				© Operat	ation and Convertion Function for
Address Statement						Insect		
Macro Code	Innut	accietant	Infor	mation I	ist		Input assis	stant Find and Replace

6.2.1 Read Write Function

6.2.1.1 Read Bit Register: Get Bit

Bool GetBit(@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 "LB0", 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: Get Word

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 LW0 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: Get DWord

Unsigned int GetDWord(@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: unsigned int 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:

Unsigned int speed=GetDWord(@Speed@, 3):

The Alias @Speed@ represents the register LW0 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

Float GetFloat(Array Pointer, @Address Alias@, Address Offset, Byte Count):

Read a single precision float number from specified register address.

Array pointer: type, pre-declared.

@Address Alias@: select the start address of a register type, which can be a bit type or word type register

Address Offset: an unsigned integer, Read Address=The address specified by @Address Alias@ + Address Offset

Byte Count: an unsigned integer, The number of bytes to be read. Special attention needs to be converted according to the data type.

The number of bytes should be size of (data type declared by the array) * the number of arrays to be read, the maximum number of bytes is 20480

Set Value: float type number, the float type number to be set to the register Return Value: int type, 0-ailure, 1-success Example: unsigned short data[10]; int error = GetMem(data, @Array Data@, 2, 10*sizeof(unsigned short)): In this example, @Array Data@ = LW0, 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@ = LW0, 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" 6.2.1.5 Read Consecutive Registers: GetMem Int GetMem(Array Pointer, @Address Alias@, Address Offset, Byte Count): 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. Byte Count: an unsigned int number, specifying how many bytes should be read. Please note: Byte Count = size of (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@ = LW0, 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(@ = LW0), so the function will read 3 words (each word contains 2 variables of chartype, the higher half of the last word is invalid) and copy to the array named "data" 6.2.1.6 Set Bit Register: SetBit Int SetBit(@Address Alias@, Address Offset, 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 LB0, so the function SetBit will write "1" into the bit LB2.

6.2.1.7 Set Word Register: SetWord

Int SetWord(@Address Alias@, Address Offset, 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@ + Address 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 LW0, so the function will write the value of speed into the word register LW3.

6.2.1.8 Set Double Word Register: SetDWord

Bool SetDWord(@Address Alias@, Address Offset, 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 word type address.

Address Offset: unsigned int, TargetAddress=The address represented by @Address Alias@ + Address Offset.

Set Value: int type, the value to be written into the designated register.

Return Value: int type, 0-Failure, 1-Success.

Example:

Unsigned int speed;

int error=Set DWord(@Speed@, 3, speed):

In this example, the alias @Speed@ refers to LW0, so the function will write the value of speed into the word registers LW3 and LW4.

6.2.1.9 Set Float Register: Set Float

Int SetFloat(@Address Alias@, Address Offset, Set Value):

Write one single precision float number into a designated word register.

@Address Alias@: select a word or word type address.

Address Offset: unsigned int, Target Address=The address represented by @Address Alias@ + Address 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 LW0, so the function will write the value of speed into the dword registers consist of LW3 and LW4.

6.2.1.10 Set Consecutive Registers: Set Mem

Int SetMem(Array Pointer, @Address Alias@, Address Offset, Byte Count):

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.

Byte count: an unsigned int number, specifying how many bytes should be read. Please note: Byte count = 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: Call Macro

Int CallMacro("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

Int GetError(): 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

Int SetComParam(Port Number, Baud Rate, Data Bit, Stop Bit, Check Bit, 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

Int Outport(Port ID, Buffer Pointer, 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

Int Inport(Port ID, Buffer Pointer, Buffer Size, 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

Int SqlCmd(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

Int SqlSelect(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

Int SqlFree(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 Set Com Param 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 printf function 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 back end 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, used to assign. Example: Int i; i=100;

6.3 System Prompts List

There will be some system prompts when an error occurred during the VI20 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- Being queried, 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