# TK Series HMI Programming Manual

Shenzhen Coolmay Technology Co., Ltd V20.91 version

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### Chapter 1 mView software introduction

#### 1.1 How to install mView software

(Please go to the official website :<u>WWW.COOLMAY.COM</u> to download the latest version)

This chapter will detaily introduce the installation process of mView software.

■Hardware requirements

The basic hardware requirements for installing mView editing software are as follows:

- 1. Personal computer host: It is recommended to use a CPU of 80486 or higher.
- 2. Memory: It is recommended to use more than 128MB RAM to expand the memory.
- 3. Hard disk: The hard disk must have more than 100MB of space.
- 4. Display: General VGA or SVGA display card.
- 5. Mouse: Use a Windows compatible mouse.
- 6. Printer: Use a Windows compatible printer.

Before you install it, please check whether the computer hardware is as above or higher. In order to avoid problems with hardware incompatibility, please use the recommended specifications as much as possible. If you have any questions, please contact our customer service.

■ Software source

You can enter our company's website <u>WWW.COOLMAY.COM</u> to obtain the latest version of the software.

Installation steps (take the simplified Chinese version of mView as an example), note that "mView \*\*\*" software version is subject to the official website.

Select mView 13802.exe in the installer window to start the installer and start the installation;

•Set the storage path of the installation file, select the default, or enter the address, or click the [Browse ...] button to select the address, and then click the [Next] button;

Setup - mView version 1.38.02				×
Select Destination Location				
Where should mView be installed?			0	
Setup will install mView into the following folde	er.			
To continue, click Next. If you would like to select a diff	ferent <mark>folde</mark> r,	dick Bro	owse,	
C:\Program Files (x86)\CM\mView 1.38.02		Br	owse	1
At least 27.7 MB of free disk space is required.				

•Set the name of the saved folder. It is recommended to select the default and click the [Next] button directly.

etup - milew version 1.30.02		-	-	
elect Start Menu Folder				
Where should Setup place the program's shortcuts	s?			Ċ
Setup will create the program's shortcuts	in the foll	owing Start	Menu fol	der.
To continue, click Next. If you would like to select	a differen	folder, die	k Browse.	
mView			Browse	e

•Choose whether to create a desktop shortcut icon, and then click the [Next] button.



•Confirm the installation path and other installation information, and then click the [Install] button to install.

iew on your computer.		(
on, <mark>or c</mark> lick Back if you wa	nt to revie	w or
.38.02		^
		~
	iew on your computer. on, or click Back if you wa .38.02	iew on your computer. on, or click Back if you want to revie .38.02

•The installation process is shown below:



This wizard helps you install the software drivers that some computers devices need in order to work.

To continue	, click Next.	

•The driver installation is completed



#### Device Driver Installation Wizard

	Completing the De Installation Wizard The drivers were successfully in You can now connect your dev came with instructions, please re	evice Driver d stalled on this computer. ice to this computer. If your device ead them first.
	Driver Name  STMicroelectronics (usb  < Back	Status Ready to use Finish Cancel
•Finally, click [Finish] to Setup - mView version 1.3	o complete the installat 8.02	tion. — 🗆 X
	Completing the n Wizard Setup has finished installing mV application may be launched by shortcuts. Click Finish to exit Setup.	Niew Setup View on your computer. The selecting the installed

### 1.2 How to open mView software

After the installation of mView software is completed, a shortcut will be

Einish



placed on the desktop

, At the same time, the corresponding mView

program group has been added to the Windows start menu:



Choose one of the above two methods to open the mView programming software. When the application is started, a startup window will pop up, as shown in the following figure. After the software is opened, it will be checked according to the menu bar [View]->[Option...]->[File]->Program start automatically open file, to determine whether to start the last project file when the software is opened, or not to open any file.



### 1.3 Introduction to the mView software interface

mView editing interface layout:





•Title bar: Displays the currently opened project path and file name, window number, and window name.

•Menu bar: A menu that displays various commands of CoolMayView. These menus are pull-down menus.

•Standard toolbar: Shortcut buttons for placing some commands. Corresponding buttons and editing tools for displaying files, editing, printing and other functions.

•Design components: Command buttons for component objects.

•Screen management: The management window of the screen used by the project.

•Communication management: engineering designers to manage, set up a window to communicate with PLC or other serial devices.

•Label management: Set labels for system variables and external variables to facilitate users to quickly find the corresponding variables.

•Status bar: Displays the current operation status, human-machine interface parameters, and communication equipment.

### Chapter 2 Introduction of mView Software Running

### Menu

File Edit View Project HMI(M) Component Tool Window Help

#### 2.1 File menu

Use the mouse to directly click [File], or use the keyboard to press [ALT] + [F], the [File] drop-down menu appears, as shown in Figure 2-1.1. In order to facilitate users to quickly select, shortcut icons are also provided in the toolbar, as shown in Figure 2-1.2.

File	Edit	View	Project
	lew <mark>Fi</mark> l	e	Ctrl+N
🛱 C	pen F	ile	Ctrl+O
S 🔚	ave Fil	e	Ctrl+S
S	ave As	File	1
C	lose F	ile	
Ir	nport		•
E	xport		•
E	xit		Alt+F4
	2-1	.1	
(1)	(2)	(3)	
	<b>B</b>	•	
	2-1	.2	
File	toolba	ar	
(1)	New	File.	
(2)	Ope	n File	
(3)	Save	e File	
(3)	Save		

#### 2.1.1 New File...

To create a new project, you can directly click [New File] under [File] menu, Or click the icon  $\Box$  in the toolbar, Or use the hot key Ctrl + N set by the system. The dialog box shown below is displayed:

Title:	Undefined	
Model:	TK6070FH	•
	7" Color TFT LCD,65535 Colors, 800*480 pixels, COM1&COM2(RS232/RS422/RS485),RTC.	
Direction:	Horizontal	•
Description:		*
		+
	۲ ( ۲	

Title: Enter the name of the new project;

Model: select the model of the human-machine interface (HMI);

Direction: select whether the editing screen is displayed horizontally or vertically;

Description: Enter a help description for the newly created project, or choose not to enter it.

After completing the project-related information input, click the [OK] button to enter the communication information setting dialog box, as shown in the following figure. For specific settings, please refer to section 2.4.2 Communication Management.

Protocol:	Mitsubishi FX3	U Series			•
Controllor:	Company	Model		D	es
	Mitsubishi	FX3U Se	eries	PI	LC
Electric:	Auto Detect(I	RS232/RS42	22/RS485)		<b>•</b>
Electric: Buad Rate:	Auto Detect(1	RS232/RS42	22/RS485) Data Bit:	7Bits	<u>•</u>
Electric: Buad Rate: Parity:	Auto Detect(I 9600 Even	RS232/RS4:	22/RS485) Data Bit: Stop Bit:	7Bits 1Bit	•
Electric: Buad Rate: Parity: Delay:	Auto Detect(I 9600 Even 0ms	RS232/RS4;	22/RS485) Data Bit: Stop Bit: TimeOut:	7Bits 1Bit 1sec	•

#### 2.1.2 Open File...

To open an existing file, you can directly click [Open File...] under [File] menu, Or click the icon 📓 in the toolbar, Or use the hot key Ctrl + O set by the system. The dialog box shown below is displayed:

uick access Desktop	Name Alarm-Scene.b01 Alarm-Scene Multi-Language01 Multi-Language02.b01 Multi-Language02 Passward-Mangement.b01 Passward-Mangement	Date modified 5/30/2020 3:52 PM 5/30/2020 4:23 PM 5/29/2020 4:32 PM 5/29/2020 4:32 PM 5/29/2020 4:32 PM 5/29/2020 2:35 PM 5/29/2020 10:03 AM	Type mView Editor File mView Editor File mView Editor File mView Editor File mView Editor File mView Editor File mView Editor File	Size 144 KB 144 KB 6 KB 6 KB 23 KE 23 KE 23 KE
This PC	Recipe-Case.b01	5/30/2020 11:06 AM 5/30/2020 2:10 PM	mView Editor File mView Editor File	24 KE 24 KE
	File name:		•	Open

Select the file with the suffix vxf that needs to be opened, press the [Open] button, or double-click the selected project file with the mouse.

#### 2.1.3 Save File

To save the currently edited project to disk, you can directly click [Save File] under [File] menu, Or click the icon lim the toolbar, Or use the hot key Ctrl + S set by the system.

1	Name	Date modified	Туре	Size
	🔜 Alarm-Scene.b01	5/30/2020 3:52 PM	mView Editor File	144 KE
lick access	Alarm-Scene	5/30/2020 4:23 PM	mView Editor File	144 KE
	🔜 Multi-Language01	5/29/2020 4:32 PM	mView Editor File	6 K
Desktop	🔜 Multi-Language02.b01	5/29/2020 4:32 PM	mView Editor File	6 K
-	Multi-Language02	5/29/2020 4:43 PM	mView Editor File	6 KI
<b>673</b>	Rassward-Mangement.b0	1 5/29/2020 2:35 PM	mView Editor File	23 KE
Libraries	Reassward-Mangement	5/30/2020 10:03 AM	mView Editor File	23 KE
	Recipe-Case.b01	5/30/2020 11:06 AM	mView Editor File	24 KE
-	Recipe-Case	5/30/2020 2:10 PM	mView Editor File	24 KI
This PC				
Network				
	File name: ALARM-~1		+	Save

When saving a new project, the save vxf file box as shown above will pop up, enter the name of the project you want to save in the file name field, and click the [Save] button. If the project has already been saved, pressing [Save] will not display any dialog box, but only save the latest information of the current project.

#### 2.1.4 Save As File

Save the currently edited screen data to another specified file name on the disk. This item can only be selected by [Save As File] under [File] Whether it is a new project or an old project, the Save New File dialog box will pop up:

Save in:	English Case	🗾 🗧 🖻 🗯 🧾	•	
2	Name	Date modified	Туре	Size
viek zeoooo	Alarm-Scene.b01	5/30/2020 3:52 P	M mView Editor File	144 K
uick access	Alarm-Scene	5/30/2020 4:23 P	M mView Editor File	144 K
	Multi-Language01	5/29/2020 4:32 P	PM mView Editor File	6 K
Desktop	Multi-Language02.b01	5/29/2020 4:32 P	PM mView Editor File	6 K
-	Multi-Language02	5/29/2020 4:43 P	PM mView Editor File	6 K
-	Research Passward-Mangement.b01	5/29/2020 2:35 P	PM mView Editor File	23 K
Libraries	Research Passward-Mangement	5/30/2020 10:03	AM mView Editor File	23 K
	Recipe-Case.b01	5/30/2020 11:06	AM mView Editor File	24 K
This PC	Recipe-Case	5/30/2020 2:10 P	PM mView Editor File	24 K
1				
Network				
	File name: ALARM-~1		•	Save
	Save as tune: milliour File (* unf)			Canos

After entering the new project name, click [Save] to save the project as a new project file.

#### 2.1.5 Close File

Close the currently edited project file. This item can only be selected by [Close File] under [File]. If the project file is modified, the following dialog box will pop up to save the modified project file.

Close File		×
🕐 Data ch	ange,Save?	
Var	No	Cancel

Click the [Yes ] button to save the newly modified file, and then exit the current project file;

Click the [No ] button to save the newly modified file, and then exit the current project file;

Click the [Cancel] button to exit the dialog box and do nothing with the newly modified file;

#### 2.1.6 Import



#### 2.1.7 Export



#### 2.1.8 Exit

End the application and save the project, select the [Exit] option under the menu [File], Or click the button in the main window. If the project has changed, or has not been saved, the following dialog box will appear:

Close File		×
Data of	hange,Save?	

Click the [Yes ] button to save the newly modified file, and then close the current software program;

Click the [No ] button to save the newly modified file, and then close the current software program;

Click the [Cancel] button to exit the dialog box and do nothing with the newly modified file;

### 2.2 Edit menu

Use the mouse to directly click [Edit], or use the keyboard to press [ALT] + [E], the drop-down menu of [Edit] appears, as shown in Figure 2-2.1. In order to facilitate users to quickly select, shortcut icons are also provided on the toolbar, as shown in Figure 2-2.2.

Ed	it View	Project	HMI(M
5	Undo		Ctrl+Z
Ċ.	Redo	Shift+	Ctrl+Z
Ж	Cut		Ctrl+X
	Сору		Ctrl+C
	Multi-Co	ру (	Ctrl+M
-	Paste		Ctrl+V
×	Delete	C	trl+Del
	SelectAll		Ctrl+A
۲.	Align		•
HII	Size		
+	Jog		•
D.	Order		•
	Setup		•
G	Group		
H	UnGroup		
8	Lock		
⊡ <sup>i</sup>	Propertie	<u>i</u>	
ď	Copy Scr	een Pictu	re
	Save to B	MP	
	Add Rep	ository	
	2-2	.1	
,			
(	1) (2)	) (3)	(4)(5)
K		- X	<b>B</b>

2-2.2

(1)	Undo【Ctrl+Z】	(9)	Order
(2)	Redo【Shift+Ctrl+Z】	(10)	Group
(3)	Cut【Ctrl+X】	(11)	UnGroup
(4)	Copy【Ctrl+C】	(12)	Lock
(5)	Paste【Ctrl+V】	(13)	Propertie
(6)	Alig	(14)	Same bevel
(7)	Size	(15)	Same font
(8)	Jog		

#### 2.2.1 Undo

To undo the last edited action, you can select the [Undo] option under [Edit], Or click the icon  $\square$  in the toolbar, Or use the hot key Ctrl + Z set by the system.

#### 2.2.2 Redo

To restore the previous undo action, you can select the [Redo] option under [Edit], Or click the icon  $\square$  in the toolbar, Or use the hot key shift + Ctrl + Y set by the system.

#### 2.2.3 Cut

Cut the selected components to paste in the new location. You can select the [Cut] option under [Edit], Or click the icon  $\frac{1}{2}$  in the toolbar, Or use the hot key Ctrl + X set by the system.

#### 2.2.4 Copy

If the components used are the same, you can use the copy operation to make the same components. You can select the [Copy] option under [Edit], Or click the icon 🖹 in the toolbar, Or use the hot key Ctrl + C set by the system.

#### 2.2.5 Multi-Copy

Select a specific component to make multiple copies, you can select the [Multi-Copy] option under [Edit], or use the hot key Ctrl + M set by the system. After clicking, the selection box as shown below will appear:

◆ Var

#### Multiple copy settings

Number of horizontal copies: Set the number of copies in the horizontal direction.

Number of vertical copies: Set the number of copies in the vertical direction.

Horizontal interval points: Set the distance between horizontal elements. Vertical spacing points: Set the distance between vertical components.

#### Component variable modification

Uncorrected: No processing is performed on the copied components.

Increasing in the horizontal direction: Set the order in which the device reads the soft elements to increase horizontally and then vertically.

Vertical increment: set the order in which the device reads the device to increase vertically first and then horizontally.

Address offset value: Set the number of increments of the device reading device value.

• Example of multiple copying: select the horizontal number = 2 and the vertical number = 3 above the number of copies

	Multi-Copy	×
1	Multi-Copy Horizontal: 2 Vertical: 3 Horizontal space: 8 Vertical space: 8	Var C Fix G Inc by horizontally C Inc by vertically Offset: +1
	🗸 ок	X Cancel

• Example of multiple copy: Click [OK] to complete multiple copy. The result is shown below:

141414	10101010	1010101		1.11	10101	0.000	10101	0.000
				_				
								1000
			_	_				
			100					
				1.1		10.00		
			-					

#### 2.2.6 Paste

To insert the copied or cut components, you can select the [Paste] option under [Edit], Or click the icon 🛍 in the toolbar, Or use the hot key Ctrl + V set by the system.

#### 2.2.7 Alignment

icon 🔄 🖬 in the toolbar

Select the components that need to be aligned, and there must be more than two components. Click [Align] under [Edit], as shown below, Or click the

🖸 Undo	Ctrl+Z	
🍽 Redo	Shift+Ctrl+Z	
<mark>∦ Cut</mark>	Ctrl+X	
Copy	Ctrl+C	
Multi-Co	py Ctrl+M	
🔁 Paste	Ctrl+V	
🗙 Delete	Ctrl+Del	
SelectAll	Ctrl+A	
<mark>⊸</mark> Align	1)	🖁 Align left edges
1 Size	•	📇 Align horizontal centers
₽ Jog	•	🛱 Align right edges
Order	•	Center horizontally inwindow
Setup	•	555 Space equally, horizontally
Group		□ <mark>∄</mark> Align tops
🙀 UnGroup		H Align vertical centers
Lock		□ Align bottoms
ji Propertie		Center vertically in window
		Space equally, vertically
Copy Scre	en Picture	
Save to Bl	MP	
Add Repo	sitory	

In this example, select [Upper Edge Alignment]. This alignment method uses the top edge of the reference object as the object alignment. As shown below:



#### 2.2.8 Size

Select the components that need to be set with the same size. There must be more than two components. Click [Size] under [Edit], as shown below, Or

click the icon  $\blacksquare$  in the toolbar.

Edi	it View	Project	HMI(M	1
5	Undo		Ctrl+Z	
CH.	Redo	Shift+	Ctrl+Z	
Ж	Cut	1	Ctrl+X	
	Сору	,	Ctrl+C	
	Multi-Co	ру С	Strl+M	
ß	Paste		Ctrl+V	
×	Delete	Ct	rl+Del	
	SelectAll		Ctrl+A	
+++	Align		٠.	
Ħ	Size		•	Same width
÷	Jog		•	Same heigh
1	Order		•	HI Same size
	Setup		•	
ъ	Group			
咱	UnGroup			1
ъ	Lock			
□ <sup>i</sup>	Propertie			
2	Copy Scr	een Pictu	re	1
	Save to B	MP		1
	Add Rep	ository		

When selecting more than two graphic components, in order to speed up the editing of the component size, you can use this alignment function to first select the graphic component whose size you want to modify, and then select which component is the main one. Then select [Same Width] or [Same Height] or [Same Size]. As shown in the following figure [same width]:



#### 2.2.9 Jog

Use this function to finely move the position of the selected component. After selecting the component, click [Fine Adjustment] in the [Edit] menu as shown below, Or click the icon *in the toolbar*, You can move the selected component position up, down, left, and right in detail, or you can use the keyboard up, down, left, and right keys (fine adjustment), or you can use Shift + keyboard up, down, left, and right keys (with a grid point) Main), Ctrl + keyboard up, down, left, right button (change the selected component size fine-tuning) for rapid movement and size adjustment.



### 2.2.10 Order

After selecting the component, click [Sequence] in the [Edit] menu as shown below, Or click the icon in the toolbar, When the components overlap, the components can be moved to the upper layer, the next layer, the uppermost layer, and the lowermost layer according to requirements.



#### 2.2.11 Setup

Select the component components that need to be set with the same border and the same font. There must be more than two components. Click [Setup] under [Edit] as shown in the figure below. Or click <sup>CD</sup> or <sup>F</sup> icon in the toolbar, You can set the border or font of multiple components to be the same as the border or font of the selected reference component.





#### 2.2.12 Group / Ungroup

When selecting multiple components, when moving or copying, in order to be able to edit quickly and easily. You can click [Group / Ungroup] under the

[Edit] menu, Or click Bor Bicon in the toolbar.

To group multiple components into one component, namely [Group], you can also use the hot key [G]. Select the previously assembled components and click [Cancel Group] to separate them, or use the hot key [U].

#### 2.2.13 Lock object / unlock object

After selecting one or more components, click [Lock Object] under the [Edit] menu to fix the component. The fixed component cannot be moved and its attributes cannot be modified. To release the setting, select the component to be released and click [Lock Object] under the [Edit] menu again to release.

Or click b or f icon in the toolbar to lock or unlock the component, you can also use the hot key [L] to fix or cancel.

#### 2.2.14 Object properties

Since the object property window of each component is different, please refer to the detailed description in the [Chapter 3 Components] chapter of this manual.

#### 2.2.15 Copy Screen Picture

Click [Copy Screen Picture] under the [Edit] menu to copy the current edit screen window, as shown in the figure below. After copying, you can paste the screen picture into drawing software or office software such as WORD to facilitate file sort out.





Image       View       Image       Image	
+ 556, 351px 112 1152 × 648px 100% - 1	<b>□</b> →
(i)	
Image	Color Color 2
NO #### N2 #### N4 #### N6 ####	
N1 **** N3 **** N5 **** N7 ****	
40 40 30 20 10	
N10 ####	•

#### 2.2.16 Save to BMP

After selecting the component you want to save as a picture, click [Save to BMP] under the [Edit] menu, a dialog box as shown in the figure below pops up, select the save path, enter the name of the picture to be saved, and click [Save



#### (S) button to save the selected component as a picture.

Save As					×
Save in:	Documents	<b>← 🗈 💣 📰 •</b>			
Quick access Desktop Libraries This PC	Name Adobe Scripts Tencent Files WeChat Files	Date modified 9/26/2019 2:08 PM 7/2/2019 1:44 PM 6/3/2020 9:58 AM 5/14/2020 2:47 PM	Type File folder File folder File folder	Size	
	File name:			🔹 🛛 Sa	ave
	Save as type: Bitmaps File (*.bmp)			▼ Ca	ncel

#### 2.2.17 Add Repository

This function puts the component into the component library. When using it, you can open the component library and quickly select the component according to the component setting classification and name in the component library. After selecting any component, click [Edit]-> [Add Repository], the following dialog box will pop up:

	Type:	21.2	
	Croup:	Btn3	-
	Group.	1	
####	Name:	21	
	Description		^
			~
		<	>

Type : Set the category of the component in the component library. Group: Set the group of components in the category of the component library.

Name: Set the name of the component in the component library.

Description: Fill in the auxiliary description of the description component. After the setting is completed, click the [OK] button, and the selected component will enter the software component library, as shown in the following figure:



When in use, you can double-click the component directly in the component library, which can save the details such as setting the appearance font, which greatly improves the speed of program writing.

### 2.3 View

Use the mouse to directly click [View], or use the keyboard to press [ALT] + [V], the [View] drop-down menu appears, as shown in Figure 2-3.1. In order to facilitate users to quickly select, shortcut icons are also provided in the toolbar, as shown in Figure 2-3.2.



(1)	Project
(2)	Option
(3)	Scale
(4)	Zoom in
(5)	Zoom out

#### 2.3.1 Project management

The project management window refers to the comprehensive display and management of the screen and communication of the current editing project. Click [Project Management] under the [View] menu, there are the following four sub-options.

**1. Scene:** After clicking scene, a window for screen management will appear on the left of the software (this window is also the default display window), or directly click [Screen] in the lower left corner of the software. The picture management window is shown in the figure below. The management window is responsible for the organization and planning of all screens of the man-machine interface. For details, refer to 4.1ScreenManagement.



2. **Communication:** After clicking communication, a window for link management will appear on the left side of the software, or click [Link] in the lower left corner of the software. The link management window is shown in the figure below. This management window is responsible for the man-machine interface and programmable control The communication protocol and configuration settings between the PLC (PLC) or other serial communication





devices. For details, refer to 4.2 Link Management.

**3. Tag:** After clicking Tag, the tag management window will appear on the left of the software, or directly click [Tag] in the lower left corner of the software. The tag management window is shown in the figure below. For details, refer to 4.3 Tag Management.



**4. Language :** After clicking Language, a dialog box for language setting as shown in the figure below will pop up. For details, please refer to Chapter 5 Language Management.



Add	Language	Edit Lang	uage Delete	Language	Set Init Languag	ge Str Translate
Dic.	nanslate	Str Colle	ect Tran	📖 slate Dic	Translate text imp	port Translate text export
Index	Name	LocalID	Font	Decimal	Separate	
✿ <mark>◇</mark> 0	English (Unit	00000	Tahoma [9]			
1	Chinese (Sim	00000	MS Sans Seri	•	,	
2	French (Fran	00000	MS Sans Seri			

#### 2.3.2 Message window

Click [Message] under the [View] menu, and the grammar check window as shown below will appear. When running, if there is a setting error, it will be displayed in the syntax check window for program modification.



#### 2.3.3 Repository

Click [Repository] under the [View] menu, or use the keyboard shortcut [F12], the repository as shown below will appear. When performing interface programming, use this window to conveniently access the required components.



mView : [C:\Users\EN\Desktop\0527.vxf]			– 🗆 X
File Edit View Project HMI(M) Component Tool Window	Help		
日島・日日の・日本時代日本日本日	- % - 1% % h oi   6 F		
ﷺ ♣ ♣ ◙ ◙ 월 🔲 – 🕫 🗄 – @ @ ] 달	ı • 🦉 • ∥ • 🔝 •   🔚 🕕 • ﴿ 🖳 🚑 ∂ 🐴 🖆 🖳 🤍 • 🗒		
Graphic Component   Static Component   Button Display   Edit			
	🔍 🖄 😼 😫 🍓 🐠 🔶 楼		
0 1 2 3 4 5 6 7 8 9 English (United St	ates)		
Scene Management	1 : Scene0 [100%]	Component	i <u>×</u>
		Type: Btn3	Display:
E TK6070FH		1 12 1	
2 : Size Type		1 2	
- 🗖 1 : Scene0			
3 : Scene1			
GS000 : Value input dialogue hox			
- 65001 : String input dialogue box		01 02	03
- 65002 : Password input dialogue box			
65003 : Password accurately message	· · · · · · · · · · · · · · · · · · ·		
65004 : Password error message			
65006 : System message screen		04 05	06
- 65007 : HEX input dialogue box			
- 65010 : Download screen			
E System screen		07 08	09
65100 : Brightness and Contrast			
- 65101 : Calendar			
- 65102 : Backlight			
65104 : Communication		10 11	12
65105 · Adjust screen			
Preview : 25%			
		13 14	15
<b>m</b> =			15
11			
		16 17	10
🗟 Screen 🦉 Link 🧳 Tag	>		
Crid Span Alian Salact, Historical Trand In 16, 156			

When in use, select the component classification as required. As shown in the figure below, select the component to be used in each category, double-click the component, and the component is placed in the right screen window.

Тур	e: Btn3	✓ Display:	
	, Btn3	×	
	2 container Lamp Motor Number Other Picture		

#### 2.3.4 Component list

Click [Component List] under the [View] menu, or use the keyboard shortcut [F10], and the component list window as shown below will appear. In the component list window, you can intuitively see all the components used in the current screen window.


mView : [C:\Users\EN\Desktop\0527.vxf]	- 🗆 X
File Edit View Project HMI(M) Component Tool Window	Help
	·····································
	- · · · · · · · · · · · · · · · · · · ·
Graphic Component   Static Component   Button Display   Edit	
0 1 2 3 4 5 6 7 8 9 English (United Sta	tes) 🔽
Scene Management	Circler Name x y w h
	1×30 Historical
	Lizz 1 Numeric E 47 14 96 56
E 🔤 TK6070FH 🔨	NO #### N2 #### N4 #### N6 12 Numeric E 118 372 96 56
🖻 🖶 Init Scene Group	HBC 3 Label 8 26 32 32
- 2 : Size Type	PRC 4 Label 8 95 32 32
- 1 : Sceneu	ABC 5 Label 50 396 52 32
System default group	N1 #### N3 #### N5 #### N7 1216 Numeric E 47 81 96 56
65000 : Value input dialogue box	ABC 7 Label 439 311 264 88
65001 : String input dialogue box	Li21 8 Numeric E 189 14 96 56
65002 : Password input dialogue box	100 ABC 9 Label 150 26 32 32
65003 : Password accurately message	90 4 A A A A A A A A A A A A A A A A A A
	80 / / / / / / / / / / / / / / / / / / /
- 65005 : System setting screen	1. 70 Numeric E 336 14 96 56
65006 : System message screen	ne 60 m
65007 : HEX Input dialogue box	10 50 Hes 14 Label 237 35 32 32 32
55010 : Download Screen	10 ##### IEE 15 Numeric 336 31 36 56
55012 : USB Download	20 International Action 20 20 20 20 20 20 20 20 20 20 20 20 20
E-G System screen	
65100 : Brightness and Contrast	TERI 10 Laborit 494 30 32 32
	→ → → → → → → → → → → → → → → → → → →
- 65103 : password edit	■ 21 Lie Pav 657 30 90 144
65104 : Communication	####
65105 · Adjust screen	N10 ####
Preview : 25%	
10 av 12 and 16 av 12 and	
BE only by man HD the by one	
$\land \land \land \land$	
N2 ****	
😤 Screen 🦉 Link 🧳 Tag	< >
Snap Align Select : Historical Trend + 289 284	

### 2.3.5 Option(H)

Click [Option(H)] under the [View] menu, and the auxiliary setting dialog box as shown in the figure below will appear.

Snap ON( <u>S</u> )	Grid ON(G)
Snap	Grid
Snap X: 8	Grid X: 8
Snap Y: 8	Grid Y: 8
Object Snap( <u>O</u> )	Grid Color:
Component Align	
Align X: 8	Option
Align Y: 8	Above 40%,Show Grid

Snap/Grid: The dialog box is shown above

Snap ON: This option refers to whether the upper left corner of the set element must be on the set grid when editing the screen.

In the snap combo box, the distance between the snap is set separately in the XY direction, and the allowable setting range is 1 to 32. It is recommended that the setting be consistent with the grid XY direction.

Grid ON: This option refers to whether to display background auxiliary grid when editing the screen.

In the grid combo box, set the spacing of grid points in the XY direction, and the allowed range is  $1 \sim 32$ .

Grid color: Set the display color of the grid.

Object snap: This option refers to whether to display the alignment guideline when the moving element is aligned up, down, left, and right when editing the screen.

In the object alignment spacing combo box, set the alignment spacing in the XY direction, and the allowable setting range is  $1 \sim 32$ . The alignment guideline is displayed when the distance between the moved component and other components is equal to the set alignment distance.

Option: This option sets whether the screen displays a background grid when the screen display ratio is greater than 400%.

	Data of Ohi lo	et le et e cl
Snap/Grid Au	c. Data of Obj.   Component Edit	File   Frame Size Transfer
Setup		
□ Only	Sele <mark>ct</mark> ed Obj.	
🔽 Obj.	Sequence	
🗆 Obj.	Name	
🗐 Paran	neter(Normal)	
🔽 Paran	neter(Simplify)	
Font:	MS Sans Serif [8]	Font

Aux. Data of Obj.: The settings dialog box is shown below

Only Selected Obj.: Check this option, the following options are only displayed for the selected components, otherwise all components in the screen are displayed.

Obj. Sequence: Check this option, the order of each component will be displayed on the screen.

Obj. Name: Check this option, the name of each component will be displayed on the screen.

Parameter (Normal): Check this option, the screen will display the complete information of the variables corresponding to each component.

Parameter (Simplify): Check this option, the simple information of the variables corresponding to each component will be displayed on the screen



#### Component Edit: The settings dialog box is shown below

Aux. Setup		×
Snap/Grid Aux. Data of Obj	Component Edit File	Frame Size Transfer
T Auto. Open Windo	w after Add Component	
	✓ OK X Cance	

Check this option, the system will open the component properties dialog box immediately after adding a new component. Otherwise, you need to manually double-click the component to open the properties dialog box. **File:** The settings dialog box is shown below

Ē	Setup
	✓ Auto. Add Protocol after Open File
	Save File ? Close Window
	Archive, automatically backup files
	Automatic backup old files
	Program start automatically open file
	Decompiled Information
	Add Decompiled Information
	Program Compression

1. After a new project is created, a communication protocol is automatically added: Check this option. After a new project is created, a dialog box for

adding a new communication protocol is automatically displayed to facilitate the user to set the communication protocol. Otherwise, it needs to be set manually in the communication management.

- 2. When closing the screen window, ask if you want to save: check this option, when closing the file, if the file adds new content, it will prompt whether to save.
- 3. Automatically back up files when saving a project: Check this option to automatically back up files when saving a project. The backup file has the same location as the source file, and the file name is different.
- 4. Automatic backup when opening the old version project: Check this option to back up the old version file when opening the old version file.
- 5. Automatically open old files when the program is opened: Check this option to open the file from the last close when the software is newly opened. Otherwise, you need to create a new file or manually open the old file after opening the program.
- 6. Add decompiled information: Check this option to add decompiled information when compiling the project file. That is, the project file read from the HMI can be modified by programming.

7. Program compression: When the program is downloaded, the project file will be compressed to save download time.

Frame Size Transfer: The settings dialog box is shown below

inap/Grid   Aux	. Data of Obj.   Co	mponent Edit	File Frame Size II	ransfer
Setup	62 (1911) AL			5.
Min font	size after convert:	8	•	
Max font	size after convert:	32	•	

Mini Size: After setting the model conversion, the minimum size of the component text size is 8

Max Size: After setting the model conversion, the maximum size of the component text size is 32

In the same program, when the model is converted, due to the different

screen size, the screen components will be enlarged or reduced proportionally. The font size is set here. During the conversion process, the font size will be modified according to this setting to make the converted screen The layout is more coordinated.

#### 2.3.6 Auxiliary data of Object

For the content of this section, please refer to Auxiliary data of Object in Section.

#### 2.3.7 Scale

Click [Scale] under the [View] menu, as shown below:



You can choose the size ratio of the picture window according to your preferences. To adjust the size ratio of the screen, you can also use the zoom-in hotkey [I] and zoom-out hotkey [O] set by the system.





### 2.3.8 Toolbar

Click [Toolbar] in the [View] menu, you can freely select and display the tools in the shortcut tool, as shown in the following figure:



### 2.4 Project

Use the mouse to directly click [Project], or use the keyboard to press [ALT] + [P], the [Project] drop-down menu will appear, as shown in Figure 2-4.1. In order to facilitate users to quickly select, shortcut icons are also provided in the toolbar, as shown in Figure 2-4.2.

Project HMI(M) Compo	nent
Screen	•
Communication	•
🧦 Tag	•
👯 Language	•
Keyboard Define	
🌔 Alarm	
- Password	
🕀 Sound	
🗠 Protection	
🖬 Data Sync	
🛃 Record	
😫 Data Schedule	
📲 Recipe	
👰 System Configuration	
😵 Macro	•
Report Manager	
Setup	•

2-4.1

(1)	) (2)	(3)	(4)	(6)	)	(8)	(	(10)	(1)	2)	(14)	(15	5)	(16)
冒	• 🖗 •	🧷 🔻	ф <u>ф</u> 🔫	🖮 O	)			-	<b>8</b> 9	6		V	•	
				(5)	(7)	)	(9)	(	11)	(13	:)			
	2-	4.2			_									
(1)	Scree	n												
(2)	Comm	nunica	ation											
(3)	Tag													
(4)	Langu	lage												
(5)	Keybc	oard D	efine)											
(6)	Alarm													
(7)	Passv	vord												
(8)	Sound	ł												
(9)	Protec	ction												
(10)	Data S	Sync												
(11)	Recor	d												
(12)	Data S	Schec	lule											
(13)	Recip	е												
(14)	Syster	m Coi	nfigura	ation										
(15)	Macro													
(16)	Repor	t Mar	ager											

#### 2.4.1 Screen

Click [Screen] under the [Project] menu, the options shown in the figure below appear, and users can perform operations such as adding, copying, editing, and deleting screens according to the needs of the program. When the mouse focus is on the current screen group of the software program, the options of adding, editing, deleting a group, and opening and closing the group screen will be highlighted and can be used.



1. Add Screen Group: Click [Add Screen Group], and the setting dialog box shown as below will pop up.

•	
^	
~	
	~

Group Name: Enter the name of this group.

Security: Operation authority 1  $\sim$  operation authority 9, the greater the number, the lower the authority.

Description: Enter the help description of this group, you can leave it blank. 2. Edit Screen Group: Click [Edit Screen Group] to pop up the setting dialog box as shown in the figure below. This function refers to when the group description is not perfect when creating a new group, or when the original group description needs to be modified, use this function to modify the relevant information of the group.

Group Nar	ne: Init Screen Group	
Security:	User Level 9(Low)	•
Description	1:	^

3. Delete Screen Group: Click [Delete Screen Group], and the setting dialog box shown as below will pop up. After clicking the [OK] button, the system will delete all the screen information under the group. After clicking the [Cancel] button, the system does not perform any operation on the group.

Delete Screen Group		×
Are you sure to dele	ete [Init Screen Group]	scene group?
	ОК	Cancel

4. Open Screen Group: click this option to open all the screen information in the selected group.

5. Close Screen Group: click this option to close all screen information in the selected group.

6. Add Screen: When you click this option, the New Screen dialog box as shown below will pop up.

creen Data						
Name:	Screen0					
Num.:	2	•	Auto Swite	h		-
Type:	Normal Screen	-	Delay Time	:0	÷ 5	Sec
Security:	By scene group	•	Jump to:	Undefined	1	•
Inherit:	Undefined	-	Stop funct as Delay T	tion of Auto. swit ime set zero , Th	th screen le Delay	
BG Color:		]+	Time rang	is 0 32767 .		
Description	1:					^
	<					>
	Load BG Image					
	Clear BG Image					
Position:	Center	•				
Macro						
Scre	en OPEN Macro	CYCLE	E Macro Inter	rval: 0.5Sec	-	•
Scre	en CLOSE Macro			Junear		
8 6	on CVCLE Macro					

#### Screen

Name: Enter the name of the newly created scene.

ID: Enter the number of the newly created screen. The setting range of the number is 1 ~ 32767. The number of each screen cannot be repeated.

Type: Click on the drop-down arrow and 4 options appear.

Normal Screen: Basic editing operation screen.

Dialog box: Select this option to set the screen as the dialog box page. Dial box specific functions refer to 4.1.1 chapter.

Boot Screen: Select this option, the current page is the first screen that appears when you open the touch screen, similar to the startup screen of a computer.

Initial screen: The first screen after the touch screen is turned on (the

startup screen has been displayed).

Security: Operation authority 1 ~ operation authority 9, the greater the number, the lower the authority. Corresponding authority password setting is set in [Project]-> [Password]

Set by screen group: The operation authority is the same as the screen group authority.

Inherit: Select this option to make the screen inherit the settings of the selected screen.

The inherited picture is called the parent, and the current inherited picture is the child. When the child inherits the parent, all the components of the parent will be inherited together, but the child cannot change the parent's components, and can only create or modify their own components. If you want to modify the parent components in the child screen, you need to open the parent screen and then modify the components At this time, all the parent symbols in the child pictures inheriting the parent will be modified at the same time.

Description: Enter a help description for the current screen.

#### Auto Switch

Delay Time: The time interval when switching between scenes.

Jump to: After setting the selection screen, when the delay time is reached, it will jump to the set screen.

**Load BG Image:** Click this button to select the desired picture as the screen background.

**Clear BG Image:** Click this button to delete the screen background image. **Position:** Set the position of the background image.

### Macro:

Screen OPEN Macro: Click here to pop up a dialog box to edit the macro program when the screen is opened.

Screen CLOSE Macro: Click here to pop up a dialog box to edit the macro program when the screen is closed.

Screen CYCLE Macro: Click here to pop up a dialog box to edit the macro program executed in this screen.

CYCLE Macro Interval : Set the interval time when executing the macro program of this screen.

	mmunication	
uick jump page		
<b>←</b>	Undefined	- Apply All Screen
Controlled cond	iti	<ul> <li>▼ 103</li> </ul>
→	Undefined	Apply All Screen
Controlled cond	iti	▼ 13
1	Undefined	Apply All Screen
Controlled cond	iti	· (13
*	Undefined	Apply All Screen
Controlled cond	iti	▼ (6)
ub Screen Display Addr.:		<ul> <li>▼</li> <li>(3)</li> </ul>
Control Addr.:	1	
Sub Screen 1:	Undefined	(BIT 0, Bottom Layer)
Sub Screen 2:	Undefined	▼ (BIT 1)
Sub Screen 3:	Undefined	▼ (BIT 2)
Cult Canada A.	Undefined	<ul> <li>(BIT 3, Top Layer)</li> </ul>

#### Quick jump page:

Set the screen page for page change when using the gestures left, right, up, and down.

Controlled condition: refers to the necessary conditions for the establishment of this slide function, as shown in the above figure, when N0 = 100, slide the HMI touch screen to the left, and the screen jumps from the current screen to screen 1.

Apply all screens: Check this option, the slide screen pages of all screens in this group are the same.

#### Sub Screen:

Sub Screen		
Display Addr.:	N0	
Control Addr.:	N1	
Sub Screen 1:	2 : Screen0	✓ (BIT 0, Bottom Layer)
Sub Screen 2:	3 : Screen1	▼ (BIT 1)
Sub Screen 3:	4 : Screen2	▼ (BIT 2)
Sub Screen 4:	5 : Screen3	✓ (BIT 3, Top Layer)

Display Addr: Set the variable position. Bit0-bit3 of the variable control sub screen 1-sub screen 4 respectively. When the variable is changed, the corresponding sub screen will be displayed, but the sub screen is only in the display state. As shown in the figure above: when N0.0=1, sub screen 1 is displayed; when N0.1=1, sub screen 2 is displayed; and so on...

- Control Addr: Set the address of the control screen variable, bit0-bit3 of this variable control the variables of sub screen 1 to sub screen 4 respectively; when the [Display Addr] changes, the corresponding sub screen will be displayed, at this time [Control Addr ] You can operate the sub-screen when changing. As shown in the figure above: when N0.0=1, sub-screen 1 is displayed, and when N1.0=1, the variables of sub-screen 1 can be operated. And so on...
- Sub-Screen 1/2/3/4: Set the sub-screen to be displayed when the variable changes.
- For details, please refer to the official website "Sub-screen example"

rast comm	unicación				
#1:	<u> </u>	- 0	Data Length:	unused	•
#2:		• 18	Data Length:	unused	•
#3:		• 18	Data Length:	unused	•
#4:		• 6	Data Length:	unused	•
#5:		• 68	Data Length:	unused	•
#6:		• 6	Data Length:	unused	•
#7:		•	Data Length:	unused	•
#8:		- 63	Data Length:	unused	•

#### **Fast Communication:**

Namely fast reading area, set the fast communication variable of the current screen, so that the set variable can be read quickly.

7. Copy Screen: When you click this option, the current screen will be copied to the PC pasteboard, which is convenient for quickly creating a new screen.8. Edit Screen: Click this option to edit or modify the attributes of the current screen.

9. Delete Screen: When you click this option, the current screen will be deleted.

The confirmation dialog box for deleting the screen is displayed as shown in the figure below. Click [OK] to delete the screen, and click [Cancel] to do nothing on the current screen.



10.Lock Screen: Click this option to fix the current screen components. You cannot add, delete, or modify the components in the screen.

11. Open Screen: click this option, the screen jumps to the screen where the focus is in the screen management.

Example: The current screen is screen 1, click screen 2 in screen management, and then click [open screen], then the current screen jumps to screen 2.

12. All Screen to BMP: Click this option to output all pictures in the current project as pictures and save them in the path specified by the user.

### 2.4.2 Communication

Click [Communication] under the [Project] menu, and the options shown in the figure below appear. The user can add, edit, and delete communication protocols and controllers according to the needs of the program.



1. Add Protocol: After selecting a communication port that has not been configured with a communication protocol, click [Communication], and then the option [Add Protocol] will be highlighted. Click this option, the following dialog

#### box will pop up:

Protocol						
Controller:	COOMAY PLC(	30/3G)/FX	30			
	Company	Model			Des	
	CoolMay	CoolMa	y 3U Series		PLC	
Port:	Auto Detect(	RS232/RS4	22/RS485)			·
Port: Baud Rate:	Auto Detect(	R5232/R54	22/RS485) Data Bit:	7Bits		•
Port: Baud Rate: Parity:	Auto Detect( 9600 Even	RS232/RS4	22/RS485) Data Bit: Stop Bit:	7Bits 1Bit		
Port: Baud Rate: Parity: Delay:	Auto Detect( 9600 Even 0ms	RS232/RS4	22/RS485) Data Bit: Stop Bit: TimeOut:	7Bits 1Bit 1sec		

Protocol: Use the drop-down options to select the communication protocol to be used.

Controller: Display the manufacturer and model selected by the communication protocol.

Port: There are four options for selection, automatic identification, RS232, RS422, RS485.

Baud Rate: from 150 ~ 115200 rate, available for selection.

Parity: [none], [odd parity], [even parity], [mark], [space].

Data Bit: [5], [6], [7], [8].

Stop Bit: [1 digit], [2 digits].

Delay: from no delay, delay 10ms to delay 5000ms, available for selection.

Timeout: [0.1 sec], [0.2 sec], [0.5 sec], [1 sec], [1.5 sec], [2 sec], [3 sec], [5 sec], [10 sec] total 9 Options.

Retry Count: Set the number of retransmissions when the communication is unsuccessful.

Multi-Station Smart Link: see Appendix 5 for details.

OK / Cancel: After setting, press [OK] to save the completed settings, press [Cancel] to exit the dialog box without setting the communication protocol.

2. Edit Protocol: After setting up a new communication protocol, if there is a setting error, you can use this function to modify it.

3. Delete Protocol: delete the communication protocol that has been newly created.



X

4. Add Controller: After the communication protocol is added, the controller to which the protocol belongs needs to be set. Click the [Add Controller] option, a dialog box as shown below will pop up: Add Controller

D:	0			
Station:	1			
Controller:	Company	Model	Description	
	CoolMay	CoolMay 3U Series	PLC	
Vectoriations				
Description:				
Description:				

ID: ID number of the controller.

Station: the station number of the controller, that is, the ID number of the PLC,

Controller: Display the selected manufacturer, model, description and other information.

Description: Enter a description or help for this controller.

OK / Cancel: After setting, press [OK] to save the completed settings. Press [Cancel] to exit the dialog box without setting the controller.

5. Edit controller: Select an existing controller and click this option to modify its settings.

6. Delete controller: Select an existing controller and click this option to delete it.

7. Variable Window: Click this option to pop up the dialog box as shown in the figure below,

Controller:	0 : CoolMay	3U Series (	[St=1]			-
Variable/Para.:	Туре	Name	Range	Sp	Description	^
	SI BIT	X000	0 - 367	1	Inputs	
	BIT	Yooo	0 - 367	1	Outputs	
	BIT	Mnnnn	0 - 7679	1	Auxiliary r	
	BIT	Mnnnn	8000 - 8511	1	Special au	
	BIT	Snnnn	0 - 4095	1	States	
	BIT	TSnnn	0 - 511	1	Timer con	
	BIT	CSnnn	0 - 255	1	Counter c	
	CO WORD	TNnnn	0 - 511	1	Timer curr	
	CORD WORD	CNnnn	0 - 199	1	Counter c	
	DWORD	CNnnn	200 - 255	1	Counter c	~
Number:						

Controller: Provide HMI internal variables or controller variables set in the communication protocol for selection.

Variable/Para.: Displays the specific information of the variables included in the selected controller.

Number: Open this window in the component properties window, you can directly enter the variables of the system or controller.

### 2.4.3 Tag

There are many types of controllers that communicate with the human-machine interface. The communication protocol and memory numbers of different manufacturers are not the same. In order to facilitate the function of memorizing contacts and memory numbers, you can use tag management to increase readability. For example, when adding a label, we want to replace the X1 contact with the name "for testing". After the addition is complete, enter "for testing" in the write or read position only when the component needs to use X1 "Or click the drop-down option to select" for testing ", the system will treat" for testing "as X1. After setting to tag management, users can replace the names of contacts and memory on the communication protocol specifications with names that are easy to remember.

Click [Tag] under the [Project] menu, and the options shown in the figure below appear. The user can perform operations such as adding, editing, and deleting communication protocols and controllers as required by the program.



1. Add Tag Group: classify tags for easy management and editing.

Click [Add Tag Group], a dialog box as shown below will pop up:

dd Tag Group		٤٢
Tag Group Name:		
For monitoring pages		
🖌 ок	X Cancel	

Enter the name of the newly added tag in the tag group name and click the [OK] button. The newly added tags are newly added to the tag management, as shown in the following figure:

2 02 0	2 🔥 🧔 🕸	.   💖 🛷
Default	For monitoring	pages
Name	Address	Descri

2. Edit Tag Group: modify the name of the currently selected tag.

3. Delete Tag Group: modify the currently selected tag.

Click this option to pop up the dialog box as shown in the figure below. Click the [OK] button to delete the selected tag group. Click the [Cancel] button to keep the selected tag group.



#### 4. Add Tag: add a new tag.

Click this option to pop up the dialog box shown below:

Tag Group:	For monitoring pages	•
Tag Name:	TEST-X	
Address:	D101	<b>&gt;&gt;</b>
Max:	500	
Min:	100	
Description	Test Max and Min of X	~
		~
	<	>

Tag Group: The current tag group is written by default and can be selected using the drop-down list.

Tag Name: Enter the identification name corresponding to this location, you can replace the location.

Address: Enter the correct contact or memory location of the controller to be used, and the register address D101 of Mitsubishi PLC FX3U is used in the above figure.

Max: Enter the maximum value of this contact or memory, you can not enter it.

Min: Enter the minimum value of this contact or memory, you can not enter it.

Description: Enter the description of this label, you can not enter it.

OK / Cancel: After setting, press [OK] to save the completed settings,

press [Cancel] to not proceed Set the label and exit the dialog box.

5. Edit Tag: modify the content of the existing tag and other operations.

6. Delete Tag: delete the existing tag.

### 2.4.4 Language

Click [Language] under the [Project] menu, and the options shown in the figure below appear. The user can add, edit, delete language selection, and



set the initial language translation according to the needs of the program.



1. Add Language: add a new language.

Click this option to pop up the dialog box shown below:

		2.2			202		217	102	
				Delata	фх Alm	Cat Init			
	ige		lage	Delete	canguage oo	Set Init	Language 🖡 🎗	str Translate	
Dic. Transla	ite	Str Colle	ct	Trans	slate Dic	Translate	text import	Translate text export	
ndex Name		LocalID	Font		Decimal	Separate	8		
🟅 0 Englis	n (Unit	00000	Tahoma	9]	•	,			
Add Language					×				
Language I	Na Afrikaa	ns (South A	frica)		-				
Local ID:		00000436							
Font:	MS San	s Serif [8]		Font					
		Afrikaans			_				
Test:									
Test: Decimal:			_						

Name: Click the drop-down list to select the language to be created. Local ID: The region code of the region where the selected language is located. This item is added by default.

Font: displays the selected preset default font.

Font: Click this button to pop up the font selection dialog box, as shown in the following figure, you can set the default font, font style, size, effect, underline and color of the new language.

Font:		Font style:		Size:		
MS Sans Serif		Regular		8	1100	OK
MS Sans Serif MS Serif MS UI Gothic <i>MV Boli</i> Myanmar Text	~	Regular <i>Oblique</i> Bold <i>Bold Oblique</i>	0	8 10 12 14 15 17 18		Cancel
Effects Strikeout Underline Color:		Sample AaBbY	yZz			
Custom	-	Script: Western			•	

Test: display the template of the selected font.

Decimal: Set which symbol to display when displaying the decimal symbol.

Separate: Set which symbol to use when displaying the separator. 2. Edit language: Click this option to set the font, font style, size, effect, underline and color of the existing language.

3. Delete language: Click this option to delete the existing language.

crete Eur	
	te all word of this phylum.Are you sure to delete
$\bigcirc$	kaans (South Africa)] phylum?

4. Initial language: click this option under multiple languages to set the initial language.

5. Translate: Click this option to convert the language on the screen to the selected language.

6. Dictionary: Set the corresponding language translation by yourself.

For a detailed introduction and application examples of language management, please refer to Chapter 5 Language Management.

### 2.4.5 Keyboard Define

This model does not have this function temporarily.

### 2.4.6 Alarm

After clicking [Alarm] under the [Project] menu, the setting dialog box



shown below will pop up to set the alarm information. For detailed introduction and cases of specific alarm management, please refer to Chapter 6 Alarm Management.

Alarm													[
e Add	Alarm	edit Alarm	Dele	•_ ete Alarm	Alarm	Set Ala	em Configuration	impo	ort	export			
Alarm Par	a. Area		Alarm										
Name	Alarm A	Mask Ad	Index	Level	Trig Met	Alarm Pi	Alarm Pictu	Check Pi	Alarm V	Desc	Wor	Alar	
4		•											

#### Add Alarm: Add a new alarm information area.

Name:	Alarm0	
Address:		• 68
Mask:		• 68
Update:	3Sec	•
Delay:	0Sec	•
Group:	Alarm Group 0 Alarm Group 1 Alarm Group 2 Alarm Group 3	Ŷ
Description:		~
		~
	1	>

Name: Enter the name set for the newly added alarm zone.

Address: The position of the input variable can be selected by the drop-down arrow symbol or directly input the variable position. As shown in the above figure, the icon button selected behind the input box indicates that

this position must be WORD. Click this button to pop up the variable window shown below The type of variable. At the same time, you can also enter or select the desired variable in the number edit box in the figure below.

Controllor:	0 : CoolMay	3U Series (	St=1]			Ŀ
Variable/Para.:	Туре	Name	Range	Sp	Description	-
	BIT	Xooo	0 - 367	1	Inputs	
	BIT	Y000	0 - 367	1	Outputs	
	<b>BIT</b>	Mnnnn	0 - 7679	1	Auxiliary r	
	<b>BIT</b>	Mnnnn	8000 - 8511	1	Special au	
	<b>BIT</b>	Snnnn	0 - 4095	1	States	
	<b>BIT</b>	TSnnn	0 - 511	1	Timer con	
	<b>BIT</b>	CSnnn	0 - 255	1	Counter c	
	C WORD	TNnnn	0 - 511	1	Timer curr	
	C WORD	CNnnn	0 - 199	1	Counter c	
	B DWORD	CNnnn	200 - 255	1	Counter c	
lumber:	2					

Mask: When the alarm is triggered, this function can be used to mask the alarm, that is, the alarm information and sound are not displayed. The method of selecting the mask address is the same as the method of selecting the address of the alarm area.

- Update: You can choose how often to update. If you select 3 seconds, it means that you will check whether the alarm is triggered every 3 seconds.
- Delay: choose whether to wait for the controller to start to create data and then start the alarm time.

Group: You can check the group to which this alarm will be classified.

Double-click the left mouse button in the group to edit the group name.

Description: Enter the help description for this alarm.

### 2.4.7 Password

After clicking [Password] under the [Project] menu, the setting dialog box shown below will pop up to set the password for setting the user authority. For a detailed introduction and case of specific password management, please refer to Chapter 7 Password Management.

No. 4.		
NO.1:	User Level 1(High) 💌	
No.2:	User Level 2 💌	
No.3:	User Level 3 💌	
No.4:	User Level 4 💌	
No.5:	User Level 5 🔹	
No.6:	User Level 6 🔹	
No.7:	User Level 7 💌	
No.8:	User Level 8 💌	

### 2.4.8 Sound

After clicking [Sound] under the [Project] menu, a dialog box for setting audio as shown in the figure below will pop up to set the audio that the user needs to use. For a detailed introduction and case of specific audio management, please refer to Chapter 8 Sound Management.

Add S	é ound Edi	🐠 It Sound De	🐠 lete Sour	nd 🛛 Add Ite	em Edit Item	👼 🛛	Play
Sound		1	Conten	t			
Index	Name	Repeat	Order	Frequence	Time		
0	Key Dialog	Non-rep. Non-rep.					

#### 2.4.9 Protection

After clicking [Protection] under the [Project] menu, a dialog box as shown below will pop up to set the upload / download password of the HMI program. To achieve the function of data protection.

Protocor	
Upload:	(No more than 1
Upload Hint:	(No more than 1
Download:	(No more than 1
Download Hint:	(No more than 1
Edit:	(No more than 1
Edit Hint:	(No more than 1

Password protection for project uploading, downloading, uploading and editing, and setting of passwords and password prompts.

After setting the [Download Password], use the [Save Project to File] function under the [HMI] menu to save the project as a vho file. If you want to use this vho file to download to HMI later, select [Tool]-> [Download HMI program ...], a dialog box as shown in the figure below will pop up to select the vho file.

Nopen 🔤							×
Look in	: English Ca	se	•	+ 🗈 💣 📰 -			
4	Name	^		Date modified	Туре	Size	
Quick access	🗋 0527.vho			6/3/2020 11:52 AM	VHO File		60 KB
Desktop Libraries This PC							
	File name:	0527				J [	Open
	Files of type:	mView HMI Object	File (*.vho)			-	Cancel

After confirming the vho file selection, click the [Open] button, and the download password input box will pop up as shown in the figure below. After

entering the password correctly, click the [OK] button to download the program to the HMI.

Download Password	×
Password	
Password Hint:	
Password:	(Max.14 Char
🗸 ок	X Cancel

### 2.4.10 Data sync

After clicking [Data Sync] under the [Project] menu, a dialog box as shown below will pop up. For a detailed introduction and case of data synchronization management, please refer to Chapter 9 Data Synchronization Management.

Data Syr	nc						
Add	Edit Delete Im	port Export					
ata Sy	nc		w.	7			
Index	Synchronize Time	Condition	Synchronize Proviso Method	Source Data	Target Data	Data Length	Description

### 2.4.11 Record

After clicking [Record] under the [Project] menu, the following dialog box will pop up.



**Add:** Click this button to pop up the dialog box for defining a new data record as shown in the figure below.

Edit: Click this button to re-edit the selected existing data record.

**Delete:** Click this button to delete the selected existing data record.

**Import:** Click this button to import the data record of the vdr file stored in the computer into the HMI project.

**Export:** Click this button to export the data records in the HMI project to a computer and store them in a vdr file.

The Add data record definition dialog box is shown below:

Name:	NNNN	
Data type:	[16Bit] Signed	-
Source:	NO	>>
Data Length:	2	-
Record Count:	10 Range 1 32767	
Update Time:	1Sec	-
Record Flag:	N10.0	
Clear Flag:	N10.1	
Stop Count: Description:	Auto. stop as touch recor 20  Auto. stop as touch recor setting,No use this function	d on
	<	> ~
Record Date/	Time	
Retentive		

Name: Enter the name of the data record.

Data Format: Select the type of data. There are five types of contacts, 16-bit signed / unsigned, 32-bit signed / unsigned.

Source: Set the location of the data source.

Data Length: set the length of the data, the range is  $1 \sim 16$ . For example, if it is set to 4, and the source address of the data is set to D0, it means that the data is read from D0 ~ D3, which has 4 register addresses.

Record Count: set the total number of records of the data, the range is 1  $\sim$  32767.

Update Time: set the interval time record data. That is how often to record.

Record Flag: Set a variable, and use this variable to control start recording and stop recording.

Clear Flag: Set a variable to control the clearing of previously recorded data. For example, select M0 here, when M0 is turned on, clear the previously recorded data.

Clear [clear flag]: Check this option to clear the flag while disconnecting the clear flag. That is, when M0 is turned on, after clearing the previously recorded data, M0 is turned off.

Stop Count: Set to stop recording when recording to the set quantity.

When set to 0, this function is not used, that is, the data is always recorded.

Description: Provide supplementary explanation for this record, you can leave it blank.

Record Date/Time: Check this option to record the time when recording data when recording data.

Retentive: Check this option, the data will be saved when the HMI is powered on again.

### 2.4.11.1 Case of Record use

Click the software menu-> [Project]-> [Record...], Data record management dialog box as shown below pops up.



Click the [Add] icon, and in the pop-up New Data Record Definition dialog box, set each record as shown below:

Name:	NNNN	
Data type:	[16Bit] Signed	-
Source:	NO	>>
Data Length:	1	-
Record Count:	10 Range 1 32767	
Update Time:	1Sec	-
Record Flag:	N10.0	-
Clear Flag:	N10.1	
Stop Count:	Auto. stop as touch record     setting,No use this function	1
Description:		2
	<	>
Record Date/	Time	
Retentive		

After the setting is completed, click the [OK] button, and the data record management display is as shown below.

Add	喝 Edit	E Delete	1mport	export									
ecord	-												
In	Name	Dat	ta For	Source	Data Le	Record	Update	Record F	Clear Flag	Clear[Clr FG]	Stop set	Backup Addr.	Desc
0	NNNN	[16	5Bit]	NO	2	10	1.0Sec	N10.0	N10.1	Setting	0		

After the data is added, the data record can be used. When using [Element]-> [Display Element]-> [Historical Trend Graph], the [Historical Trend Graph] property screen as shown below.



Data Record:	[		•
Data type	NNNN	~	
Source Address:			
Data Length:			
Record Count:			Rang 1 32767
Update Time:	0.1Sec		
Record Flag:			
Clear Flag:	·	~	📕 Clear Flag aft. Clear Rec.
Stop Count:		*	Auto. stop when touch recode
Visibility:	, Г	-	setting , No use this function as
🔽 Record Date/	Time		

In the data record drop-down list, select the data to be recorded. In this example, select the NNNN data. After selection, the following figure is shown.

Data tyne	It cost caused		
Source Address:	[10Bit] Signed		
Data Length:	2	-	
Record Count:	10	~	Rang 1 32767
Update Time:	1Sec	v	
Record Flag:	N10.0	~	
Clear Flag:	N10.1	v	🔽 Clear Flag aft, Clear Rec.
Stop Count:	0	v	Auto, stop when touch recode
Visibility:	<u> </u>	-	

As set in this example, when the recording flag condition is reached, that is, when N10.0 = 1, the data of N0 and N1 will be displayed in a curve, and the record is shown in the figure below

-	1 : Initial Screen	×
N	0 ee 04	
N	J1 20	
100 90 80 70 60 50 40 30 20 10 0	Image: Sector	
NI	10 1	

When you need to delete the curve, set the value of the clear flag to 0, that is, N10.1 = 0. In this example, set N10.0 to 0, as shown in the following figure.



### 2.4.12 Data schedule

After clicking [Data Schedule] under the [Project] menu, the following dialog box will pop up. It can be used to implement the scheduling requirements for a fixed time or a specific time to perform control.



Data Sch	nedule						83
Add	😭 😭 🍢 🥵 Edit Delete Import Export						
Data So	chedule						_
Index	Arrange Time	Condition	Source	target o	Length	Desc	

**Add:** Click this button to pop up the new data schedule definition dialog box as shown in the figure below:



ndition								
Fix Time Se	t(M.\	N.D.H.M.S)						
Fix Time Se	t(M.\	<i>м</i> .н.м)						
C Use Time Para.	Set ()	AL H M)						
Use fille Pa	ala.(1	vv.n.m)						
January	11	Sunday		✓ 1 Day	~		O Hour	~
February		Monday		✓ 2 Day			✓ 1 Hour	
March		✓ Tuesday		✓ 3 Day			✓ 2 Hour	
<ul> <li>April</li> </ul>		Wednesday		✓ 4 Day			3 Hour	
May		Thursday		5 Day			4 Hour	
June July	8	Friday	&	6 Day		&	S Hour	
		Saturday		V / Day			7 Hour	
September				9 Day			8 Hour	
<ul> <li>October</li> </ul>				✓ 10 Day			9 Hour	
November				✓ 11 Day			☑ 10 Hour	
<ul> <li>December</li> </ul>				✓ 12 Day	¥		✓ 11 Hour	4
1in: 0	•	Non-CHK if Set (	50	Sec: 0		]	Non-CHK if S	Set 6
Ain: 0	•]	Non-CHK if Set (	50	Sec: 0		]	Non-CHK if S	Set 6
Ain: 0	•]	Non-CHK if Set ( 5Bit] Signed	50	Sec: 0		3	Non-CHK if S	Set 6
Ain: 0 ion =ormat: Condition:	[16	Non-CHK if Set ( 5Bit] Signed	50	Sec: 0		]	Non-CHK if S	Set 6
Ain: 0	[16]	Non-CHK if Set ( 5Bit] Signed 5Bit] Unsigned	50	Sec: 0			Non-CHK if S	Set 6
Ain: 0	[16]	Non-CHK if Set ( 5Bit] Signed 5Bit] Unsigned	50	Sec: 0		3	Non-CHK if S	Set 6
Ain: 0	• [10] [10]	Non-CHK if Set ( 5Bit] Signed 5Bit] Unsigned	50	Sec: 0			Non-CHK if S	Set 6
Ain: 0	[1e	Non-CHK if Set ( 5Bit] Signed 5Bit] Unsigned	50	Sec: 0			Non-CHK if S	Set 6
Ain: 0		Non-CHK if Set ( 5Bit] Signed 5Bit] Unsigned Write multiple da	50	Sec: 0			Non-CHK if S	Set 6
Min: 0		Non-CHK if Set ( 5Bit] Signed 5Bit] Unsigned Write multiple da	50	Sec: 0			Non-CHK if S	Set 6
Ain: 0		Non-CHK if Set ( 5Bit] Signed 5Bit] Unsigned Write multiple da	50	Sec: 0			Non-CHK if S	Set 6

Condition: Select the time condition of data scheduling, which can be set by four modes, which are explained separately below.

#### Use fixed time setting (month, week, day, hour, minute, second)

Check this option, the user can use the action to the nearest second to trigger. As shown in the above figure, the value of register D100 is passed to D101 at 0:20:37 on January 1 and August 4 of January and August. The setting method is shown in the figure above.

#### Use fixed time setting (month, week, hour, minute)

Check this option, the user can use the action trigger to the nearest minute or a period of time (to avoid the situation that the power is turned on after the set time point and the action is not completed), as shown in the picture, every Thursday in January When 0, transfer the value of register D100 to D101, the setting method is shown in the figure below. It should be noted that the

"minute" setting column needs to select all, so to avoid if only select 0 points, if the boot time is at 0: 1 or after, this action can still be completed.

ndition	t(M.W.D.H.M.S)		
Fix Time Se     Time Para.     Use Time P	(M.W.H.M) Set ara.(W.H.M)		
☐ January February March April ☑ May June July August September October November December	& Sunday Monday Tuesday Wednesday Friday Saturday &	♥ 0 Hour ↑ 1 Hour 2 Hour 3 Hour 4 Hour 5 Hour 6 Hour 7 Hour 8 Hour 9 Hour 10 Hour 11 Hour 12 Hour 13 Hour 14 Hour ♥	<ul> <li>✓ 0Min</li> <li>✓ 1Min</li> <li>✓ 2Min</li> <li>✓ 3Min</li> <li>✓ 4Min</li> <li>○ 5Min</li> <li>○ 6Min</li> <li>○ 7Min</li> <li>○ 8Min</li> <li>○ 9Min</li> <li>○ 10Min</li> <li>○ 11Min</li> <li>○ 12Min</li> <li>✓ 14Min</li> </ul>
<b>∦ X</b>	\$ X	≉ ×	* ×
Format:	[16Bit] Signed		-
Condition:	1		- C.,
Data Type:	[16Bit] Unsigned		-
Source:	D100		-
Destination:	D101		- »
Length:	1		-
	↓ Write multiple data at	once	
Description:			~

### Use time variable settings (month, week, day, hour, minute, second)

Check this option, the user can choose the controller by himself, use a continuous register (8 Words) as the time variable, this option can change the time condition at any time through the variable setting, as shown in the following figure:


ndition		
<ul> <li>Fix Time Se</li> <li>Fix Time Se</li> <li>Fix Time Para.</li> <li>Use Time F</li> </ul>	et(M.W.D.H.M.S) et(M.W.H.M) Seti Para.(W.H.M)	
Time Para.:		<b>_</b> (6)
	Use Word(16Bit) Addr. Error Resource String <8902> +0 Month,Bit0=Jan.,Bit11=Dec. +1 Week,Bit0=Sun.,Bit6=Sat. +2 Day,Bit0=1'day,Bit15=16'day +3 Day,Bit0=17'day,Bit14=31'day +4 Hour,Bit0=0hr,Bit15=15hr +5 Hour,Bit0=16hr,Bit7=23hr +6 Minute +7 Second	
tion Format:	[16Bit] Signed	•
tion Format: Condition:	[16Bit] Signed	- -
tion Format: Condition: Data Type:	[16Bit] Signed 1 [16Bit] Unsigned	- - -
tion Format: Condition: Data Type: Source:	[16Bit] Signed 1 [16Bit] Unsigned D100	- - - - - -
tion Format: Condition: Data Type: Source: Destination:	[16Bit] Signed 1 [16Bit] Unsigned D100 D101	- - - - - - - - - - 
tion Format: Condition: Data Type: Source: Destination: Length:	[16Bit] Signed 1 [16Bit] Unsigned D100 D101 1	· • • • • • •
ion Format: Condition: Data Type: Source: Destination: Length: Description:	[16Bit] Signed         [1         [16Bit] Unsigned         D100         D101         [1         Write multiple data at once	

## Use time variable setting (week, hour, minute)

Check this option, the user can select the controller by himself, and use a continuous register (3 Words) as the time variable. This option can change the time condition at any time through the setting of the variable, as shown in the following figure:



ndition		
C Fix Time S C Fix Time S C Time Para. C Use Time F	et(M.W.D.H.M.S) et(M.W.H.M) Set ara.(W.H.M)	
Time Para.:		<b>_</b> 18
	Use Word(16Bit) Addr. Error Resource String <8922> +0 Week,Bit0=Sun.,Bit6=Sat. +1 Hour +2 Minute	
tion		
tion Format:	[16Bit] Signed	<b>_</b>
tion Format: Condition:	[16Bit] Signed	
tion Format: Condition: Data Type:	[16Bit] Signed 1 [16Bit] Unsigned	• • •
tion Format: Condition: Data Type: Source:	[16Bit] Signed 1 [16Bit] Unsigned D100	
tion Format: Condition: Data Type: Source: Destination:	[16Bit] Signed       1       [16Bit] Unsigned       D100       D101	- - - - - - - - - - 
tion Format: Condition: Data Type: Source: Destination: Length:	[16Bit] Signed 1 [16Bit] Unsigned D100 D101 1	▼ ▼ ▼ ▼ ▼ ▼ ▼
tion Format: Condition: Data Type: Source: Destination: Length:	[16Bit] Signed         1         [16Bit] Unsigned         D100         D101         1         「         Write multiple data at once	· • • • • • • • • • •
tion Format: Condition: Data Type: Source: Destination: Length: Description:	[16Bit] Signed         1         [16Bit] Unsigned         D100         D101         1         "Write multiple data at once	- - - - - - - - - - - - - - - - - - -
tion Format: Condition: Data Type: Source: Destination: Length: Description:	[16Bit] Signed         [1         [16Bit] Unsigned         D100         D101         [1         "Write multiple data at once	▼ ▼ ▼ ▼ ▼ ▼ ▼

Edit: Click this button to re-edit the selected existing data schedule.Delete: Click this button to delete the selected existing data schedule.Import: Click this button to import the vdh file data stored in the computer into the HMI project.

**Export:** Click this button to export the data schedule in the HMI project to a computer and store it as a vdh file.

## 2.4.13 Recipe

After clicking [Recipe] under the [Project] menu, the following dialog box will pop up. Set the data recipe that the user needs to use. For detailed introduction and cases of specific recipe settings, please refer to Chapter 10 Recipe Management.

Recipe				8
Add	Edit Delet	te Import I	Export	
Recipe			Content	
Index	Name	De		

## 2.4.14 System Configuration

After clicking [System Configuration] under the [Project] menu, the following dialog box will pop up. Can set the screen control and power saving mode.

Jse Para. Switch Fram	e	
Control Address:		• 🕲
Para. is 16Bits Unsign		
Update Time:	1Sec	•
Manu Switch Frame:	Write 0	-

**Scene Control:** Set the variable, and control the automatic switching of the man-machine screen through the change of the variable data.

Control Address: select the variable address or label name to control the screen switching. The variable must be a 16-bit unsigned number.

Update Time: Set the update time of screen switching.

Manu Switch Frame: Set the variable value change after manual screen

switching, by "variable writing 0" and "variable writing switching screen ID (number)".

Power Down Mode: set whether the system uses power saving mode

Select Item	
🖵 Use Power Down Mode	

Use power saving mode: After checking this option, the items shown in the figure below can be set to set the time of power saving mode.

Select Item Use Power Down Mode Time of Power Down Mode	
✓ Use Power Down Mode Time of Power Down Mode	
Time of Power Down Mode	Transmission
	30Sec .
) Switch picture as enter p	oower down mode.

Switch screens when entering power saving mode: After checking this option, the settings shown in the figure below appear.

		cene Control Power Down Mode
-		Select Item
		🔽 Use Power Down Mode
-	30Sec 💌	Time of Power Down Mode
	ower down mode.	✓ Switch picture as enter performed as a sector performance.
•	•	Switch Picture
	play.	Set last priority after
	e as renew.	Jump to above pictur
•	play. re as renew.	Switch Picture Switch Picture Set last priority after Jump to above pictur

Screen switch: Select the screen to switch to when entering the power saving mode.

After the action, set to the lowest operation authority: After checking this option, when entering the power saving mode, the operation authority is set to the lowest.

When recovering, jump back to the previous screen: After checking this option, touch the screen in the power saving mode to jump back to the previous screen when the screen is switched.

#### 2.4.15 Macro

Click [Macro] under the [Project] menu, as shown in the figure below, you can select the macro to be set to write the macro. The preparation of specific macro instructions and case introduction, please refer to Chapters 11 and 12 for details.



Project HMI(M) Compone	nt
Screen	•
Communication	•
🥭 Tag	•
tanguage	•
Keyboard Define	
🕕 Alarm	
🗝 Password	
🕀 Sound	
🗠 Protection	
🖬 Data Sync	
🛃 Record	
🖹 Data Schedule	2 C
📲 Recipe	
🖳 System Configuration	
😵 Macro	INITIAL Macro
Report Manager	ACKGROUND Macro
Setup	CLOCK Macro
	Screen OPEN Macro
	Screen CLOSE Macro
	Screen CYCLE Macro
	Sub Macro

#### 2.4.16 Report Manager

This model does not have this function temporarily.

#### 2.4.17 Setup (Station ID / Model)

#### **Station ID**

Click [Setup]-> [Station ID] under the [Project] menu to open the station number setting dialog box as shown in the figure below. In general use, the man-machine interface can be master or slave. This product provides a total of 191 (0 ~ 190) groups of Master station numbers for users. Group) station number, you can set multiple display units to use in the same group.

Setup Station		Range [1 191]	
Group Setu	ıp		
Select All	Clear All		
Group ID	Name	Description	-
192	ID Group0	19 - 193 - 118 - 118 - 118 - 118 - 118 - 118 - 118 - 118 - 118 - 118 - 118 - 118 - 118 - 118 - 118 - 118 - 118	
193	ID Group1		
194	ID Group2		
-	ID Group3		
195			1000

#### Model

In general use, planning a human-machine interface solution is very time-consuming, so the engineer will choose to modify or apply the previously used solution. If you need to modify the model when using different models, click [Setup]-> [Model] under the [Project] menu to open the conversion model inquiry dialog box as shown in the figure below.

irasier type	~
After trasfer type, can	't recover,Save?

Selecting the [Yes] button will save the unconverted project, and selecting [No] will not save anything, and a dialog box for modifying the model, number and other information as shown in the figure below will pop up directly.

Title:	Undefined	
Model:	ТК6070FH	•
	7" Color TFT LCD,65535 Colors, 800*480 pixels, COM1&COM2(RS232/RS422/RS485),RTC.	
Direction:	Horizontal	•
Description:		*
		+

After inputting the project title, model number and display direction of the new project, click the [OK] button to pop up the dialog box as shown in the figure below. You can click the corresponding button to replace the project as required.

Trasfer Ty	pe			×
4	Frame Size deffer Cancel Trasfer.	r,[Y] Auto. dir	nmention,[N] A	rea limit, [Esc]
		Yes	No	Cancel

## 2.5 HMI

Use the mouse to directly click [HMI], or use the keyboard to press [ALT] + [M], the drop-down menu of [HMI] will appear, as shown in Figure 2-5.1. In order to facilitate users to quickly select, shortcut icons are also provided in the toolbar, as shown in Figure 2-5.2.



HMI(M) Component Tool Window	w Help
🖉 Syntax Check F8	1 - 1 1 1 1 0 o <sup>i</sup>   6 F
On-Line RunF9Free Off-Line RunShift+F9StopCtrl+F9	
Download to HMI Ctrl+Alt+S	
Setup 🕨	Communication Setup



(1) (2) (3) (4) (5)

38	
	2-5.2
(1)	Syntax Check
(2)	On-Line Run
(3)	Off-Line Run
(4)	Stop
(5)	Download to HMI

#### 2.5.1 Syntax Check

Click [HMI] menu bar [Syntax Check] or directly press the shortcut key [F8] or directly click the toolbar icon 2. When running [Syntax Check], check whether the variable names or settings are correct during the compilation of each screen in the project, and provide error information in the [Grammar CHK], so that we can eliminate the error information. In addition, the [Syntax CHK Mes.] dialog box will pop up, displaying information such as memory usage, data type ratio, memory font data, etc., for the user to refer to when editing. As shown below:



mView : [C:\Users\EN\Desktop\0527.vxf]		- 🗆 X
File Edit View Project HMI(M) Component Tool Window	felp	
🗅 🗳 • 🖬    ぬ • ペ •   糸 凾 🛍    与 • 臣 • 臣 •	B +   所 收   6 □ F	
/∰   <b>&amp;  &amp;  @                             </b>	• 🕏 • 🛷 • 🐹 • 🔚 🕕 🛥 🌾 🖳 🚓 🔗 😤 ն 🖳 📎 • 🗒	
Graphic Component   Static Component   Button Display   Edit		
	🞗 🗠 🖄 🌉 🐂 🐏 🏘 🗛 🎶	
0 0 2 8 4 5 6 7 8 9 English (United State	(5)	
Scene Management	🛃 2 : Size Type [100%]	83
월 월 월 <b>5 월 7 9 9 8 8</b>	Grammar CHK Mes.	
E- TK6070FH	N N N6 ####	
E-F Init Scene Group	Error: 0 Warning: 16 Hint: 0	
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
3 : Scene1	N Time: 10Sec ## N7 ####	
System default group	Program Caj 65512 Bytes/16252928 Bytes	
- 65001 : String input dialogue box		11111
65002 : Password input dialogue box	Memery Rate: 0%	
65004 : Password accurately message	Type:	
	7 Scene Font Picture	
Preview : 25%	Therapattern Data	
140 oct 12 oct 141 oct 15 oct	Font Capacity(Byte)	
	3 77777(P) [9] 2812	
	MS Sans Serif [16] 5024	
	1 MS Sans Senf [8] 2400 Tahoma [14] 5940	
······		
Pascroop Palink & Tag	{NU,UBIX}	×
AL STEEL		
Warning] 1 : Scene0 ( SW Button ) Read Address undefined!		^
[Warning] 2 : Size Type ( Track Bar ) Read Address undefined!		
[Warning] 2 : Size Type ( Track Bar ) Write Address undefined!		
[Warning] 2 : Size Type ( Scroll Bar ) Read Address undefined!		
[Warning] 2 : Size Type ( List Box ) Read Address undefined!		
[Warning] 2 : Size Type ( List Box ) Write Address undefined!		
[Warning] 2 : Size Type (List Box ) Read Address undefined!		
Grammer CHK		*
Grid Span Align Cursor + 37.82		

#### 2.5.2 On-Line Run

Click [HMI] menu bar [On-Line Run] or directly press the shortcut key [F9]

or directly click the toolbar icon. Execution of this function requires actual

connection with the controller, and during execution, the project will modify the corresponding variable register set by the controller to verify whether the set controller action can be performed normally.

Before [On-Line Run], you need to set the communication, click [HMI] menu bar [Setup]-> [Communication Setup], the communication port setting in the upload / download page refers to the use of the designated PC Which port of the terminal is connected to the display unit. The communication port setting in the emulation communication setting page refers to the communication port on the display unit. Screenshots of the two pages are shown below.



OM Port Connect C Fix B C Auto	Set tion Device: COM1 aud Rate(115200,N,8,1)		•	Upload/Download COM Port Set COM1: COM2:	Simulate COM Set	( <del>-</del>
Order	Setting	Connect				
	115200,None,8 Bits,1 Bit	0				
1	9600,None,7 Bits,1 Bit	0				
2	9600, Even, 7 Bits, 1 Bit	0				
☑ 3	9600,Odd,7 Bits,1 Bit	0				
4	9600, Mask, 7 Bits, 1 Bit	0				
and the second s	9600 Space 7 Bits 1 Bit	0	-			

## 2.5.3 Off-Line Run

Click [HMI] menu bar [off-Line Run] or directly press the shortcut key [shift

+ F9] or directly click the toolbar icon k. When using this function, there is no

need to connect with the actual man-machine interface, so that the customer can use it to check whether the project can be executed normally and verify whether each function is correct.

## 2.5.4 Stop

When [Offline Execution] is not executed, this option is grayed out and cannot be selected. This option is highlighted when the offline execution of the computer needs to be ended. You can click [HMI] menu bar [Stop] or directly press the shortcut key [Ctrl + F9] or click the toolbar icon directly. Stop the execution of offline.

#### 2.5.5 Download to HMI

Before downloading the project to the HMI, you need to set up the communication settings first. Here you can refer to the communication settings in 2.5.2 online execution.

After the project is completed, you need to download the project to the HMI. You can click the [HMI] menu bar [Download to HMI] or directly press the shortcut key [Ctrl + Alt + S] or directly click the toolbar icon<sup>1</sup>/<sub>10</sub>. The dialog box shown below is displayed.

Download	;
Download Time: Download Data 68900 Byt	es. Need 11 Sec.
✓ Turbo Download(Valid     COM Port Set: COM3 - (I	aft. OS v1.21, RS485 non-valid) JSB Serial Device)
Option Init Register Update Password Clear Retentive Reg.	☐ Init Station ID Group ☞ Update RTC
V Download	🗙 Cancel 🛛 🛱 Setup

Turbo Download: After checking, the download speed is faster.

Com Port Set: Here, select the PC port where the host PC and HMI are connected.

Init Register: After checking, the buffer is initialized when downloading.

Update Password: After checking, the password table will be updated when downloading.

Clear Retentive Reg.: After checking, the data in the power-off retention buffer will be cleared when downloading..

Init Station ID Group: After checking, the station number group setting will be updated when downloading.

Update RTC: After checking, set the HMI time to be the same as the computer time when downloading.

[Download]: Click the download button to download the program to the HMI.

[Cancel]: Click the Cancel button to cancel the download of the program.

[Setup]: Click the setting button, a communication setting dialog box pops up to set upload / download and COM port.

## 2.5.6 Save To File

In addition to downloading the created program directly to the HMI, the software also provides a specific project to save the user-made program as a suffix (.vho) for users to download the program.

Note: if unchecked the menu bar [View]->[Option...]->[File]->[Add Decompiled Information], then this file of(.vho) can only be downloaded, and the program cannot be modified.

Click the [HMI] menu bar [Save project to file], a dialog box will pop up shown as below. Click the [Save] button to save the project as a HMI specific file with the extension (.vho). Click the [Cancel] button.

Save As							×
Save in:	English Cas	e	•	🗢 🗈 츰 📰 🔻			
Quick access	Name	^	No it	Date modified ems match your search.	Туре		Size
Desktop							
Libraries							
This PC							
Network							
	File name:	0527				•	Save
	Save as type:	mView HMI Object File	(*.vho)			•	Cancel

If you need to download this program to the HMI in the future, you can click the [Download HMI program ...] under the [Tools] menu to select the desired file with the suffix (.vho) to download to the HMI Interface.

## 2.5.7 Setup

Click [Setup]-> [Communication Setup] under the menu bar of [HMI], and a dialog box as shown below will pop up.

					,	
load/Dow	nload   Simulate COM Set			Upload/Download	Simulate COM Set	
COM Port	Set			COM Port Set		
Connect	ion Device: COM1		-	COM1:	COM1	-
	aud Rate(115200 N 8 1)			COM2	COND	
C L L	au Nace(113200,N,0,1)			COM2.	ICOM2	Ľ
(• Auto	. Baud Rate					
Order	Setting	Connect	•			
510	115200,None,8 Bits,1 Bit	0				
0		0				
✓ 0	9600,None,7 Bits,1 Bit	0				
♥ 0 ♥ 1 ♥ 2	9600,None,7 Bits,1 Bit 9600,Even,7 Bits,1 Bit	0				
♥ 0 ♥ 1 ♥ 2 ♥ 3	9600,None,7 Bits,1 Bit 9600,Even,7 Bits,1 Bit 9600,Odd,7 Bits,1 Bit	0				
♥ 0 ♥ 1 ♥ 2 ♥ 3 ■ 4	9600,None,7 Bits,1 Bit 9600,Even,7 Bits,1 Bit 9600,Odd,7 Bits,1 Bit 9600,Mask,7 Bits,1 Bit	0 0 0				
♥ 0 ♥ 1 ♥ 2 ♥ 3 ■ 4 □ 5	9600,None,7 Bits,1 Bit 9600,Even,7 Bits,1 Bit 9600,Odd,7 Bits,1 Bit 9600,Mask,7 Bits,1 Bit 9600,Space.7 Bits,1 Bit	0 0 0 0	•			
♥ 0 ♥ 1 ♥ 2 ♥ 3 ■ 4 ■ 5	9600,None,7 Bits,1 Bit 9600,Even,7 Bits,1 Bit 9600,Odd,7 Bits,1 Bit 9600,Mask,7 Bits,1 Bit 9600.Space.7 Bits,1 Bit	0 0 0 0	<b>•</b>			
♥ 0 ♥ 1 ♥ 2 ♥ 3 □ 4 □ 5	9600,None,7 Bits,1 Bit 9600,Even,7 Bits,1 Bit 9600,Odd,7 Bits,1 Bit 9600,Mask,7 Bits,1 Bit 9600.Snace.7 Bits,1 Bit		·		<b>/</b>	

## Upload/Download

Connection Device: Set the COM port of the computer that the display unit is connected to.

Fixed Baud Rate (115200, N, 8,1): Select this option to use only this communication rate to communicate with the PLC.

Auto. Baud Rate: Select this option, you can select multiple speeds. When

the HMI communicates with PLC, you can use the selected speed for communication.

## Simulate COM Set

COM1: Select the COM port on the computer.

COM2: Select the COM port on the computer.

After the simulation communication setting is completed, select [HMI (M)]-> [Online Simulation] to enable the PC to communicate with the controller as an HMI, so that the user can check whether the set function has achieved the desired effect.

After the COM1 / COM2 settings on this page is completed, the communication tap in the software is shown as below.



## 2.6 Component

Click [Component], or press [ALT] + [C], the [HMI] drop-down menu appears, as shown in Figure 2-6.1. In order to facilitate users to quickly select, shortcut icons are also provided on the toolbar, as shown in Figure 2-6.2.







2-6.2

For the use of each component, refer to Chapter 3 [Component] for details.

## 2.7 Tool

Click [Tool], or press [ALT] + [T], then the [Tool] drop-down menu will appear, as shown in figure 2-7.1.



## 2.7.1 Download HMI...

Click the [Download HMI program ...] option under the [Tool] menu bar, and the dialog box shown below will pop up. The purpose is to download the saved file with the suffix name (.vho) from the HMI. The file is for download only and cannot be modified.

Create a (.vho) file, click the [Save Project to File ...] option under the [HMI] menu bar, and the current project will be saved as a (.vho) file to the user-specified location.

Ref Open					×
Look in:	English Case	•	← 🗈 📸 🕶		
4	Name	^	Date modified	Туре	Size
Quick access	0527.vho		6/3/2020 11:52 AM	VHO File	60 KB
Desktop					
-					
Libraries					
This PC					
- <b>1</b>					
Network					
		[			
	File name:	0527			Open
	Files of type:	mView HMI Object File (*.vho)	X4. 20		Cancel

After selecting the (.vho) file to be downloaded, select and click the [Open] button. The following download dialog box pops up. After selecting the correct port number, click the [Download] button.

Download	×
Download Time: Download Data 69284 Byte	s, Need 11 Sec.
Turbo Download(Valid at COM Port Set: COM3 - (US	ft. OS v1.21, RS485 non-valid) SB Serial Device) -
Init Register     Update Password     Clear Retentive Reg.	☐ Init Station ID Group ☑ Update RTC
V Download	🗙 Cancel 🛛 🦈 Setup

The project download process is shown below.

Download	×
Model : TK6070FH [OS Ver:1.38] Download Time:2Sec Download 26880 Bytes	i
	1
✓ Turbo Download(Valid aft, OS v1.21, RS485 non-valid)	
COM Port Set: COM3 - (USB Serial Device)	*
Option	
<ul> <li>☐ Init Register</li> <li>☐ Update Password</li> <li>☐ Clear Retentive Reg.</li> <li>☐ Dit Station ID Group</li> <li>☑ Update RTC</li> </ul>	
🖉 Download 🗙 Cancel 🖷 Setup	

After the download is complete, click the [Finish] button to complete the download process.

Download	×
Model : TK6070FH [OS Ver:1.3 Download Time:6Sec Finish	8]
☑ Turbo Download(Valid aff. C	S v1 21. RS485 non-valid)
COM Port Set: COM3 - (USB S	erial Device)
Option	
<ul> <li>☐ Init Register</li> <li>☐ Update Password</li> <li>☐ Clear Retentive Reg.</li> </ul>	Init Station ID Group ✓ Update RTC
<b>Finish</b>	Cancel 🦉 Setup

## 2.7.2 Upload HMI...

Use this function to read the project in the HMI to the PC and save it as HMI project for modification and subsequent download. Click the [Upload HMI Program ...] option under the [Tool] menu bar, a dialog box as shown in the figure below pops up. After selecting the correct communication port, click the [Upload] button.

Upload from HMI	×
Upload Time:	
COM Port Set: COM3 - (USB Serial Device)	<b>_</b>
Vpload X Cancel 🦉	Setup

After selecting and clicking the [Upload] button, if an upload password is set in the program, the following password input screen will pop up:

1
(Max.14 Char

Input password and click [Confirm], an upload picture will be shown as below.

Upload from HMI	×
Upload Time:20Sec Upload 22272 Bytes	
COM Port Set: COM3 - (USB Serial Device)	-
🖉 Upload 🛛 🗶 Cancel 🖉 S	etup

After the transfer is completed, the user will be asked to save the project as a dedicated project with the suffix (.vho), as shown in the figure below.

Save As					×
Save in:	English Case	•	🗢 🗈 💣 📰 🔻		
Quick access	Name D 0527.vho	^	Date modified 6/3/2020 11:52 AM	Type VHO File	Size 60 KB
Desktop Libraries This PC					
Network					
	File name:				Save
	Save as type:	mView HMI Object File (*.vho)		•	Cancel

Select the path to save the (.vho) and click the [Save] button to save the file that read from the HMI. Click the [Finish] button in the upload program dialog box below, and the HMI reads the program is finished.

Upload from HMI			×
Upload Time:1:1 Finish			
COM Port Set: COM3	<mark>- (</mark> USB Serial Devi	ce)	Ŧ
✓ Finish	🕺 Cancel	🗢 Setup	

## 2.7.3 Update HMI OS...

For this software, if the new mView software version is released, it will be matched with the corresponding version of the OS. The role of the OS is to the software compatible with the lower computer. If users need to use the functions provided by the new software version, they need to use the new version of the OS. The download steps of the HMI OS are as follows.

1. Click [Update HMI OS ...] in the [Tool] menu bar, shown as below.

File	Edit	View	Project	HMI(M)	Compo	nent To	ol W	indow	Help			
	B.		( m = 1	× →   %			Down	nload H ad HMI	MI		Hi.	<b>H</b>
Gr	-080-	ompone	nt Static	Component	I Button	Displa	Upda	ite HMI	OS		0	•
		123	ABCI AO				Lang	uage Se	lect	•	MA	

2. In the pop-up dialog box, select the OS version to update, as shown in the figure below. It is recommended to update as the software version of the host computer used.

Look in	: mView 1.38	3.02	• 🖬 📩 🖬 •		
uick access	Name 1028 1033 2052 model	^	Date modified 6/2/2020 5:17 PM 6/2/2020 5:17 PM 6/2/2020 5:17 PM 6/2/2020 5:17 PM 6/2/2020 5:17 PM	Type File folder File folder File folder File folder File folder	Size
Libraries	repository res runtime usb driver		6/2/2020 5:17 PM 6/2/2020 5:17 PM 6/2/2020 5:17 PM 6/2/2020 5:17 PM	File folder File folder File folder File folder	
This PC	VxOS1380	2.vos	6/1/2020 4:46 PM	VOS File	703 KI
	File name:	VxOS13802			Open
	Files of tupe:	m\/iour OS Filo (* hin:* voo)			. Cance

3. After selecting the OS file, click the [Open] button, the following dialog box pops up, click the [Update] button to start updating the OS system.

Update OS	×
Download Time:	
COM Port Set: COM3 - (Prolific USB-to-Serial Comm Port)	-



4. The update process is shown as below.

Update OS	×
Download Time:10Sec Download 40704 Bytes	
COM Port Set: COM3 - (USB Serial Devic	ce) 🔽
Download Cancel	🛱 Setup

5. After the update is completed, you need to power on the display unit again, the following prompt box pops up, click [OK].

Update OS		×
<u> </u>	Update OS Finish!Turn off HMI, and turn on.	
	ОК	

#### 2.7.4 Language Selection

There are three editing software languages available, [Chinese (Traditional)], [English], [Chinese (Simplified)]. The software for each language is shown below.

## [Chinese (Traditional)]

mView : [C:\Users\EN\Desktop\0527.vxf]
檔案(F) 編輯(E) 檢視(V) 專案(P) HMI(M) 元件(C) 工具(T) 視窗(W) 輔助(H)
□ ☞ - ■   い - マ -   ※ 鴫 ■    ≒ - 臣 - 臣 - 国 -   ᅚ 喩   も 다   も 두
ﷺ   ♣ ♣ ◎   늘 ‱   = ▼ ∯ ☴ ▼ @ Q   ┣ ▼ ☜ ▼ / → ∅ = 월 ↔ ∅ ∈ ⊑ ఊ ◙ 역 ≌ 별 ♡ ▼
繪圖元件   靜態元件   按鈕元件   編輯元件
💫 🕒 🖾 📾 🗩 💿 📾 🖛 🖶 🖻 🖾 📾 🎭 🌍 🎭 🖄 🍇 😫 🏰 松 🛧 🤻
0 1 2 3 4 5 6 7 8 9 English (United States)

## [English]

mView : [C:\Users\EN\Desktop\0527.vxf]
File Edit View Project HMI(M) Component Tool Window Help
□♀▼■   りょうす   ※ ■ ■   ≒ + 臣 + 国 + ■ +   鷲 章   もら   日 中
渡 👃 🔹 🐚 🐚 👘 🔹 🕾 マ 🍳 🦉 🔓 マ 🦁 マ 🤴 マ 🧳 マ 🧱 マ 🚔 🕒 🖷 😌 マ 🦉
Graphic Component   Static Component   Button   Display   Edit
💫 🕘 🖾 📾 🖲 O 📾 🚥 🖶 🖹 📉 📾 晃 🔊 🗫 🖄 🕵 🕵 😫 🀏 🔶 🖑
0 1 2 3 4 5 6 7 8 9 English (United States)
Link Management

## [Chinese (Simplified)]

	mView: [C:\Users\Administrator\Desktop\增加图片控件.vxf]
文件(F) 编辑(E) 查看(V) 项目(P) HMI(M) 元件(C) 工具(T) 窗口(W)	辅助(H)
🗅 🚔 ▼ 🖬   ∽ ▼ ⇔ ▼   Ӽ 🗈 🛍    ≒ ▼ 🔠 ▼ 🕀 ▼ 📭 ▼	- 11 14 19 of 18 Fr
│ ﷺ │ ♣ ♣ ◎ │ 늘 늘 │ ः च ▾ ⊮ ☵ ▾ @, Q, │ ╊ ▾ ☜ ੶	▼ ∥ ▼ 🗱 ▼ 🔚 🕒 🛥 🅀 🖷 🚑 🛱 🚰 🖀 🖳 💱 ▼ 🗒
绘图元件   静态元件   按钮元件   显示元件   编辑元件	and the second
📘 🕞   123 186 199 (5) 📾   🚥 🖶 🖻   📉   📾 🌄 🌒 🎭 🖄	🖄 🔜 🐏 🐏 🐢 🗛 🖑
0 1 2 3 4 5 6 7 8 9 中文(简体, 中国)	▼
	2 : 画面0 [100%]

## 2.8 Window

Click [Window], or press [ALT] + [W], the drop-down menu of [Window] appears, as shown in Figure 2-8.1.

Tile Edit View Project HMI(M) Component Tool Window Help	
□       □	15 d <sup>i</sup> 13 F; ▓ ▼   <b>```` 19 ~ 4</b> (€ ⊑ 63 <b>2 °</b> , 18 @ [ ]
Graphic Component   Static Component   Button Display   Edit	

#### 2-8.1

When you need to use multiple screens in a project, in order to facilitate viewing and editing, you can select this way to edit the screen, as shown in the following figure, you can choose [Cascade], [Tile Horizontal], and [Tile Vertical].

## [Cascade]



## [Tile Horizontal]



## [Tile Vertical]

mView : [C:\Users\EN\Desktop\0527.vxf]			
File Edit View Project HMI(M) Component Too	l Window Help		
	□··图··■· 翼靴 日□· 日F		
] ﷺ   ♣ ♣ @   ॑ <b>॑ │</b> 🖬 🛛   🖾 ▼ 🕙 🛣 ▼ 🧐	Q, Q,    🖆 + 🏷 + 🥢 + 🎎 +   🖮 🕕 🛥 🅀 🖙 斗	🔗 😤 🖻 🖳 🤍 🕶 🛄	
Graphic Component   Static Component   Button Display	Edit		
	📾 😾 🚳 🎭 🗠 🖄 🔜 💁 🐏 🀏 🚸 🛷 🛷		
	h (United States)		
Scene Management	📑 3 : Scene1 [50%]	pe [50%]	p [50%]
Image: Second		1/2     use     1/4     use       1/3     tree     1/5     use       1/3     tree     1/7     tree       1/4     tree     1/7     tree       1/4     tree     1/7     tree	=
65103 : password edit 65104 : Communication 65105 : Adjust screen			

## 2.9 Help

Click [Help], or press [ALT] + [H], the [Help] drop-down menu appears, as shown in Figure 2-9.1.



2-9.1

Click [mView Help],pop up the user manual of this software. Users can find related contents.

Click [About...], the software version will appear, as shown in the figure below. Please pay attention to whether it is the latest version. If you have any questions, please contact us.



## **Chapter 3 mView Component Function Description**

The components provided by this software are divided into the following five categories:

- 1. [Graphic].
- 2. [Static].
- 3. [Button].
- 4. [Display].
- 5. [Edit].

## 3.1 Graphic

To use a graphic component, you can click [Graphic] under the [Component] menu bar, and the drop-down options appear, as shown in the following figure 3.1-1, or you can directly click this option on the shortcut bar of the tool, as shown in the following figure 3.1-2 Shown



3.1-2

Select the component you need. Click the component and press the right mouse button to select the object properties, or double-click the mouse directly on the component to be edited, the component property settings appear. The [Point] and [Line] property window are shown as below:

Style	: 03				•
Color	:				<b>•</b>
ositio	n				
X:	141	6	Y:	101	16
w:	8		Н:	8	

en			
Style:			
Color			
	,		
ositio	1		
ositioi X1:	456	¥1: 152	

**Style:** The display of point or line is available.

**Color:** Modify the color of the component.

**Position:** X1 / Y1 represents the leftmost point of [Line], X2 / Y2 represents the rightmost point of [Line].

**X**: Modify the coordinates of X so that the component X coordinates move to the modified X coordinates.

**Y:** Modify the coordinates of Y so that the component Y coordinates move to the modified Y coordinates.

The properties of other components are the same. There is an example here.

en Style		 Brush Style:	
Color	:		
ositio	n	 Y: 80	
X:	1512	 A	

#### Pen:

Style: Select the style of the ellipse frame.

Color: Select the color of the ellipse frame.

## Brush:

Style: display and set the style of ellipse inner frame.

## Position:

X: Enter the X coordinate position of the ellipse element.

Y: Enter the Y coordinate position of the ellipse element.

W: Enter the width of the ellipse element.

H: Enter the height of the elliptical element.

## 3.1.1 Brush Settings

The previous section introduces brushes. This section explains the brush setting steps and details.

Click the preview image in the Brush Style, there will pop up the variable brush dialog box shown as below.

Variable Brush				×
Brush Brush Style:		Brush Effect:	Normal	-
□ Variable Bru	sh			
	🗸 ок	X Cancel		

Brush Effect: Select normal or flash effect in the drop-down list.

Click the preview of the brush style, and the brush selection dialog box will pop up.

Select Brush Patten   Gradual	<b>X</b>
	Foreground Color:
OK X Cancel	di.

Pattern: Select the brush pattern to be displayed.

Foreground Color: set the brush pattern color.

**Background color:** Check the background color to display the background, otherwise there is no background color. Set the background color of the brush pattern.

**[OK]:** After setting, click [OK] to save the settings.

[Cancel]: Click [Cancel] to not save the selected settings.

**Variable Brush:** Check this option to set the parameters that control brush changes. The dialog box is shown below.

riable Brush		
Brush Style:	Brush Eff	ect: Normal 💽
Data Format: Condition:	[16Bit] Signed	<b>.</b>
Add Delete Copy	Condition:	<=
Condition	Condition:	D3 💌 📾
=== D1	Pen Style:	11 -
1111 = D3</td <td>Pen Color:</td> <td></td>	Pen Color:	
	Brush Style:	
	Brush Effect:	Normal

**Data Format:** Select the type of variable that controls the brush change. **Condition:** Set specific variables.

**Condition:** Set the conditions of the brush changes, providing a total of six conditions to choose from: equal to, not equal to, greater than, equal to, less than, less than or equal to.

**Condition:** Set the contrast variable. As shown in the figure above, set D0 to display different brushes when compared with D1 / D2 / D3.

**Pen Style:** Select the style of the brush frame.

Pen Color: Select the color of the brush frame.

Brush Style: Select the pattern displayed by the brush.

Brush Effect: Select normal of flash effect.

**[OK]:** After setting, click [OK] to save the settings.

[Cancel]: Click [Cancel] to not save the selected settings.

## **3.2 Static Component**

Click [Static] under the [Component] menu bar, and the drop-down option for the static component appears, as shown in the following figure 3.2-1, or you can directly click this option on the tool shortcut bar, as shown in the following figure 3.2-2 Shown









3.2-2

## 3.2.1 Static Bevel/ Text

After selecting the component to the editing area, right-click the mouse to select [properties], or double-click directly on the component to be edited, the properties of the component will appear, the static bevel and text property dialog boxes are shown in the figures below.

L CONTRACTOR					
Bevel			Brush		
	Selec	t	Style:		
Label	Out Color				
Laber	Out color:	<b>_</b>			
	In Color:	-			
Position					
X:	209	Y:	105		
W:	240	H:	72		
	1		1.=		
	- /	ок 🛛 🗙 с	ancel		
		ок 🔀 с	ancel		
	_	ок 🗙 с	ancel		×
el Text	_	ок 🛛 🗙 с	ancel		×
el Text		ок 🗙 с	ancel		×
el Text		• ок 🛛 🗙 с	ancel		×
el Text   ext Language:	English (United States)	ок 🛛 🗶 с	ancel	<u> </u>	×
el Text   ext Language: Color:	English (United States)	ок <b>х</b> с	rd Wrap	<u> </u>	×
el Text   ext Language: Color: Align:	English (United States)	ок <b>х</b> с	rd Wrap	<u> </u>	×
el Text   ext Language: Color: Align: Effect:	English (United States)	ок Х с	rd Wrap	<b>_</b>	×
el Text ext Language: Color: Align: Effect: Flash:	English (United States) Center Normal Normal	ОК ХС ) ↓ Г ₩0 ↓ ↓	rd Wrap	<u> </u>	×
el Text   ext Language: Color: Align: Effect: Flash: Font:	English (United States) Center Normal Normal Tahoma [9]	ок Х с	rd Wrap	Font	×
el Text ext Language: Color: Align: Effect: Flash: Font: Text:	English (United States) Center Normal Normal Tahoma [9] Label	ОК ХС ) 	rd Wrap	Font	×
el Text   ext Language: Color: Align: Effect: Flash: Font: Text:	English (United States) Center Normal Normal Tahoma [9] Label	ок Х с	rd Wrap	Font	×
el Text ext Language: Color: Align: Effect: Flash: Font: Text:	English (United States) Center Normal Normal Tahoma [9] Label	ок Х с	rd Wrap	Font	×
el Text ext Language: Color: Align: Effect: Flash: Font: Text:	English (United States) Center Normal Normal Tahoma [9] Label	ОК Х С	rd Wrap	Font	×
el Text ext Language: Color: Align: Effect: Flash: Font: Text:	English (United States) Center Normal Tahoma [9] Label	ОК Х С	rd Wrap	Font	×
el Text ext Language: Color: Align: Effect: Flash: Font: Text:	English (United States) Center Normal Normal Tahoma [9] Label	ОК Х С	rd Wrap	Font	×
el Text ext Language: Color: Align: Effect: Flash: Font: Text:	English (United States) Center Normal Normal Tahoma [9] Label	ОК Х С	rd Wrap	Font	×

## Bevel

Select: Select the bevel style of the component, click [Select] to pop up the

#### box as shown below.

Bevel				X
Rectangle of System				
Label	Label	Label	Label	•
No Frame	3D-tiny	3D-Mean	3D-Thickness	
Label	Label	Label	Label	
Framel-Tiny	Framel-Mean	Framel-Thickness	Framel-Fat	
Label	Label	Label	Label	
3D_Angle-Tiny	3D_Angle-Mean	3D_Angle-Thickness	Framell-Tiny	-
	🗸 ок	Cancel		

Out color: select the color of the frame of the component.

In color: select the inner frame color of the component.

## Brush

Style: Select the brush style of the component, refer to 3.1.1 for details. **Position** 

X: Set the X coordinate position of the element.

Y: Set the Y coordinate position of the element.

W: Set the width of the element.

H: Set the height of the element.

## Text

Language: Select the language to be used by the component.

Color: Select the text color of the component.

Word Wrap: Check this option. When the length is insufficient, the text will automatically wrap. Otherwise, no line feed processing will be performed.

Align: Select the text alignment position of this component.

Effect: Select whether the text is displayed as normal or move.

Flash: Select whether the text is displayed normally or blinked.

Font: Select the font of the text. A dialog box for selecting specific font properties is displayed as shown in the figure below.

Text: Enter the text to be displayed. This component supports the display function of the embedded numeric value of the character string. For detailed

settings, please refer to Appendix 6 for the display function of the embedded numerical value of the character string.

ont:		Font style:	_	Size:	
Tahoma		Regular		9	OK
Tahoma TeamViewer15 Cerminal Fimes New Roman Traditional Arabic	•	Regular Bold Oblique Bold Oblique	• • • • • • • • • • • • • • • • • • •	9 10 11 12 14 16 18	Cancel
Effects Strikeout Underline		Sample AaBb Yy	γZz		
Custom	3	Script:			

Font: Select the font style of the text.

Font style: Select the font style of the text.

Size: Select the font size of the text.

Effect-Strikeout: Select whether the text needs to be displayed with strikeout.

Effect-Underline: Select whether the text needs to be underlined.

Effect-Color: Select the color of the text display.

Sample: Display the effect of the selected text style.

Script: Select the language range when entering characters.

## 3.2.2 Scale

The property dialog box of the scale component is shown in the figure below. Since the [Bevel] setting is the same as that in Section 3.2.1, there is not much to repeat here, please refer to the [Bevel] setting in Section 3.2.1.

Scale				Pen		
Position:	Left		•	Style:	11	•
Master Count:	5		•	Color		
Slave Count:	2			colori	-	
✓ Scale	1		<u> </u>			
Axis						
Option				i -L		
🔽 Display Mark	s			Color:		-
Max:	100	•	63	Decimal Po	s.:0	•
Min:	0	•	63	Display uni	t:	
Font:	Tahoma [8]					

#### Scale

Position: Select the scale direction.

Master Count: select the main scale number, including the top and bottom scale.

Slave Count: select the minor scale number, the small scale in the main scale.

Scale: Check "scale", the scale will be displayed when editing the screen, and it will not be displayed if it is not checked.

Axis: Check "axis", the coordinate axis will be displayed under the scale of the editing screen, and if it is not checked, it will not be displayed.

#### Pen

Style: Select the scale style.

Color: Select the color of the scale style.

#### Option

Display Marks: Check the display marks, and the scale will display the value of the large scale, subject to the maximum and minimum settings.

Max: Set the maximum value on the scale.

Min: Set the minimum value on the scale.

Color: Set the display color.

Decimal Pos .: Set the number of decimals in the display mark.

Suffix: Set the display unit of the display mark, which can be left blank.

Font: Set the font of the display mark. For detailed settings, please refer to the font setting in 3.2.1.

## 3.2.3 Table

The property dialog box of the table component is shown below. Since the [Bevel] is the same as that in Section 3.2.1, there is not much to repeat here, please refer to the [Bevel] setting in Section 3.2.1

able			Pen		~ 10
Row Count:	5	•	Style:	11	•
Column Count:	5	•	Color:		-
Separator Line					

#### Table

Row Count: Select the number of lines in the horizontal grid.

Column Count: Select the number of lines in the vertical grid.

Separator Line: Check the separator line, a diagonal line will be generated in the upper left corner of the field, as shown in the blue circled part below.



#### Pen

Style: Select the line style of the table component. Color: Select the line color of table components.

## 3.2.4 Picture

The property dialog box of the picture component is shown below. Since the [Bevel] setting is the same as that in Section 3.2.1, there is not much to repeat here, please refer to the [Bevel] setting in Section 3.2.1.

nage/ Ficture	Load
	Clear
Coolmay	Offset X: 0
PLC & HMI	Option Stretch Transparent
All-In-One	Transparent Color:

## Image / Picture

Display the display effect after loading the graphics.

Load: Click this button to pop up the dialog box, select the graphic or animation pattern to be loaded.

Available formats: png, gif, jpg, jpeg, bmp, ico, emf, wmf.

Clear: Click this button to clear the previously selected graphic.

## Offset

X: Use the center point of the picture element as the base point to shift left and right in the X direction.

Y: Use the center point of the picture element as the base point to shift up and down in the Y direction.

## Option

Stretch: Tick stretch and the graphics will be automatically scaled according to the window size.

Transparent: Tick transparent to make the selected graphics appear transparent.

Transparent Color: Select the color that needs to be transparent.
# 3.2.5 Memo

For details of attribute setting, please refer to chapter 3.2.1 Static Bevel/ Text.

# 3.3 Button

To use the button component, you can click [Button] under the [Component] menu bar, and the drop-down option of the button component appears, as shown in the following figure 3.3-1, or you can directly click the option on the tool shortcut bar, as shown in the following figure 3.3-2.

Component	Τοι
G Cursor	
Graphic Static	> >
Button	N ON Button
Display Edit	OFF Button     Switch Button
	<ul> <li>Set Value Button</li> <li>Const Button</li> <li>Inc Button</li> </ul>
	Dec Button     Jump Buttom
	Image: Back Button Image: Fun Button Image: Key Button Image: Ke
	Set Status Button     Traget Button     Data Move Button
	3.3-1
Graphic Comp	oonent   Static Component Button Display   Edit   F SW H   📾 123 (+) + 👀 👀 Fun 1667   123 🔀 🎬
	3.3-2

# 3.3.1 ON/ OFF Button and Switch/ Hold Button

After selecting the component, right-click the component to select the component properties, or double-click the component to open the component properties dialog box. The property dialog box of the ON/ OFF button and Switch/ Hold button components is shown below.



In Color:         Image: Color:           Position         Y:         208           W::         H::         Image: Color:	Out Color:	elect	Style:	
X: 608 Y: 208	In Color:			
80 72	608 80	Y: H:	208 : 72	

#### 1. Button

As the properties of the [Button] page are the same as the [Bevel] settings in Section 3.2.1, there is no need to repeat here. Please refer to the [Bevel] settings in Section 3.2.1.

Read Address: <ul> <li>Confirm:</li> <li>Press.action</li> <li>Key Def:</li> <li>Undefined</li> <li>Key Window:</li> <li>Undefined</li> <li>Sound:</li> <li>Undefined</li> <li>Enabled Flag:</li> <li>Hide Object</li> </ul>	Action:	Switch	Security:	By scene	-
Write Address: <ul> <li>Key Def:</li> <li>Undefined</li> <li>Key Window:</li> <li>Undefined</li> <li>Sound:</li> <li>Undefined</li> <li>Enabled Flag:</li> <li>Hide Object</li> </ul> <li>Hide Object</li>	Read Address:	-	Confirm:	Press.action	-
Write Address: <ul> <li>Key Window:</li> <li>Undefined</li> <li>Sound:</li> <li>Undefined</li> <li>Enabled Flag:</li> <li> <li>Hide Object</li> </li></ul>			Key Def:	Undefined	•
Notification:     Image: Sound:     Undefined       On Macro:     Image: Sound:     Image: Sound:     Image: Sound:       Image: Image	write Address:		Key Window:	Undefined	•
On Macro:	Notification:	-	Sound:	Undefined	•
✓ ✓ ✓ I I Hide Object	) Do Macro: 0		Enabled Flag:	•	-
Off Macro: Hide object when disabled or security Prompt if Priority Lack Set last priority after play.	Off Macro:	• • • •	Hide Object Hide object Prompt if Pr Set last prio	: when disabled or security riority Lack ırity after play.	

Action: There are four actions to choose from, and you can choose the state the button action.

Read Address: Read the value of the position of input relay or system variable.

**11**: Represents the reading position, and the type is bit.

Write Address: Write the value to this location of the input relay or system variable.

**11**: Represents the writing position, and the type is bit.

Notification: If a value is written to the position of the input relay or system variable, the position will be notified.

On Macro: Click the drop-down arrow to select the macro command edited in advance, and execute the selected macro command when the button is ON.

Off Macro: Click the drop-down arrow to select the macro command edited in advance, and execute the selected macro command when the button is OFF.

# Option

Security: Since you have the authority to set the screen when creating a new screen, please refer to Section 2.4.1 Screen. If the authority set here is higher than the screen authority, the account and password will be required to enter when the button component is run on the emulation or human-machine interface.

Confirm: Release. action: Run the action when the button component is released.

Wait Sec: Set waiting time in order to avoid accidentally pressing. When press the button, you will wait for the time as set here before running the component action.

Press. action: Run the action when the button element is pressed.

- Key Def: After setting the keyboard definition in Section 2-4.5, you can select the function you need.
- Key Window: This function is only available when the screen properties have dialog box properties. Press the button, the selected dialog box window will appear. If this function is oprated, a dialog box window will appear to determine whether to run a certain function.

Sound: Set the sound when the button is clicked.

Enabled Flag: Set the condition variable. If set variable as 1, the button can perform the corresponding action, otherwise the button does not act.

Hide Object: Check this option to hide the component.

- Hide Object when disabled or security: Check this option, the component will be hidden when the authority is not reached, or the controlled conditions are not met.
- Prompt if Priority Lack: Check this option, when the permission is insufficient, the component will display a prompt symbol (small lock) to indicate that it cannot be operated. The lock will not be canceled until the permission is sufficient.

# Coolmav®

Set Last Priority after Play: After the action, set the last priority. Check this option, click the button, after the action is completed, modify the [Option]-> [Security] - "Use Level 9 (Low)".

### 3. Status

Language: Englis	h (United States)	
Preview	Status	Ga Dopy
	Index Text	
	1	
	Text:	Pris

Language: Select the current language. For details, please refer to Section Chapter 5 Language Management.

Preview: You can see the input text preview here to prevent input errors. Status

Add: Since there is only 0 or 1 status, there is no new function here.

Delete: Since there is only 0 or 1 status, there is no new function here.

Brush: For specific settings, please refer to 3.1.1.

Image: For specific settings, please refer to 3.2.4.

Text: For specific settings, please refer to 3.2.1.

Copy: Since there is only 0 or 1 status, there is no new function here.

Index | Text: Index 0 is the text displayed when the button is pressed, and index 1 is the text displayed when the button is not pressed.

Text: Input text to be displayed here.

🖄: Click this button to copy current text to all status.

### 3.3.2 Set Value/ Const Button and Inc/ Dec Button

After selecting the component, right-click the component to select the component properties, or double-click the component to open the component properties dialog box.

## 1. Button

As shown in the figure below, the properties of the [Button] page are the same as the [Bevel] settings in Section 3.2.1, please refer to the [Bevel] settings in Section 3.2.1.

		1 1			
Bevel				Brush	
		Select		Style:	1
		Out Color:	I		
		In Color:			 
Position					
	ν.	[	v.	Less	
	X:	432	1.	184	
	vv::	128	H	72	

# 2. Control

Data Action: Format: [16Bit] Signed Write Address: Rule: Max: Min: Notification:	·	Option Security: Confirm: Key Def: Key Window: Destine Voice Controlled con Hide Obj.	By scene Press.action Undefined 65000 : Value input dialo Undefined	
Befor Macro:	• •	Hide as prio     Prompt as prio     Set last prio     Set last prio     Dec     Hex     32bit Float	rity lack or disable priority lack prity after play.	

### Control

Action:

- Input: Used in conjunction with the keyboard window, input data from the screen to the contact variable position.
  - Var/Const: Select this option, the value to be input to the contact variable can be input by the writing rule.
  - Inc/Dec: Select this option, and click the button once to add or subtract the data set in the rule once to the contact variable.
- Format: Select the data format to be written.

Write Address: Enter the position of the contact variable to be written.

Rule: Set the calculation method of the written data or variables.

- When the action selection is variable / constant, directly input the value to the contact variable.
- When the action selection is Inc/ Dec, if the value is increasing, the symbol [+] should be added in front of the value, and if the value is decreasing, the symbol [-] should be added before the value.

■: This icon is the identifier of the arithmetic element variable, indicating that the calculation between variables is supported here. For example: N100 + N200 are filled here, when writing data, the system will calculate the result of N100 + N200 and write it in. For details, please refer to Appendix 4 Instructions for Using Operation Variables.

Max: The maximum value of the reading range of the input position.

Min: The minimum value of the reading range of the input position.

The maximum and minimum value can be not input. When not input, the value range refers to the set data type.

- Notification: The input relay or system variable position will be notified when a value is written to the position.
- Before Macro: Enter the name of the edited macro directly or click the drop-down arrow to select an existing macro. The macro is triggered when the button is pressed.
- After Macro: Enter the name of the edited macro directly or click the drop-down arrow to select an existing macro. The button will trigger when the macro pops up.

#### Option

Please refer to option instructions in 3.3.1.

#### Format

Decimal Pos.: Set the number of decimal places.Dec: Check this option to display as a decimal value.Hex: Check this option to display it as a hexadecimal value.32bit Float: Check this option to display 32-bit floating point values.



#### 3. Status

For details, please refer to the status instructions in 3.3.1.

### 3.3.3 Jump/ Back Button

After selecting the component, right-click it to select the component properties, or double-click it to open the component properties dialog box.

#### 1. Push Button

Please refer to the [Bevel] settings in Section 3.2.1.

### 2. Control

Scene Switch:	Priority	[Building and a second	
2 : SZe Type	Confirm	By scene	
Switch Notes	Key Def	Press.action	
	Key Dei.	Undefined	
Befor Macro:	Key Window	Undefined	-
After Macro:	Destine Voice	Undefined	•
	Controlled cond ☐ Hide Obj. ☐ Hide as priol ☐ Prompt as p ☐ Set Levle 9.	ity lack or disable riority lack	<u>-</u> ] =

#### Control

Scene Switch: When there are multiple screens in the project, this function can be used to switch screens, and we can choose which screen to jump to or return to.

Switch Notes: Set the notification action when the screen is switched, i.e. you can set a certain register to be turned on or off when the screen is switched.

Before Macro: Enter the name of the edited macro directly or click the drop-down arrow to select an existing macro. The macro is triggered when the button is pressed.



After Macro: Enter the name of the edited macro directly or click the drop-down arrow to select an existing macro. The button will trigger when the macro pops up.

Option: Please refer to option instructions in 3.3.1.

### 3. Status

For details, please refer to status instructions in 3.3.1.

### 3.3.4 Fun Button

The details of the function button property settings, please refer to chapter 3.3.1. This section only explains the different settings.

Action:

Set to last priority: Select it to set the screen attribute authority to the minimum.

Inputs password again: Select it to input password again.

Clear all alarm event: Select it to delete all alarm events.

Data Action: Set to last priority Notification: Befor Macro: After Macro:	<ul> <li>Option</li> <li>Security:</li> <li>Confirm:</li> <li>Key Def:</li> <li>Key Window:</li> <li>Sound:</li> <li>Enabled Flag:</li> </ul>	By scene Press.action Undefined Undefined Undefined	• • • •
	☐ Hide Obje ☐ Hide obje ☐ Prompt if	ct ct when disabled or s Priority Lack	security

#### 3.3.5 Key Button

The detailed instructions of Button and Status, please refer to chapter 3.3.1. This section only explains the different settings.

Normal	lucit Const			Priority	<b>D</b>	125
Horridi.	Jundefined	-		Phoney	By scene	-
Shift:	Undefined	•		Key Def.	Undefined	<b>•</b>
Ctrl:	Undefined	•		Destine Voice	Undefined	-
Alt:	Undefined	•				
Notification:	-	•	•			
Befor Macro:		•	8			
After Macro:		•	8			

Normal: The action to be performed when the button is pressed.

End Click this icon to copy the function set by the current button to the other three buttons.

Shift: The action to be performed when you press the [Shift] key and then press the button.

Ctrl: The action to be performed when you press the [Ctrl] key and then press the button.

Alt: The action to be performed when the [Alt] key and then the button is pressed.

Notification: Click the button and write 1 into the set position.

Before Macro: Enter the name of the edited macro directly or click the drop-down arrow to select an existing macro. The macro is triggered when the button is pressed.

After Macro: directly enter the name of the edited macro or click the drop-down arrow to select an existing macro. The macro is triggered after the button pops up

Key Def.: It can be used when the man-machine model supports keyboard keys.

The Shift, Ctrl, and Alt keys here refer to those that set with the key buttons, not those of the computer keyboard. As shown in the following figure, the Shift key is used as an example, and this button will be used as the functions of shift.

Shift:     Shift     Image: Shift     Image: Shift       Ctrl:     Shift     Image: Shift     Image: Shift       Alt:     Shift     Image: Shift     Image: Shift	
Shift     Image: Base of the state of the st	-
Ctrl:     Shift     Image: Shift     Image: Shift     Image: Shift       Alt:     Shift     Image: Shift     Image: Shift	
Alt: Shift 🗸 🗈	•
Notification:	
Befor Macro:	
After Macro:	

In the status, all the texts are typed into shift since this button is only used as a shift function and has no other functions. If it contains other functions, please set according to the function name.

As shown in the figure below, the index value is  $0 \sim 3$ , which means that the normal key is 0, Shift is 1, Ctrl is 2, and the Alt state is 3, so if we want a key button to have many functions, we can set the functions according to it.

Language Engli	sh (United States)	
Preview	Status + - E E & & Add Delete Brush Image Text Copy	
shift	IndexText0shift1shift2shift3shift	
	Word Input shift	Gå

The setting of the shift key is completed as shown above. When the button is pressed in the screen, it means that the shift key is pressed, so that the

above-mentioned Shift, Ctrl, Alt state can be used accordingly.

### 3.3.6 Set Status Button

The detailed instructions of Button and Status, please refer to chapter 3.3.1. This section only explains the different settings.

Press			Option		
Format:	[16Bit] Signed	-	Priority	By scene	•
Write Address:	I	• >>	Key Def.	Undefined	•
Value Address:		• »	Key Window	Undefined	-
Press Macro:			Destine Voice	Undefined	•
Release			Controlled con		-
Format:	[16Bit] Signed	•			
Write Address:		• »			
Value Address:		• >>	Hide Obj.		
Write Notification	n	•	I Hide as pric	ority lack or disable	
Release Macro:	T.	- 0	Prompt as	priority lack	

Control

Format: Set the format of the register variable.

Write Address: Set the location to write data.

Value Address: Set the content that written in. For example, set it as D0, and the writing position as D1. When the action occurs, write the contents of D0 to D1.

Notification: When writing, set the variables set by the notification.

Press Macro: Enter the name of the edited macro directly or click the drop-down arrow to select an existing macro. The macro is triggered when the button is pressed.

Release Macro: Enter the name of the edited macro directly or click the drop-down arrow to select an existing macro. The macro is triggered after the button is released.

# 3.3.7 Target Button

The detailed instructions of Button and Status, please refer to chapter



Control		Option	
Read Address:	• 68	Priority	By scene 💌
Base Address:	- 03	Key Def.	Undefined 💌
Scale Address:	<b>• •</b>	Controlled co	on 🔽 🚺
Proce Macro:		Confirm	
Press Macro	<u> </u>	∏ Hide Obj.	
Release Macro:	<b>–</b> 3	Hide as p	riority lack or disable
Operation variable [16Bit] sign Target id=base+(read*scale).		F Prompt as	s priority lack
Paint			
Pen Style: 10	•	Brush Style:	
Pen Color:			500000000

3.3.1. This section only explains the different settings.

Project making: when there is a series of parameters to be set, in order to facilitate the settings and avoid misoperation to hit other settings, you can use the trigger button.

Read Address: Select a variable as the basis for switching the number of columns.

Base Address: Set according to the serial number of the first column of components, click [F4] to view the component serial number. For example, if the serial number of the first element of the parameter element needs to be set as 8 on this line, the cardinal position is selected as 8.

Scale Address: Set according to the number of rows of the group where the component is located. For example, if the row is the third row, set it to 3.

#### 3.3.8 Data Move Button

The detailed instructions of Button and Status, please refer to chapter 3.3.1. This section only explains the different settings.

Control	Option		
Read Addr. 🗾 💷	Priority	By scene	•
Write Addr. 🗾 🕫	Confirm	Press.action	-
Data Langth:	Key Def.	Undefined	•
(16Bits)	Key Window	Undefined	•
Write multiple data at once	Destine Voice	Undefined	•
Write Notificatio	Controlled cond	ii 💽 💌	] 🐽
Befor Macro: <ul> <li>Ø</li> <li>After Macro:</li> <li>Ø</li> <li>Ø<!--</td--><td>☐ Hide Obj. ☐ Hide as prior ☐ Prompt as p ☐ Set last prio</td><td>ity lack or disable riority lack rity after play.</td><td></td></li></ul>	☐ Hide Obj. ☐ Hide as prior ☐ Prompt as p ☐ Set last prio	ity lack or disable riority lack rity after play.	

Read Address: Set the start position of the variable that needs to read data.

Write Address: Set the start position of the variable that needs to write data.

Data Length: Set the number of data to be read and written.

For example: As shown in the figure above, when you click the button, the values of 10 data in D0-D9 will be read and then written into 10 registers in D10-D19 respectively.

# 3.4 Display

To use the Status component, you can click [Status] under the [Component] menu bar, and the drop-down option of the status component appears, as shown in the following figure 3.4-1, or you can directly click this option on the tool shortcut bar, as shown in the following figure 3.4-2.





3.4-2

#### 3.4.1 Lamp

The detailed instructions of Bevel, please refer to chapter 3.3.1. This section only explains the different settings of Control and Status. **1. Control** 

Lamp		×
Bevel Control St	atus	
Control		
Data Type		
Read Addr.		
Max:		
Min:		
Visibility:		
	V OK X Cancel	

Data Type: Set the variable type or variable data format displayed by the lamp.

Read Addr.: Set the variable position displayed by the lamp.

Max: When read a register, the maximum value is the one you set. If not set value here, the value is decided by data format.

Min: When read a register, the minimum value is the one you set. If not set value here, the value is decided by data format.

Visibility: Set the variable position that makes this lamp show or hide.

### 2. Status

Description	English (	(United States)		
FIEVIEW		Add Delete Brus		
		Condition	Text	
Red		== 0 == 1	Reu	
		Word Input Red		B

For details, please refer to the description of the status page in 3.3.1, only the differences are introduced here.

Add: Click this button to add a new condition.

Delete: Click this button to delete the selected condition.

Condition: Set the comparison condition of the selected condition. There are six types of comparison conditions: equal, not equal, less than, less than or equal, greater than, and greater than or equal to choose from.

<sup>109</sup> Connection / Para .: Enter the 16-bit register to compare with the

register displayed by the lamp. According to the comparison results, the lamp shows different status.

#### 3.4.2 Numeric Display

The detailed instructions of Bevel, please refer to chapter 3.3.1. This section only explains the different settings of Control and Text.

#### 1. Control

Control			Display Format		
Data Type	[16Bit] Signed	•	Integer:	4	-
Read Addr.	D100	• 6.	Decimal Pos.:	0	•
Max:	100	•	T Zero of Hi	Bites	
Min:	0				
			Decimal		
Visibility:		•	C Hex.		
			C 32 Bits Floa	t. Point	

#### Data

Data Format: Select the data format to be read.

Read Addr.: Set the variable address to be read.

Max: Set the maximum value of the variable to be read.

Min: Set the minimum value of the variable to be read.

Visibility: Set the variable that makes the component show or hide.

#### **Display Format**

Integer: Set how many digits to display for integers.

Decimal Pos .: Set how many digits to display for decimals.

Zero of Hi Bites: When the integer number is set to 4, the value will be filled with 0 to 4 digits if this option is checked.

Decimal: Select this option, the value is displayed in decimal form.

Hex .: Select this option to convert the displayed value to hexadecimal display.

32 Bits Float. Point: Select this option to display as a 32-bit floating point number.

### 2. Text

Language	English (United States)	<b>-</b>
Color		
Align:	Center	
Flash Effect	Normal	
Font	Tahoma [9]	Select Font

#### Text

Language: Select the language type displayed.

Color: Select the color of the value displayed.

Align: Select the alignment of the numeric display when displaying.

Flash Effect: Select whether the value is normal or flashing during display.

Font: Set the font type and size of the value when displaying, please refer to 3.2.1 for details

### 3.4.3 Text Display

The detailed instructions of Bevel, please refer to chapter 3.3.1. This section only explains the different settings of Control and Text.

### 1. Control



Text Display		×
Bevel Control Tex	:]	
Control Data Type String Length:	AB	
Read Addr.	× »	
Visibility:		
1		
	_ ✓ OK X Cancel	

#### Control

Data Format: Select the display format of the text.

String Length: Set the length of characters that can be displayed. Read Addr .: Set the read variable address.

Visibility: Set the variable that controls the display or hiding of the text display element.

### 2. Text

ext			
Language	English (United States)		-
Color		- Auto, Linefeec	
Align:	Center	-	
Word Effect	Normal	•	
Flash Effect	Normal	•	
Font	Tahoma [9]		Select Font
Text			^
	4		~

Text

Language: Select the language type displayed.

Color: Select the color of the value displayed.

Align: Select the alignment of the numeric display.

Auto. Linefeed: Check this option, when the total length of the font is greater than the length of the component, it will automatically display the line. Otherwise, no line breaks.

Word Effect: Select whether the text display is normal or mobile.

Flash Effect: Select whether the value is normal or flashing display.

Font: Set the font type and size of the value when displaying, please refer to 3.2.1 for details.

Text: Enter the text to be displayed.

### 3.4.4 Alarm String

The detailed instructions of Bevel, please refer to chapter 3.3.1. This section only explains the different settings of Text and Option.

# 1. Text

Language	English (United States)	
Color	· · · · · · · · · · · · · · · · · · ·	Continue
Align:	Center 🖌	ve Speed
Word Effect	Move Left	low 0 Fast
Flash Effect	Normal	]
Font	Tahoma [9]	Select For
Visibility:		•

Text

Language: Select the language type displayed.

Color: Select the color of the value displayed.

Align: Select the alignment of the numeric display.

Word Effect: Select whether the text display is normal or mobile.

Flash Effect: Select whether the value is normal or flashing display.

Font: Set the font type and size of the value when displaying, please refer to 3.2.1 for details.

Visibility: Set the variable that controls the display or hiding of this alarm text component.

Continue: Check this option, the alarm text will be displayed continuously, otherwise the alarm information will reappear after the alarm information moves and disappears in the alarm text component.

Move Speed: Set the speed of alarm text movement.

### 2. Option

and from the			
Option	ber	Brush Type	
Group Option Read Address	5: 0 <b>v</b> e		
Format: 32 B	its unsigned		<b>_</b>
Date/Time			
Language:	English (United States)		•
Custom:			•
Preview:			

#### Option

Index Number: Check this option, the alarm text will appear with the alarm number, otherwise only the alarm text will be displayed.

Group Option

Read Address: Set the address of the read alarm zone.

Date / Time

Language: Select the language type displayed.

Custom: Set the alarm text.

Preview: Preview the display of the alarm text for easy modification in

Brush

time.

Type: Set the brush style.

### 3.4.5 Time/Date

The detailed instructions of Bevel and Text, please refer to chapter 3.3.1. This section only explains the different settings of Control.

#### 1. Control

me Display		×
Bevel Control Text	1	
Control		
Display Format:	hh:mm:ss	
Visibility:	•	
	OK X Cancel	

### Control

Display Format:

Custom: When this option is selected, enter the format to be displayed in the custom format on the text page. For the time format, refer to the table below. hh: mm: ss: The time will be displayed as hour: minute: second. hh:mm: The time will be displayed as hour: minute. MM / dd / yy: The time will be displayed as month / day / year. dd / MM / yy: The time will be displayed as day / month / year. Dd.MM.yy: The time will be displayed as day, month, year.

Format	Descriptions	Input string	Display string
""	string	"Year"	Year
уууу	4-digit year	уууу	2004
уу	2-digit year	уу	04
Μ	1-digit month	Μ	7
MM	2-digit month	MM	07
d	1-digit date	d	5
dd	2-digit date	dd	05
Н	1-digit hour (12	Н	9
	hour system)		
HH	2-digit hour (12	HH	09
	hour system)		
h	1-digit hour (24	h	9
	hour system)		



hh	2-digit hour (24	hh	09
	hour system)		
m	1-digit minute	m	7
mm	2-digit minute	mm	07
S	1-digit second	S	7
SS	2-digit second	SS	07
AM	AM/PM	AM	AM/PMA

Visibility: Set the variables that control the display or hide of the display element.

### 3.4.6 Progress Bar

The detailed instructions of Bevel, please refer to chapter 3.3.1. This section only explains the different settings of Control.

### 1. Control

			Option		
ata Type	[16Bit] Signed	•	Direction:	Horizontal	•
ead Addr.		•	Grid Color:		-
lax:		• •			
lin:		• •			
isibility:		•			
lin: isibility:		· •			

#### Control

Data Type: Select the data format to be read.

Read Addr .: Set the variable address to be read.

Max: Enter the maximum value of this contact or memory, or you can not enter it.

Min: Enter the minimum value of this contact or memory, or you can not enter it. If not, the maximum and minimum value range is the default value range of the variable.

Visibility: Set the variables that control the display or hide of the display element.



Option

Direction: Adjust the direction of the progress bar. The default is the horizontal direction. If you select vertical, the graphics on the screen should also be adjusted to be vertical.

Grid Color: Set the color of the grid of the progress bar.

## 3.4.7 Bar/ Float Bar

The detailed instructions of Bevel, please refer to chapter 3.3.1. This section only explains the different settings of Control.

# 1. Control

Data Tura	-		option		
Data Type	[16Bit] Signed	<b>_</b>	Type:	Bar	-
Read Addr.		<b>_</b>	Direction:	Тор	•
Max:		-			_
Min:		• •	Bar		
Visibility:	[	• •	Туре		

Control

Data Type: Select the data format to be read.

Read Addr .: Set the variable address to be read.

- Max: Enter the maximum value of this contact or memory, or you can not enter it.
- Min: Enter the minimum value of this contact or memory, or you can not enter it. If not, the maximum and minimum value range is the default value range of the variable.
- Visibility: Set the variables that control the display or hide of the display element.

Option

Type: Select to use Bar or Float Bar.

Direction: Select the direction of Bar or Float Bar.

Bar:

Type: Select the type of Bar or Float Bar.

#### 3.4.8 Meter

The detailed instructions of Bevel and Control, please refer to chapter 3.3.1 and 3.2.4 respectively. This section only explains the settings of Scale.

#### 1. Scale

cale		Pen	
Graduation:	270 deg. CircUp 💌	Туре	11 -
Master Count:	5	Color	
Slave Count:	2		
Length:	8	Indicator Pen	
	<u>۲</u>	Туре	5 🔹
Disc size:	6	Color	
Scale			
Axis		Disc color:	-
ption		105	
Display Marks		Color:	-
Max:	100 💌 📾	Decimal Pos.: 0	•
Min:	0 🔹 📾	Display unit:	
Font:	Tahoma [8]		Font

Scale

Graduation: Select the direction and angle of the meter display. Master Count: Select the number of main scales.

Slave Count: Select the number of minor scales.

Length: Select the length of the scale display.

Disc size: Select the size of the disc in the center of the meter.

Scale: Tick it and scale will appear, otherwise not.

Axis: Tick it and the arc-shaped coordinate axis will appear below the scale. Otherwise not.

Pen

Type: Select the line style of scale and coordinate axis. Color: Select the color of the line style.

Indicator Pen

Type: Select the line style of the meter pointer. Color: Select the color of the line style.

Disc color: Select the color of the disc.

Option

Display Marks: Tick it and the digital marks of the main scale will appear. Otherwise not.

Max: Enter the maximum value of this contact or memory, or you can not enter it.

Min: Enter the minimum value of this contact or memory, or you can not enter it. If not, the maximum and minimum value range is the default value range of the variable.

Color: Select the color of the digital mark.

Decimal Pos.: Set the number of decimal places.

Suffix: Set the displayed quantity unit.

Font: Set the font type and size of the numeric value when displaying, please refer to 3.2.1 for details.

### 2. Adv.

Fill Pie		
Brush:		
Graphic Distance:	8	

Fill Pie

File Pie: Tick it and Bush settings will appear, otherwise not. Graphic Distance: Set the interval time between graphics display.

# 3.4.9 Dynamic Picture

The detailed instructions of Bevel, Image/ Picture, please refer to chapter

3.3.1 and 3.4.7 respectively. This section only explains the settings of Control.

# 1. Control

Type:	Absolute				•
[			Y		
Data Format	[16Bit] Signed	•	Format:	[16Bit] Signed	•
Read Addr.	[	<b>_ m</b>	Read Addr.		- 📾
Max:		•	Max:		<b>•</b>
Min:		-	Min:		<b>.</b>

#### Coordinate

Type: According to the way represented by the X and Y coordinates, the absolute value and the offset value can be selected.

#### X/Y

Data Format: Set the variable data format.

Read Addr .: Set the read variable address, so as to change the position of the picture according to the value of the address.

Max: Set the maximum value of X / Y coordinates.

Min: Set the minimum value of X / Y coordinates.

### 3.4.10 Path Picture

Click [Component]-> [Status]-> [Path Picture]. When the mouse moves to the edit screen, a cross cursor will appear. When moving to the desired position, press the left mouse button, as shown in the following figure, then move to the relevant position of the desired path in sequence, then press the left mouse button, and finally confirm the path position, press the right mouse button to end the drawing.



Right-click or double-click to enter the property setting page. The detailed instructions of Bevel, Image/ Picture, please refer to chapter 3.3.1 and 3.4.7 respectively. This section only explains the settings of Control.

### 1. Control

<b>•</b>
9

Control

- Type: There are four options including read address, increasing cycle, decreasing cycle and trapeze cycle.
- Read Address: The picture moves to the corresponding coordinate point according to the value of the variable in the read position.
- Inc cycle: According to the value of the variable in the read position X milliseconds, automatic coordinate increases with cyclic movement.
- Del cycle: According to the value of the variable in the read position X milliseconds, automatic coordinate decreases with cyclic movement.





Trapeze cycle: The picture moves automatically in a coordinate cycle according to the value of the variable X milliseconds in the read position. When the picture is in the initial coordinate, it is an increasing cycle, and in the final coordinate is a decreasing cycle, which is equivalent to moving back and forth.

### Control Para.

Format: Set the variable data format.

Read Address: Set the read variable address, so as to change the position of the picture according to the value of the position.

#### Path Information

Point Count: Display how many positions of the set path coordinates.

Control			
Type:	Inc cycle		•
Delay Time		Path Information	
Format:	[16] it] Signed	Point Count:	6
Read Address:		<b>E</b> #	
Uint:ms			
0:no change >30000: stop	inc or dec.		

### 3.4.11 Dynamic Lamp

The main purpose is to use variable control, so that the components display different screens or different text at different positions.

Right-click or double-click to enter the property setting page. The dynamic coordinate display property setting dialog box is shown in the figure below.

Data Type	[1Bit] Bit	•	
Read Addr.			
Max:		<b>_</b>	
Min:			
Visibility:		•	

- **1. Bevel:** Please refer to chapter 3.3.1 for detailed instructions.
- 2. Control: Please refer to chapter 3.3.2 for detailed instructions.
- **3. Status:** Please refer to chapter 3.3.1 for detailed instructions. Only differences are explained here.

anguage	iglish (United States)
Preview	Status
	Add Delete Brush Image Text Copy
	Condition Text
	== 0 == 1
	Word Input
	Condition:

Add: Click this button once to add a new state.

Delete: Select a state and click this button once to delete the selected state.

Copy: Select a certain state and click this button once to copy the selected state once. The copied content includes conditions, text content, brushes, and

images.

4. Coordinator Control: Please refer to chapter 3.4.9 for detailed instructions.

### 3.4.12 Path Lamp

The component combines dynamic path picture and dynamic lamp. The main purpose of using the dynamic path is to display different pictures or screens when using variables to control different states. At the same time, the components can be displayed in different positions.

Click [Component]-> [Display]-> [Path Lamp]. When the mouse moves to the edit screen, a cross cursor will appear. When moving to the desired position, press the left mouse button, then move to the relevant position of the desired path in sequence, then press the left mouse button, and finally confirm the path position, press the right mouse button to end the drawing.

Right-click or double-click to enter the property setting page. The path lamp property setting dialog box is shown in the figure below.

Data Type	[1Bit] Bit	•	]	
Rea <mark>d</mark> Addr.		-		
Max:		-		
Min:		<b>– E</b>		
Visibility:		•	r -	

- 1. Bevel: Please refer to chapter 3.3.1 for detailed instructions.
- **2. Control:** Please refer to chapter 3.3.2 for detailed instructions.
- 3. Status: Please refer to chapter 3.3.1 and 3.4.11 for detailed instructions.
- 4. Coordinator Control: Please refer to chapter 3.4.9 for detailed instructions.

### 3.4.13 Trend Graph

The man-machine interface reads the continuous data of the corresponding address and presents it to the user intuitively and graphically in real time. For example: if the display points are 50 points and three curves are

set, then a total of 50 \* 3 data of 150 WORDs will be taken and data processing needs to be done in the PLC program.

Click [Component]-> [Display]-> [Trend Graph] to display the trend graph in the editing screen. Right-click or double-click to enter the property setting page.

**1. Bevel:** Please refer to chapter 3.3.1 for detailed instructions.

# 2. Control:

Record:			-
Data Type	[16Bit] Signed	*	
Source Address:		• »	
Data Length:	1	<u> </u>	
Record Count:	10	Range 1 32767	
Update Time:	1Sec	-	
Record Flag:		<b>• •</b>	
Clear Flag:		🔹 💼 🗖 Clear Flag aft. Clear Rec.	
Stop Count:	0	Auto. stop when touch recode	-
Visibility:		secting , No use this function as	•
	,		
Record Date/1	Time .		

#### Control

- Data Type: Set the starting position of the register variable address for data reading.
- Source Address: Set the length of the read data, i.e., the number of displayed curves. For example, the source address is D10 and the data length is 10, i.e., the data from D10 to D19 is read, and 10 curves are displayed in the trend graph.
- Record Count: Set total times to record data, i.e., the maximum record times to be recorded for each curve.
- Update Time: Set the time interval for each record of data. For example, as set in the figure above, D10 ~ D19 data is recorded once every second, and a total of 10 (number of records) are recorded.
- Record Flag: Set the condition to start recording data, i.e., the variable



starts to record data when it is 1, and does not record when it is 0.

Clear Flag: Set the conditions for clearing the recorded data, that is, when the variable is 1, all data is cleared, and 0 is not cleared.

Clear Flag aft. Clear Rec.: Check this option to clear the flag together when clearing the recorded data.

Stop Count: Set the number when stop recording automatically, and set to 0 means not to use this function (the value here must be less than or equal to the number of records).

Visibility: Set the variable that makes the component show or hide. Record Date/Time: Check this option, the system records the time of data recording.

3.	Curve	Set

Add Delete Copy	Point	Point Style: Point Color:	+ 0	
In Max Min Visibility 0 1		Pen Style: Pen Color:	11	
	Fill	Brush Style:		
	Max:			• »
	Min:			• »
	VISIDIIITY:			<b>_</b>

#### Curve

Add: Click this button to add a curve.

Delete: Click this button to delete the selected curve.

Copy: Click this button to copy the selected curve.

Point: Check this option, the curve is displayed in the form of points.

Point Style: Set the form of the point.

Point Color: Set the color of the point.

Line: Check this option, the curve is displayed in the form of a line.



Pen Style: Set the brush style.

Pen Color: Set the color of the pen.

Fill: Check this option, the curve is displayed in the form of a brush.

Brush Style: Set the brush style and color.

Max: Set the maximum value of a single curve.

Min: Set the minimum value of a single curve.

Visibility: Set a single curve display and hidden variables, when the variable is 1, the curve is displayed, and 0 is not displayed.

# 4. Display

	Show Setting		
	Type: Show Data Num.: Page Down Gap: I Show Break	Move-Left	•
Grid of Num. Show Grid Num.: 10 Pen Style: 11 Pen Color:	Grid of Time Point/Grid: Pen Style: Pen Color:	30	¢ •

Preview: Shows the style of curve display.

### Show Setting

Type: Set the direction of movement when the curve is displayed.

Show Data Num .: Set the number of points for displaying data, that is, the trend graph starts moving when it comes to the quantity of the data set..

Page Down Gap: Set the interval between two pages when turning pages. Show Break: Check this option, each curve is displayed with its own unique area.

### Grid of Num./Time

Show Grid Num .: Set the number of grids to be displayed.

Point / Grid: Set the number of grids required for time display.

Pen Style: Set the brush style.

Pen Color: Set the color of the pen.

### 5. Scale

Left/Top Sca	le				
□ Left/To	op Scale			Color:	-
Max:	100	•	63	Decimal Pos.: 0	•
Min:	0	•	63	Display unit:	
Font:	Tahoma [8]				Font
Right/Bottom	n Scale				
Right/B	lottom Scale			Color:	-
Max:	100	•	63	Decimal Pos.: 0	•
Min:	0	•	63	Display unit:	
Font:	Tahoma [8]			1	Font

Left/ Top Scale

Left / Top Scale: Check this option, the scale value will be displayed on the left side of the trend graph, and it will not be displayed when it is not checked.

Max: Set the maximum value displayed on the scale.

Min: Set the minimum value of the scale display.

Color: Set the color of the scale display on the left.

Decimal Pos.: Set whether display decimals. 0 means no decimal.

Suffix: Set the unit symbol indicated by the scale. If it is not filled in, the unit symbol will not be displayed.

Font: Set the font for the scale display. For detailed settings, please refer to the font setting in 3.2.1.

Right/ Bottom Scale

Refer to the parameter introduction on the left/top scale.

#### 6. Display Time
Trend Graph		×
Bevel Control Curv	ve Set   Display   Scale Display Time   Time Scroll	
Display Time Display Format: Font:	hh:mm:ss  Color:    Tahoma [8]   Foot	
Start Record Time Start Record Display Format: Font:	Time   hh:mm:ss Color:   Tahoma [8] Font	
End Record Time End Record Display Format: Font:	Time hh:mm:ss Color: Font Tahoma [8]	
	✓ OK X Cancel	

Display time

Display Time: Check this option to display the time of recorded data below the trend graph.

Display format: Set the time display format.

Color: Set the color of time display.

Font: Set the font for time display.

Start Record Time

Start Record Time: Check this option, the upper left of the trend graph displays the time to start recording data.

End Record Time

End Record Time: Check this option, the time at the top right of the trend graph shows the time when the data recording is ended.

#### 7. Time Scroll

Trend Graph	×
Bevel   Control   Curve Set   Display   Scale   Display Time Time Scroll	
Time Scroll	
OK X Cancel	

Time Scroll

Time Scroll: Check this option, the time scroll will display under the trend graph.

#### 3.4.14 Historical Trend

The man-machine interface reads the continuous data of the corresponding address and presents it to the user intuitively and graphically in real time.

Click [Component]-> [Display]-> [Historical Trend] to display the historical trend in the editing screen. Right-click or double-click to enter the property setting page.

Data Tura	J		i
Source Address:		<u> </u>	
Data Length:	J	*	1
Record Count:	 		   Rang 1 32767
Update Time:	0.1Sec		
Record Flag:			
Clear Flag:			📕 Clear Flag aft. Clear Rec.
Stop Count:	Í		Auto. stop when touch recode
Visibility:		+	setting , no use this function as

1. Bevel: Please refer to chapter 3.3.1 for detailed description.

2. Control: as shown above.

Data

Data Record: Select the required data record in the data record management as the display of the historical trend graph. For the detailed data setting, please refer to Section 2.4.11

3. Curve Setting/ Display/ Scale/ Display Time/ Time Scroll: For details, please refer to Section 3.4.13.

#### 3.4.15 Record Table

The man-machine interface reads the continuous data of the corresponding address in the programmable controller, and can also be presented to the user in the form of a table.

Click [Component]-> [Display]-> [Record Table] to display the record data table in the editing screen. Right-click or double-click to enter the property setting page. The record data table property setting dialog box is shown in the figure below.

Column Language Color	English (Ur	ited States)			•
Font	Tahoma (9	]		Se	lect Font
Add Delete In Caption D	Copy . Width 50 50	Display C C [16Bit] 4 Record t	Caption Text: Width: Align:: Color: Display Format: Reg Addr: Integer: Decimal Pos.:	50 Center [16Bit] Sig 0 4 0 5 6 De	ned v v cimal
<		>		C He	х.

**1. Bevel:** For details, please refer to Section 3.3.1.

2. Control: For details, please refer to Section 3.4.13.

3. Colum Set: as shown below.

Column

Language: Set the language to be used.

Color: The text color in the table.

Font: Set the font in the table.

Add: Click this button to add a column of data information to be displayed.

Delete: Click this button to delete the selected data column information to be displayed.

Caption Text: Set the title of the data to be displayed in the selected column.

Width: Set the width required for displaying the selected column data.

Align: Set the alignment of the selected column data display.

Color: Set the color when the selected column data is displayed.

Display Format: Set the data source for the selected column data display.

Integer: Set the number of integer digits when the selected column data is displayed.

Decimal Pos.: Set the number of decimal places when the selected column data is displayed.

Zero of Hi Bites: Check this option to perform zero padding automatically

when there is no data in the high position.

Decimal: Select this option, the data is displayed in decimal form. Hex .: Select this option, the data is displayed in hexadecimal form.

#### 4. Adv. Set

	Select Bevel
	Out Color:
	In Color:
	Brush Style:
elect	Option
Brush Style:	Sort by latest information shows
2	
Write Addr.:	- III

Title

Select Bevel: Set the display style of the title bar border. For details, please refer to Chapter 3.3.1.

Out Color: Set the color of the outer frame of the title bar.

In Color: Set the color of the inner frame of the title bar.

Brush Style: Click the brush button and select the brush style in the pop-up dialog box.

Select: When a row of data is selected, the display form of that row.

Brush Style: Set the brush style of the selected row.

Write Addr. : Set a 16-bit unsigned number, and display the selected line number in the 16-bit unsigned number.

Option

Sort by latest information shows: Check this option to display the latest data at the front when displaying. Otherwise, the latest data is displayed at the last.

#### 3.4.16 Alarm Display/ Alarm Count Display/ Current Alarm Display

Click [Component]-> [Display]-> [Alarm Display]/ [Alarm Count Display]/ [Current Alarm Display] to add an alarm component to the edit screen, as shown in the figure below.

3 : Dispaly Com [100%]					
	Index	Alarro Tiroo	Pocovory Timo	Moccogo	
	ITIUEX	Alarm Time	Recovery time	Message	] 📕
					<b>T</b>
<u>L</u>					<del> </del>
					<mark>.</mark>
· · · · · · · · · · · · · · · · · · ·					
	Index	Message	Count		
					· · · · · · · · · · · · · · · · ·
					· · · · · · · · · · · · · · · · · · ·
	Index	Alarm Time	Message		· · · · · · · · · · · · · · · · · · ·
	THOUSE		lossage		· · · · · · · · · · · · · · · · · · ·

Right-click or double-click to enter the property setting page. The dialog box for setting the alarm table properties is shown below.

	1	num ber j					
Colum	n						
La	nguage	English (Ur	nited States)			-	
Co	lor	1					
		4					
Fo	nt	Tahoma [9	]			Select Font	
Vis	sibility:	[			<b>•</b>		
		1					
4	-	à		Caption Text:	Indox		
Add	Delete Co	ру			Innex		
In	Caption	Width	Display C [	Width:	72		¢
0	Index	72	Number 3	Display Content:	Numbe	r	-
1	Recover	72	Recover h		1		
1		128	Alarm m	Align:	Center		-
1 2 3	Message			Colors			-
1 2 3	Message			COIOT.			and street
1 2 3	Message			Display Format:	2		

1.Bevel: refer to 3.3.1

2.Column Set: as above picture.

#### Column

Language: Select the language displayed.

Color: Select the color of the title text.

Font: Select the font to be displayed in the title text.

Display Flag: Sets the variable position where the alarm element is shown or hidden.

Caption Text: Set the text to be displayed for the selected title.

Display width: Set the width of the selected title bar.

- Display content: Set the alarm content to be displayed in the selected title bar.
- There are five options: alarm time, recover time, message, number, and passed time.
- Alignment: Set how text or data is aligned when the column of the selected title is displayed.

Display color: Set the color of the selected display content.

Display Format: Set the format of the selected title display. Depending on the display content selection, the selection provided by the format here is also different.

#### 3. Advanced settings: The page is shown below.

Index Alarm TimeRecovery Time	Select Bevel
	Out Color:
	Brush Style:
)ption Show Frame when Sel. Item Index Big->Small Index	Select Brush Style:
iroup Option	Write Addr.

Title

For detailed settings, refer to the parameter settings in the title bar of the advanced setting page in section 3.4.15.

#### Option

"Show Frame when Sel. Item": When this option is selected, if the alarm display is selected, the corresponding viewing screen that is set is displayed. If no selected, it is not displayed.

"Index Big->Small Index": When this option is selected, the alarm serial numbers are displayed in descending order of index values.

#### **Group option**

Read position: Set the read position, which can be selected as the alarm group you want to read.

#### Select

For detailed settings,, refer to the parameter settings in the selection items of the advanced setting page in section 3.4.15.

#### 3.4.17 Status Polygon

Click [Component]-> [Display]-> [Status Polygon]. When the mouse is moved to the edit screen, a cross cursor will appear. Press the left mouse button when moving to the desired position, then move to the relevant position of the desired path in sequence and then press the left mouse button. After confirming the path position, press the right mouse button to end drawing. As shown below.



Right click or double click to enter the property setting page. The Status Polygon property setting dialog box is shown in the figure below.



tus Poygon		
ocation Control	Status	
Control		1
Data Type	[16Bit] Signed	
Read Addr.		
Visibility:	<b>_</b>	
	V OK X Canc	el

- 1. Location: Refer to section 3.2.1
- **2. Control:** Refer to section 3.4.2.
- 3. Status: The page is shown below.

🕂 💻 🗈 Add Delete Copy	Pen Style: 11
Index 0	Pen Color:
	Brush Style:

#### 3.4.18 Graph

The HMI reads the continuous data of the corresponding address in the programmable controller. In addition to displaying it to the user in the form of

trend graphs and tables, it can also choose to display it to the user in the form of a graph.

Click [Component]-> [Display]-> [Graph] to display the graph in the editing screen. Right click or double click to enter the property setting page. The graph property setting dialog box is shown in the figure below.

Control				
Pood Addr -				
Keau Auur.			<u> </u>	
Data Type:	[16Bit] Sig	ned	Y	
Curve Count:	1	Range 1 4		
Number of Points:	10	Range 2 128		
Number of H Grids:	5	3		
H Grid Line Style:	11	<b>•</b>		
H Grid Line Color:		-		
Curve visibility:			•	
Clear Flag:			-	
Visibility:			-	

- **1. Bevel:** refer to section 3.3.1.
- **2. Control:** The page is as shown above.
  - Read Addr.: Set the address of the variable to be read. The first variable is the number of points, and the value is less than or equal to the display point setting value. The reading address starts from the second variable of the reading position. As shown in the figure above, D10 reads number of points, D10 <10 (display the number of points setting value), read data from D11.

Data Type: Only 16-bit signed numbers are available.

Curve count: Set the number of curves to be displayed. The setting range is  $1 \sim 4$ .

Number of Points: Set the number of points to be displayed for each curve, that is, the number of registers to be used. The setting range is  $2 \sim 128$ .

Number of H Grids : Set the number of horizontal grid lines in the graph.

- H grid line Style: Set the display form of the horizontal grid line in the graph.
- H grid line color: Set the color of horizontal grid lines in the graph.

Curve display flag: Set the variable position to make the curve show or hide. When the condition is reached, the curve is displayed.

Clear flag: Set the variable position of the clear curve. When the condition is reached, the displayed curve is cleared.

Visibility: Set the variable position that makes the graph component show or hide. When the condition is reached, the graph is displayed.

Note: As shown in the figure above, if the number of curves is set to 1, only one curve is displayed, so the number of points displayed on the curve is a line chart composed of a total of 10 points D10-D19.

As shown in the figure above, if the number of curves is set to 2, two curves need to be displayed. At this time, the 10 points of the first curve are D10 / D12 /...../ D28 and the 10 points of the second curve are D11 / D13 /.../ D27. If The number of curves is set to other, the number of points displayed on the curve can be like this sample, and so on.

4 Add	Delete	Copy		Point	Point Style: Point Color:	+ 0	
In 0 1	Max 100 100	Min 0 0	Display Fl	I Line	Pen Style: Pen Color:	11	
				Fill	Brush Style:		
				Fill Type:	Bottom A	rea	•
				Max:	100		• »
				Min:	0		• »
				Display Flag:			-

3.Curve : The page is as shown in the figure below.

Add: Click this button to add a new state. When in multiple states, different states are displayed according to the read variable data.

For detailed parameter settings, refer to section 3.4.13.

Pen Style: Set the pen form.

Brush color: Set the color of the brush.

Brush form: Set the form and color of the brush.

Fill Type: Set "which direction area to fill" when selecting the fill area.

Delete: Click this button to delete the selected state.

Copy: Click this button to copy the selected state.

#### 3.4.19 XY Graph

The HMI reads the continuous data of the corresponding address in the programmable controller. In addition to displaying it to the user in the form of a trend chart and a table, it can also choose to display it to the user in the form of an XY curve.

Click [Component]-> [Display]-> [XY Graph] to display the XY graph in the editing screen. Right click or double click to enter the property setting page. The graph property setting dialog box is shown in the figure below.

**1. Bevel:** refer to section 3.3.1.

**2. Control:** as shown above.

(Refer to 3.4.18 for specific settings. Only the differences are described here.)

Number of H Grids: Set the number of vertical grid lines in the XY graph. V grid line Style: Set the vertical grid line display format in the XY graph.

V grid line Color: Set the color of vertical grid lines in the XY graph.

#### For example

Set as above, the number of graph is 2, and the number of displayed points is 5, that is, two graphs are displayed, and each graph consists of 5 points. The

read position is D10 and the format is X0X1Y0Y1.

When displaying a graph, the value of D10 indicates the number of graph points. This value can be set, and must set be less than or equal to the number of displayed points. When the set value is greater than the number of displayed points, the system treats as the set value equal to the number of displayed points.

Data arrangement X0X1Y0Y1:

Reads a total of 20 register data of D11-D30, where D11-D20 is the value of the first graph, and the coordinates of the 5 points are (D11, D16) (D12, D17) (D13, D18) (D14, D19) (D15, D20). Then D21-D30 are the values of the second graph, and the coordinates of the five points are (D21, D26) (D22, D27) (D23, D28) (D24, D29) (D25, D30).

If the secondary material arrangement is selected as X0Y0X1Y1

It means read a total of 20 register data of D11-D30, where D11-D20 is the value of the first graph, and the coordinates of 5 points are (D11, D12) (D13, D14) (D15, D16) (D17, D18) (D19, D20). Then D21-D30 are the values of the second graph, and the coordinates of the five points are (D21, D22) (D23, D24) (D25, D26) (D27, D28) (D29, D30).

### 3. Curve: refer to section 3.4.13

### 3.5 Edit

After the HMI is connected to the programmable controller, some data in the programmable controller can be modified by the editing component. At this time, the editing component is used to complete the modification operation.

Click [Component]-> [Edit]-> to find different edit option as figure 3.5-1,or directly click the option from the tool shortcut bar, as figure 3.5-2





3.5-2

#### 3.5.1 Multiple Status Edit

Click [Component]-> [Edit]-> [Multiple Status Edit] to display the mutil Status Edit element in the edit screen. Right click or double click to enter the property setting page. The mutil Status Edit property setting dialog box is shown in the figure below.

Data Type [	[16Bit] Signed	•	Priority	By scene	-
Read Addr.			Confirm:	Press.action	•
Max:			Key Def:	Undefined	
Min:			Key Window:	Undefined	•
Write Addr.		• »	Act. State:		-
Write Notificatio			Hide when	Priority Lack or Dis. Priority Lack	
1			·		

1. Bevel: refer to section 3.3.1

2. **Control:** as shown above, please refer to section 3.3.2. (Difference below) Read position: Set the position of the variable to be read, and then read the value of that position.

3. Status: as shown above, please refer to section 3.3.2. (Difference below)



ever   Control Stat	us	
Language:	English (United States)	
Preview	Status	
	🕂 🗕 🖬 🍱 🎎 🗈 Add Delete Brush Image Text Copy	
	Condition Text	
	== 0	
	Text:	Carl Carl Carl Carl Carl Carl Carl Carl

Conditional expression: Set the value of the conditional expression, that is, you can set different values to make the component display different states.

#### 3.5.2 Numeric Entry

Click [Component]-> [Edit]-> [Numeric Entry] to display the value editing element on the editing screen. Right click or double click to enter the property setting page. The Numerical property setting dialog box is shown in the figure below.

Numeric Entry	×
Bevel Control Text	
Bevel Color In Color	lect Type
Location X: [416 W:: [104	Y: [176 H:: [64
	✓ OK Cancel

1. **Bevel:** As shown above, refer to section 3.3.1.(Difference below) Select button: Click the select button to pop up the dialog box as below.

####	####	####	####
No Frame	3D_I-Tiny	3D_I-Mean	3D_I-Thickness
####	####	####	
3D_II-Tiny	3D_II-Mean	3D_II-Thickness	

You can choose the shape of the editing component. There are 5pages

#### about 36 to choose .

#### 2. Control: Page as below.

Control			Option	
Data Type	[16Bit] Signed	-	Priority	By scene 💌
Read Addr.			Confirm	Press.action
Max:	[	-	Key Def.	Undefined 👻
Min:	ĺ	-	Key Window	65000 : Value input dia 🔻
Write Addr.	[	- >>	Controlled con	-
Write Notificat	3		Hide as prid	prity lack or disable
Befor Macro:		Prompt as priority lack		
After Macro:	ĺ	• &	Continue I Set last pri	nput ority after play.
Engineer Transf	er	Display Form	nat	
Offset:	0	Integer:	4 💌	Decimal
Gain:	1.0	Decimal Po	s.:[0 -	C Hex.
	1			C 32 Bits Float. Point
Au	x. Cal.	Zero of	Hi Bites	

Refer to section 3.3.2. (Difference as below)

Read address: Set the position of the variable to be read, and then read the value of that position.

**Engineer Transfer** 

Offset: Set the offset value after entering numeric data.

Gain: Set the magnification value after inputting numerical data.

Auxiliary calculation: When the offset value and magnification value are not calculated, click this button to pop up the auxiliary calculation dialog box as shown in the figure below.

Data		ENG. Transf	er Data
Max: Min:	1000 <b>•</b>	Max: Min:	5000       0
Cal. Result			
Offset:	0	Scale:	0.200000029802
			l.

Parameter calculation of Eng. Transfer: Set the maximum and minimum values to read.

Eng. Transfer Data: Set the maximum and minimum values after reading position transfer data.

Cal. Result: The system automatically calculates the offset value and the magnification value according to the input variable value and the project converted value.

OK: Click this button to exit this setting dialog and display the calculation result at the corresponding position on the previous page.

Cancel: Click this button to exit this setting dialog without making any changes.

#### For example:

When the HMI communicates with the PLC, the analog value in the PLC needs to be read, but the digital value in the PLC is  $0 \sim 4000$ , but the HMI needs the operator to see the temperature value of  $0 \sim 50$  °C. In this case, you can set the offset and magnification values in the engineering conversion data. Thus reducing the amount of calculation in the PLC.

Parameter calculation of Eng. Transfer set in the example above:

Data		ENG. Transf	fer Data	
Max: Min:	4000  0	Max:	50 0	\$ \$
Cal. Result				
Offset:	0	Scale:	80	

After clicking [OK], the properties of the numeric entry component are shown below:

Control			Option	
Data Type	[16Bit] Signed	•	Priority	By scene 💌
Read Addr.	D100	- 65	Confirm	Press.action 💌
Max:	50		Key Def.	Undefined 💌
Min:	0	-	Key Window	65000 : Value input dia 🔻
Write Addr.	D100	- >>	Controlled cor	
Write Notifica	t		Hide as pri	ority lack or disable
Befor Macro:	Í	- 2	Prompt as	priority lack
After Macro:		• 2	Continue I	nput iority after play.
Engineer Trans	fer	Display Forn	nat	
Offset:	0	Integer:	4	Decimal
Gain:	80	Decimal Po	05.:[0 <b>-</b> ]	C Hex.
	1			C 32 Bits Float. Point
Au	ix. Cal.	Zero of	f Hi Bites	

After setting, when the corresponding digital value is read in the PLC, the converted value is displayed in the HMI, as shown in the figure below

	Device Name D100	▼ T/C Set Value Reference Program	
D100 25 100	C Buffer Memory Module Start	Address	
C 23 C	Display format		
ata display on the HMI	Modify Value 2 W 16 32 32	RSC         10         16         Details         Open	<u>S</u> ave
	Device F E D C B A 9 8 7	6 5 4 3 2 1 0 Data re	ad in PLC
	D100 0 0 0 0 0 1 1 1 0 D101 0 0 0 0 0 0 0 0 0 0		
1	Device		
A	Device Name D100	T/C Set Value Reference Program	
D100 38 m	C Buffer Memory Module Start	Address	<u> </u>
	Display format		
HMI diaplay data	Modify Value 2 W 19 32 32	ASC 10 16 Details Open	<u>S</u> ave
changes accordingly	Device FEDCBA987	PLC d	ata change
	D100 0 0 0 0 1 0 1 1 1		
	D101 0 0 0 0 0 0 0 0 0		
Numeric Entry			23
Royal Control Taxt	1		
Devel concroi lext			
Control		ption	

Data Type [16Bit] Sig	ned 🔻	Priority	By scene
Read Addr. D1		Confirm	Press.action
Max:		Key Def.	Undefined
Min:		Key Window	65000:数值输入对话盒
Write Addr. D1		Controlled co	n 👻
Befor Macro: After Macro:	• 2	Continue 1 Set last pr	priority lack Input iority after play.
Offset: 5	Display Form	Mat 🚽	Decimal
Gain: 1.0	Decimal P	os.:0 🔻	C Hex.
Aux. Cal.	Zero o	of Hi Bites	C 32 Bits Float. Point
If the value of	of D1 in the H	PLC is 20, th	ne screen will
display 15.			

Control	Option	
Data Type [16Bit] Signe	ed 🚽 Priorit	y By scene
Pead Addr. D1	🔄 Confir	m Press.action
Max:	👻 📾 🛛 Key D	ef. Undefined
Min:	🚽 📾 🛛 Key V	Vindow 65000:数值输入对话盒
White Addr. D1	- >> Contr	olled con 👻 👩
Befor Macro:	Image: Second state       Image: Secon	ompt as priority lack ontinue Input It last priority after play.
Engineer Transfer	Display Format	
Offset: -5	Integer: 4	Oecimal
Gain: 1.0	Decimal Pos.:	C Hex.     C 32 Bits Float Point
		SZ DICSTIDUCTOINC

#### 3.5.3 Text Entry

Click [Component]-> [Edit]-> [Text Entry] to display the value editing element on the editing screen. Right click or double click to enter the property setting page. The text entry property setting dialog box is shown in the figure below.

Control		Option		
Data Type AB	•	Priority	By scene	-
String Length: 4 Char	-	Confirm	Press.action	•
		Key Def.	Undefined	-
Read Addr.		Key Window	65001 : String inp	ut dia 🔻
Write Addr.	• >>	Controlled cor	1	-
Write Notificat	•	E unde es est	, 	
Befor Macro:	• 0	Prompt as	priority lack	
After Macro:	<b>-</b>	Continue I	nput	

**1. Bevel:** refer to Chapter 3.3.1 and Chapter 3.5.2.

**2. Control:** The page is as shown above, please refer to section 3.3.2.(Differences as below)

Data Type: Select the format of the text string corresponding to the writing position

0. AB: the first word is written to the high-order bits of the variable, and the second word is written to the low-order bits of the variable.

1. BA: The second word is written to the high-order bits of the variable, and the first word is written to the low-order bits of the variable.

2. A: Each variable only stores one text in the low position.

3. A\_: Each variable only stores one text in the high position.

 $4 \sim 7$ , same as  $0 \sim 3$ , But no text is displayed, only "\*" is displayed.

String Length: Set how many characters to display. It can display 1  $\sim$  32 characters.

3. Text: refer to section 3.4.2.

#### 3.5.4 Password Edit

Click [Component]-> [Edit]-> [Password Edit] to display the password editing element in the editing screen. Right click or double click to enter the property setting page. The password edit property setting dialog box is shown in the figure below.

Control	Option	
Password Inde Set No.2 password	Priority     By scen	ne 💌
Work notify	Confirm Press.a	ction 💌
Pofor Macros	Key Def. Undefit	red 🔄
After Macro:	Key Window 65001	: String input dia 🔻
	Controlled con	-
	<ul> <li>Hide as priority lack</li> <li>Prompt as priority lack</li> <li>Continue Input</li> <li>Set last priority after</li> </ul>	or disable ack er plav.

1. Bevel: refer to Chapter 3.3.1 and Chapter 3.5.2.

**2. Data:** The page is as shown above. (refer to section 3.3.2, Difference as below)

Password index: Set the second to eighth passwords. At this time, the keyboard window in the option section on the right needs to set the input screen as the password input dialog box, otherwise it cannot be entered.

**3. Text:** refer to section 3.4.2.

After setting the parameters, click this component during execution, and the previously edited input screen will appear. After the input is completed, the password setting operation is completed.

#### 3.5.5 Track Bar

Using the slider element, you can use the adjustment knob to quickly set the value of the element.

Click [Component]-> [Edit]-> [**Track** Bar] to display the slider component in the edit screen. Right click or double click to enter the property setting page. The slider property setting dialog box is shown below.

Control		Option		
Data Type [16Bit] Sign	ed 💌	Priority	By scene	-
Read Addr.	<b>_</b>	Confirm	Press.action	-
Max:	-	Key Def.	Undefined	•
Min:	<b>• •</b>	Key Window	Undefined	-
Write Addr.	• »>	Controlled co	n	-
Write Notificat	•			
Befor Macro:	• 3	Hide as pri	iority lack or disable	
After Macro:	- 3	Prompt as	priority lack	

- **1. Bevel:** refer to section 3.3.1.
- 2. Control: refer to Section 3.3.2.
- 3. Display: The page is as shown above.

Display form: Set the position display mode of the component display scale.

Scale form: Set the display form of the scale.

Scale color: Set the display color of the scale.

Select Bevel: Set the form of selecting the internal border display.

Adj. Key Sel.: Set the display mode of the selection adjustment button.

Scale Numbers: Set the number of scales to be displayed. The setting range is  $1 \sim 100$ .

Scale Length: Set the length of the scale line, the setting range is  $3 \sim 12$ .

Outer frame color: Set the outer frame color of the inner frame and the adjustment button separately.

Inner frame color: Set the inner frame color of the inner frame and the adjustment button respectively.

Brush Style: Set the brush form of the inner border and the adjustment button separately.

#### 3.5.6 Scroll bar

Quickly set the value of the component. In addition to using the slider component, you can also use the scroll bar.

Click [Component]-> [Edit]-> [Scroll Bar] to display the scroll bar component in the edit screen. Right click or double click to enter the property setting page. The scroll bar property setting dialog box is shown below.

Control					
			Option		
Data Type	[16Bit] Signed	<u> </u>	Priority	By scene	-
Read Addr.		<b>•</b>	Confirm	Press.action	•
Max:			Key Def.	Undefined	•
Min:			Key Window	Undefined	
Write Addr.		• »>		Tondenned	
Write Notificat			Controlled co	on	<b>_</b>
Befor Macro:		- 2	Hide as n	riority lack or disable	
After Macro:		• 3	F Prompt a	is priority lack	
Para. Edit(Forma	t=16Bit Unsign)		-		
Normal Offset:	1		- 0		
Fast Offest:	10		- 03		
Form size:	0		- 10		

**1. Bevel:** refer to section 3.3.1.

**2.** Control: The page is as shown above.(refer to section 3.3.2,differences below)

Para. Edit(Format=16Bit Unsign)

Normal offset: Set the general offset value, that is, the data that moves every time you click the left and right arrows of the scroll bar.

Fast offset: Set the value of fast movement, that is, the data that moves every time the scroll bar is clicked once.

Form size: Set the width of the slider.

Note: The setting in the parameter editing column is only effective when the data format is set to 16-bit signed / unsigned number.

3. Display: refer to section 3.5.5.

#### 3.5.7 List box

In addition to the scroll bars and sliders described in the previous sections, you can also use list boxes to quickly change the data of register elements.

Click [Component]-> [Edit]-> [List Box] to display the list box component in the edit screen. Right click or double click to enter the property setting page. The list box properties setting dialog box is shown in the figure below.

Data Type [16Bit	] Signed 💌	Priority	By scene	•
Read Addr.		Confirm	Press.action	•
Max:		Key Def.	Undefined	•
Min:	<b>• E</b>	Key Window	Undefined	•
Write Addr.	• »	Controlled cor	۰ ۱	-
Write Notificat	•			
Befor Macro:	• 2	Hide as pri	ority lack or disable	
After Macro:	• 3	I Prompt as	priority lack	

- 1. Bevel: refer to section 3.3.1.
- 2. Data: refer to Section 3.3.2.
- 3. Status: refer to Section 3.3.2.
- 4. Display: refer to section 3.5.5.

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### **Chapter 4 Project management**

#### 4.1 Screen management

The [Screen] allows us to quickly understand all the current pictures. Add, edit, delete, preview all pictures. For details of this chapter, please refer to 2.4.1 Scene. After we create a new file, we can see the screen section shown in the figure below, which is divided into two parts: screen and preview.



#### Screen management

Use a tree structure to represent the relationship between each group. Example: Only the scenes belonging to this group will be displayed under the

initial screen group.

[TK6070FH]: indicates the HMI model set when creating a new file.

[Init Screen Group]: The system's preset starting screen group is convenient for us to edit the screen and can be clearly classified. When the screen is edited to a considerable degree, the group function becomes more important. You can also create a group according to your needs. Right-click the TK6070FH or start screen group, and select [New Screen Group] in the pop-up scene. Set the group name and permissions for this group. For example, the system in the figure above Preset group.

[Start Screen]: Under each group, you can create a screen belonging to the group, which is convenient for us to edit and browse, and can quickly know the current relationship between all the scenes and groups.

#### Preview

When a certain picture is selected, the screen preview will display the preview graphic of the selected picture, and the size of the preview picture size can also be adjusted. Therefore, when there are many scenes, you can directly click the screen in the screen management, and you can see the preview graphic of the selected screen in the screen preview.

### 4.1.1 Dialog box screen

The purpose of the dialog box is that when we press a certain function button, such as when confirming or canceling, in order to avoid human negligence, pressing the button first causes loss of important data, so the dialog box window is set to prompt when the button is pressed to ask whether OK to avoid the loss caused by accidentally pressing the button.

The dialog box made in the case is only a basic form. Of course, users can make dialog boxes of different styles according to their own ideas or needs. After reading this chapter, Hope it can give you useful information.

#### Add, edit, delete dialog boxes

Click [Project]-> [Screen]-> [Add Screen],

ile Edit View	Project HMI(M) Compone	ent Tool Window Help
	冒 Screen	🕑 🖥 Add Screen Group
Æ	Communication	Edit Screen Group
	🧳 Tag	Delete Screen Group
Graphic Componer	ABC Language	Open Screen Group
	Keyboard Define	Close Screen Group
0 1 2 3	🕕 Alarm	Add Screen
-	🛥 Password	Conv Screen
Scene Managem	🕀 Sound	Edit Screen
5. 5. 5. I 🗔	🗠 Protection	Delete Screen
	🛋 Data Sync	
	🛃 Record	Lock Screen
	🕲 Data Schedule	Open Screen
- 1 :	🖰 Recipe	All Screen to BMP
3 ::	🖳 System Configuration	
🖻 🖶 System	😵 Macro	• Eiiii
650	Report Manager	
000		— P

or right-click [Init Screen Group] in the Windows management, as shown in the figure below.

Scene Management 🛃 🔓 🚰 🗖 👼 🔍 💷 🕅 🗗 🚼 🚼	
Image: Strategy of the strateg	e

After selecting [Add Screen], a window for adding a screen will pop up as shown in the figure below. Select the dialog box in the [Screen Type] . For other settings, refer to section 2.4.1. Click the [OK] button to add a dialog box window.

creen Data						
Name:	Screen2					
Num.:	4	÷	Auto Switc	h		-
Type:	Normal Screen	-	Delay Time:	0	•	Sec
Security:	By scene group		Jump to:	Undefined		•
Inherit:	Undefined	•	Stop funct as Delay Ti	ion of Auto. swit me set zero , Th	h screer e Delay	ı
BG Color:			Time rang	15 0 32/07 .		
Description	Load BG Image	1				~ ~ ~
	Clear BG Image					
Position:	Center	•				
lacro						
Scre	en OPEN Macro	CYCL	E <mark>Macro I</mark> nter	val: 0.5Sec	8	•
Scree	en CLOSE Macro			1		
8 -						

When editing or deleting a screen, you can select the screen to be edited or deleted, and then click [Project]-> [Screen], or right-click on the selected screen to select the edit or delete screen. The settings for the edit screen are the same as those for adding new screen.

#### 4.1.2 Case of dialogue box

After adding the dialog box window, you can start editing the dialog box screen you need, as shown below. The examples given here are examples of extending multiple languages and components. Please refer to Chapter 5 "Language Management".



mView : [C:\Users\EN\Desktop\English Case\Multi-La	nguage.vxf]	- 🗆 X
File Edit View Project HMI(M) Component To	ol Window Help	
📙 🗳 🕶 📙 🗠 🕶 🖙 🐇 🖿 🏙 🗏 🖽 🤋	· □ · ● · • • ·   ™ ₩   • □ □   © F	
) 💯   🌲 🔍   📷 🐂 🔢 📰 🔫 📆 🔫 '	Q Q    ╊ - ♥ - ∥ - № -   🖮 🛛 - ଏ(: 🖷 🙃	🗟 🐔 🖆 📮 😵 🕶 🔟
Graphic Component   Static Component   Button Display	Edit	
🕞   🖸   🖾 🕮 졤 🖸 📾   🛲 🖻   🖄	📾 😾 💿 🎗 🖄 🍇 🔜 🌯 🐏 🍁 🗛 🖑	
	h (United States)	
Scene Management	🔜 1 : Start Scene [100%]	2 : Eng-Corfirm Scene [100%]
TK6037FH TK6037FH TK5037FH T 1: Start Scene 3 : Chn-Confirm Scene 3 : Chn-Confirm Scene 5 System default group 65000 : Value input dialogue box 65000 : Value input dialogue box 65000 : Dareward input dialogue box FPreview : 51%	mView Multi-Language	Are your sure to English ! Yes No
Are X. J. R. Vek. E 12 51.	± 235, 210	

- Step 1. Add new screen and set the screen property as dialogue box. As shown in picture 2 above , the name is set to [Confirmation dialogue box].
- Step 2. Place two key buttons on the screen, and set them to [Confirm] and [Cancel].
- Step 3. Set the properties of the [Confirm] button, refer to section 3.3.5. The settings of the data page are shown in the figure below.

Normal:	ОК	•	83	Priority	By scene	¥
Shift:	ОК	•	<b>B</b>	Key Def.	Undefined	•
Ctrl:	ОК	•		Destine Voice	Undefined	•
Alt:	ОК	•				
Notification:		-	•			
Befor Macro:		•	8			
After Macro:		•	2			

Normal: The action to be performed when this button is pressed.

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Shift: The action to be performed when the [Shift] key and the button are all pressed.

Ctrl : The action to be performed when the [Ctrl] key and the button are all pressed.

Alt: The action to be performed when the [Alt] key and the button are all pressed.

In the definition of the keys in the figure above, there are too many functions to choose from. In this Case, we take two examples to explain. The OK button is used as the OK key, so select [OK] in all four fields columns.

Step 4. Select the [Status] page to set the parameters of this page. Because the main function of this button is to use it as the OK key, all the text in the  $0 \sim 3$  index value is entered Confirm. As shown below.

Language Chine	ese (Simplified, China)	
Preview	Status	
	Add Delete Brush Image Text Copy	
	Index Text	
[	0 積定	
	2 确定	
确定	3 确定	
	Vord Input (ma⇔)	

Step 5. Set the Other language text. Otherwise, the language text cannot be displayed normally. As shown below.

Language Engli	sh (United States)	
Preview	Status	
	+	
	Index Text	
(	0 Yes 1 Yes	
	2 Yes	
Yes	3 Yes	
	Word Input Yes	

Step 6. Set another key button as the cancel key. For the method, refer to Step 3, Step 4, and Step 5.

Step 7. After setting the properties of the two buttons, the Chinese confirmation dialog box is completed.

As shown below.



Step 8. When we press the two buttons [Chinese] and [English] in the start screen, the dialog box screen must appear for confirmation, so two dialog boxes must be created. Here you can right-click [Confirm Dialog Box] in the screen management and click [Copy Screen] in the pop-up shortcut menu. Modify the screen properties, as shown below

mView : [C:\Users\EN\Desktop\English Case\Mu	/ulti-Language.vxf]
File Edit View Project HMI(M) Component	nt Tool Window Help
🗅 😂 ▾ 🖬    ∽ ▾ ⌒ ▾   ½ 📭 🛍    !	5+ - 5: - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
🏭   🌲 🚇   🐚 🐂 🛛   📼 👻 🔐	☴ - @, Q,   탉 - ♥ - ∥ - 號 -   🖮 🚺 - ﴿ 🖫 🚑 🤅
Graphic Component   Static Component   Button Disp	isplay   Edit
😓   🕒   123 ABU AÐ 🖸 🛅   🚥 📄 🖻	🛛 🖾 😾 🔊 🎗 🗠 🌿 🎫 🏪 🏪 🗣 🔶 🖑
0028456789	English (United States)
Scene Management	2 : Eng-Confirm Scene (100%)
· · · · · · · · · · · · · · · · · · ·	
□···· Init Scene Group	Are your sure to English !
2 : Eng-Corfirm Scene	
System defat Edit Screen Group	
65000 : V Delete Screen Group	
C Open Screen Group	Yes No
Preview : 51% Close Screen Group	
Add Screen	
Are yc a Copy Screen	
Delete Screen	
Lock Screen	
Screen Property	>
Normal Adv. Communication	
Scene Data	
Scene Name	
Scene name Eng-Comm Scene	
SceneNum. 3	Auto Switch
Scene Type: Dialogue Box	■ Delay Time: 0 Sec
Security -	Jump to: Undefined
By scene group	Step function of Auto quith screen
Inherit: Undefined	as Delay Time set zero , The Delay
BG Color:	Time rang is 0 32767 .
Description:	<u>^</u>
< C	× .
Load BG Image	
Clear BG Image	
Position: Center	
1	
Macro	
Screen OPEN Macro	CYCLE Macro Interval: 0.5Sec -
Screen CLOSE Macro	,
Screen CYCLE Macro	

Step 9. Click the [Confirm] button in the screen properties to successfully add a new dialog box screen. After modifying the attributes of the components in the



#### 💦 mView : [C:\Users\EN\Desktop\English Case\Multi-Language.vxf] × ile Edit View Project HMI(M) Component Tool Window Help ﷺ | ♣ ♣ ◎ | 늘 늘 | | - ☆ ☆ ~ ☆ ~ ☆ ~ ☆ ~ ☆ ~ ☆ ~ ☆ ● ● ● ◆ ④ ⊑ ↔ 参 늘 回 = ◇ Graphic Component | Static Component | Button | Display | Edit | 🕟 | 💿 | 🖾 📧 📧 💿 📾 | 🚥 😑 🗧 | 🔤 | 📾 🖗 🌮 🌮 🎐 🖄 🖄 😫 🏰 🍁 🏎 🤫 0 1 2 3 4 5 6 7 8 9 English (United States) \* 📑 1 : Start Scene [100%] × Scene Management 📑 2 : Eng-Corfirm Scene [100%] 23 등 등 등 목록 무록 무록 물 명 TK6037FH TK6037FH Tint Scene Group T : Start Scene 2 : Eng-Coffirm Scene 3 : Ch-Coffirm Scene mView Multi-Language Are your sure to English ! ➡ System default group ➡ System default group ➡ 65000 : Value input dialogue box ➡ 65001 : String input dialogue box ➡ 65002 : Password input dialogue box Chinese Yes No 65003 : Password accurately message 65004 : Password error message English G5004 : Password end message G5005 : System setting screen G5006 : System message screen G5007 : HEX input dialogue box 65010 : Download screen 65011 : Virtual on-line 65012 : USB Download 23 3 : Chn-Corfirm Scene [100%] System screen G5100 : Brightness and Contrast **您确**定要转换成英文! 65105 : Adjust screen Preview : 51% 原确定 无论成为 八文 ! 确定 取消 确定 腔消 🔓 Screen: 🗣 Link 🧳 Tag

new screen, the project is shown in the figure below.

Step 10. In the initial screen, modify the properties of the [Chinese] button component as shown in the figure below. After completing the modification, click the [Confirm] button to save the settings.

Data			Option		
Action:	Var/Const	▼ 5	ecurity:	By scene	•
Format:	[16Bit] Signed	- (	Confirm:	Press.action	•
Write Address:	LANGUAGE INDEX [ -	> K	ey Def:	Undefined	-
Rule:	0 🗸	Es k	ey Window:	3 : Chn-Confirm Scene	
Max:	-	Es C	estine Voice	Undefined	-
Min:	-	<b>E</b> (	Controlled con	-	-
Notification: Befor Macro: After Macro:	- - -		<ul> <li>Hide Obj.</li> <li>Hide as priority lack or disable</li> <li>Prompt as priority lack</li> <li>Set last priority after play.</li> </ul>		
Format Decimal Pos.: [	0		Dec Hex		

Step 11. In the initial screen, modify the properties of the [English] button component as shown in the figure below. After completing the modification, click the [Confirm] button to save the settings.

Data		Option		
Action:	Var/Const	Security:	By scene	-
Format:	[16Bit] Signed	Confirm:	Press.action	-
Write Address:	LANGUAGE INDEX ( 👻	>> Key Def:	Undefined	-
Rule:	0 🔹	E Key Window:	2 : Eng-Corfirm Scene	·
Max:	-	Destine Voice	<sup>9</sup> Undefined	-
Min:	•	Controlled co	n 💌	-
Notification: Befor Macro: After Macro:	- - -	■ Hide Obj.	iority lack or disable ; priority lack riority after play.	
Format Decimal Pos.:	0	C Dec     C Hex     C 32bit Float		

Step 12. Complete all design operations as above. The execution test screen is shown below.



When the [Chinese] button is pressed, a confirmation dialog box appears as shown below.
<b>您确</b> 定要转	· 换成英文!
_	
<b>瑞</b> 宁	TD: 当

When the [English] button is pressed, a confirmation dialog box appears as shown below.



In this way, we can apply this case to other same functions, so as to avoid the situation where the button is accidentally pressed.

### 4.2 Link management

When you select Link management, you can see a tree structure diagram as shown in the figure below. You can quickly know which communication protocol and how many controllers are currently set in COM1 and COM2. You can select the communication protocol or controller by using the mouse. After pressing the right mouse button, you can quickly create, edit, and delete communication protocols or controllers to improve the timeliness of Link management operations. It is also easy to create, edit, and delete communication protocols or controllers.

<b>**</b> **/	₽_  Щ, Щ, Щ  <b>&gt;</b>	
T <b>100</b> -E	(6070FH © COM1	
Ė	CoolMay PLC(3U/3G)/FX3U [9600,E, 0 : CoolMay 3U Series [St=1]	7,
5	i COM2	

**[**TK6070FH] : Indicates the HMI model set when creating a new file.

- XII

【COM1】: Set the communication protocol that COM1 on the computer belongs to. After clicking, you can quickly create, edit, and delete communication protocols, but only one communication protocol can be set for a serial port.

【COM2】: Set the communication protocol that COM2 on the computer belongs to. After clicking, you can quickly create, edit, and delete communication protocols, but only one communication protocol can be set for a serial port.

【Controller】: Set the controller to which the communication protocol belongs in this serial port. You can set multiple controllers, but the station number and ID must be unique (for details, refer to section 4.2.1).

Right-click on any serial port and select [Add Protocol] to pop up the New Communication Protocol window. As shown in the figure below, select the communication protocol you want to use.

1000001:	CoolMay PLC(	3U/3G)/FX3	U		ŀ
ontroller:	Company	Model			Des
	CoolMay	CoolMa	y 3U Series	Ł	PLC
ort:	Auto Detect(	RS232/RS4	22/RS485)		
ort: aud Rate:	Auto Detect( 9600	RS232/RS4	22/RS485) Data Bit:	7Bits	-
ort: aud Rate: arity:	Auto Detect( 9600 Even	RS232/RS4	22/RS485) Data Bit: Stop Bit:	7Bits 1Bit	
ort: aud Rate: arity: elay:	Auto Detect( 9600 Even 0ms	RS232/RS4	22/RS485) Data Bit: Stop Bit: TimeOut:	7Bits 1Bit 1sec	

Protocol: Use the drop-down options to select the protocol to be used. Controller: Displays the manufacturer and model selected by the communication protocol.

Electrical: Four options for selection, automatic identification, RS232, RS422, RS485.

Baud Rate: from 150 to 115200 speeds, which can be selected.

Parity: [None], [Odd parity], [Even parity], [Mark], [Space].

Data bit: [5], [6], [7], [8].

Stop bit: [1 bit], [2 bit].

Delay: no delay, 10ms delay to 5000ms delay, optional.

Timeout: [0.1], [0.2], [0.5], [1], [1.5], [2], [3], [5], [10] a total of 9 options.

Retry Count: Set the numbers of re-transmissions when the communication is unsuccessful.

Multi-Station Smart Link: Select this function flag

Click the [OK] button to complete the setting of the communication

protocol. The [Add Controller] pops up as shown in the figure below. You need to select the controller model you want to operate.

X

Add Controller

ID:	0			
Station:	1			
Controller:	Company	Model	Description	
	CoolMay	CoolMay 3U Series	PLC	
Description:				^
Description:				

ID: The ID number of the controller.

Station : the station number of the controller, that is, the ID number of the PLC,

Controller: Display the selected manufacturer, model, description, etc. Description: Enter a description or help for this controller.

#### 4.2.1 ID and station number

The station number (HMI station number) in the HMI unit setting is the ID (PLC ID) corresponding to the connected controller, and the ID (HMI ID) set by the human machine is the corresponding controller in the software setting. For the setting of the station number, COM1 and COM2 of the HMI are independent. Therefore, COM1 and COM2 can be set to connect the controller with the same station number, but for the setting of ID, each HMI cannot be repeated. Because the ID describes that this controller is which controller connected to HMI unit, as shown below.

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### 4.3 Tag management

Because there are many types of controller models, and the numbers of contacts and registers of communication protocols defined by different manufacturers are not the same, in order to facilitate the memorization of the contact or register numbers, the software design uses label management to increase readability.

For example, when creating a new label, we replaced the X1 contact with the name [test]. After the new construction is completed, as long as the component needs to use X1, type [test] in the write position or read position or click the drop-down menu to select [test], then the system will treat [test] as It is X1. In this way, each contact and register can be set with a convenient and easier name instead of the name of the contact and register on the original communication protocol.

#### 4.3.1 Tag management case

Step 1. Click [Project]-> [Tag]-> [Add Tag Group], as shown in the figure below. Using label classification can make labels more detailed, and it can be more convenient and quicker to use.



Step 2. In the pop-up "Add Tag Group" dialog box, set the name of the newly added tag classification, as shown in the following figure.

Add Tag Group	×
Tag Group Name:	
For monitoring pages	
🗸 ок	X Cancel

Step 3. Click the [OK] button to add a new tag group. At this time, you need to click [Project]-> [Tag ]-> [Add Tag] to pop up the dialog box for adding labels, as shown in the figure below.

Tag Group	For monitoring pages	-
Tag Name	TEST	
Address:	D0	»
Max:	100	
Min:	0	
Description	1	^
		-
	<	>

Set the content of each parameter, refer to section 2.4.3.

Note: If you do not need to subdivide the label classification, you can omit step 1 and step 2. When you add a new label, start directly from step 3. Step 4. After clicking [OK] in step 3, the "For monitoring pages" tag will be added with a "TEST" tab, as shown below:

<u>a</u> 🕭 Ø	2 3 0	12 💖
Default F	or monitor	ing pages
Tag N	Address	Descri
TEST	D0	Test
TEST-X	D101	Test

Step 5. Add "numeric entry" elements to the start screen, as shown in the figure below.



Step 6. Open the property page of the component, as shown in the figure below. After setting the label, you can directly use the pull-down option to select [Test] at the reading position instead of typing. Therefore, the use of tags can greatly improve the visibility of contacts and memories during operation, and reduce human error.

Control			Option		
Data Type	[16Bit] Signed	-	Priority	By scene	•
Read Addr.	I	- 65	Confirm	Press.action	-
Max:	SIGNAL SOURCE 5	^ <b>E</b>	Key Def.	Undefined	-
Min:	SIGNAL SOURCE 0	E	Key Window	V 65000 : Value input d	lia 💌
Write Addr.	SIGNAL SOURCE 8 COMPORT ALARM	>>	Controlled o	on 👻	] 🗖
Write Notific Befor Macro: After Macro:	at === FOR MONITOR	IN • Q	☐ Hide as p ☐ Prompt a ☐ Continue ☐ Set last	priority lack or disable as priority lack a Input priority after play.	
Engineer Tran	sfer	Display Form	nat		
Offset:	0	Integer:	4 💌	Decimal	
Gain:	1.0	Decimal Po	)S.:[0 -	C Hex.	
	1	_		C 32 Bits Float. Point	
Δ	ux. Cal.	Zero of	Hi Bites		

### **Chapter 5 Language management**

This software supports multiple languages. The purpose is to allow anyone to use the language and symbols they are familiar with to edit the required projects on this software platform. As a result, hmi can be used quickly, the readability can be improved visually, and the work efficiency can be increased.

Multi-languages can only be used in components that can display numbers or text. When we create a new project, the system will use the language preset by the operating system (here Simplified Chinese is taken as an example), so the text or numbers entered on the component are classified Under Simplified Chinese language. If we create a new English language, as shown below. At this time, you can choose Chinese or English here. If we previously set the component and set the component to text or number, we can find that when Chinese is selected, the component displays the text or number we entered, but when English is selected, the text and the numbers on the component disappeared because we did not enter text or numbers in the English language, so they did not appear.



Therefore, to display several new languages, you must enter various new languages and characters on the component. We can create multiple languages in the language management. The object properties window of the component can select the language under [Status], [Text ] can input the text of the language we selected, so that no matter which language is selected, the text we entered for this language on the component will appear.

### 5.1 Add, edit, delete languages

After selecting [Project]-> [Language], there will be six options, as shown in the figure below.

ViewX : [C:\Use	rs\sy\Documents\11.vxtJ	
File Edit View	Project HMI(M) Component	Tool Window Help
	昏 Screen	- H - H
18 k k 🖉	Tag Communication	@ Q ┣ ▼ ♥ ▼
Graphic Component	tanguage	路 Add Language
↓ + / ○	📸 Keyboard Define	HE Edit Language
0 1 2 8 0	🌔 Alarm	
	Password	💦 Init Language
Scene	📢 Sound	🎎 Translate
5. 5. 5. I <b>C</b>	🗠 Protection	Dictionary
	🖬 Data Sync	
E K6070FH	Record	ini i
	🖀 Data Schedule	
2:9	🚭 Recipe	
🖻 🖶 System	🖳 System Configuration	
650	💱 Macro 🕨	
650	🔲 Report Manager	
650	Setup	-

Directly click the language management icon in the toolbar 🇱 💌 ,the language management dialog box shown as below.

	<b>中</b> 友 自 <b>委</b>	中文 AP》		<b>#</b> *	A D	<b>86</b>	
Add	Language	Edit Langu	lage Delete	Language	Set Init Language	e Str Translate	
Dic	Translate	Str Colle	ct Tran	🕮 slate Dic	Translate text imp	ort Translate text export	
ndex	Name	LocalID	Font	Decimal	Separate		
<u>0</u>	English (Unit	00000	Tahoma [9]	(3.62)	1083		
1	Chinese (Sim	00000	MS Sans Seri	•	,		

Index: The index field is the index value of each language and it is unique. Each index value corresponds to the system preset parameter N65342 [current screen language index]. Therefore, when the value of the system parameter is changed, the corresponding language will be switched according to the index value filled in the write position.

Add language: When you click this option, will pop up "setting dialog box".

Language I	French (France)	
Local ID:	0000040C	
ont:	MS Sans Serif [8]	Font
Test:	français	
Decimal:	,	
Separate:		

Name: Click the drop-down list to select the language to be added.

Local ID: The area code of the selected language area. This item is added by default.

Font: Displays the preset default font you selected.

Select font: Click this button to pop up the font selection dialog, as shown in the figure below. You can set the default font, glyph, size, effect, underline, and color of the new language.

Test : Display the template of the selected font.

Decimal: Set which symbol is displayed when the decimal point symbol is displayed.

Separate: Set which symbol to use when displaying the separator.

After clicking the [OK] button, a new language is added to the language management screen, as shown in the figure below.

Add L	Language	Edit Langu	lage Delete	Language	Set Init Langua	ge Str Translate	
Dic.	nanslate	Str Colle	ct Tran	📖 slate Dic	Translate text im;	port Translate text export	
Index	Name	LocalID	Font	Decimal	Separate		
\$ <mark>\$</mark> 0 1	English (Unit Chinese (Sim	00000	Tahoma [9] MS Sans Seri	:	,		
2	French (Fran	00000	MS Sans Seri				

Edit language: Click this option to set the font, glyph, size, effect, underline, and color of the existing language. The editing screen is the same as that displayed in adding new language.

Delete language: Click this option to delete the existing language.



Set initial language: Click this option under multiple languages to set the initial language.

String translation: Click this option to convert the language on the screen to the selected language, as shown in the figure below.

Translate		×
Translate		
C Complex Ch	inese ->Simple Chinese	
C Simple Chine	ese -> Complex Chinese	
Dirtionary		
Find:	English (United States)	-
Replace:	Chinese (Traditional, Taiwan)	•
-		
	V OK X Cancel	

Among them, the software program sets Chinese and English as preset translation functions. In addition, you can use the function of the translation dictionary to set the corresponding language text, as shown in the figure below.

Add Delete Re	記 <mark>記</mark> 回 face Import Export		
中文(繁体,台湾)	英语(美国)	中文(简	间阿拉伯语
確定			
取消	Cancel		
清除	Clear		
倒退	Backspace		
數值輸入	Number Input		
一般	Normal		
字串輸入	String Input		
密碼輸入	Password Input		
系統資訊	System Information		
螢幕寬度:	Screen Width:		
螢幕高度:	Screen Height:		
螢幕顏色:	Screen Color:		
螢幕尺寸:	Screen Size:		
OS版本:	OS Ver:		
年	Year		
月	Moon		
B	Day		
min.:	min.:	min.:	min.:
max.:	max.:	max.:	max.:
ок	ОК	ОК	ОК
Back	Back	Back	Back
Esc	Esc	Esc	Esc
Clear	Clear	Clear	Clear
2	-	-	
0	0	0	0
9	9	9	9
Q	Q	Q	8

Dic. Translate: Set the corresponding language translation by yourself.

### 5.2 Multi-language and component cases

Step 1. Create a new project file.

Step 2. Add English language.

Step 3. Select the component. Here, take [Static Text] in [Static] as an example. As shown below.



Step 4. Open the Static Text Properties dialog box. First set the English language as shown below.

Language:	English (United States)	-
Color:	Word Wrap	
Align:	Center	
Effect:	Normal	
Flash:	Normal	
Font:	?? [16]	Font
Text:	mView Multi-Language	^

Step 5. Set the Chinese language again as shown below.

Text		
Language:	Chinese (Simplified, China)	-
Color:	₩ Word Wrap	
Align:	Center	
Effect:	Normal	
Flash:	Normal	
Font:	?? [16]	Font
Text:	mView多国语言案例	^

- Step 6. When both languages are set, click the [OK] button. The static text will now display the font of the selected language. As described in the previous chapter, when Chinese or English is selected, different fonts are displayed.
- Step 7. Add [value button] to the initial screen, open the object property window, select [variable or constant] in [action], and select [language index of present screen] in [write ADDRESS]. [Rules] Please enter [0], which refers to the index value mentioned in section 5.1, which indicates that the language family is Chinese, and 1 indicates English, as shown in the figure below.

Data		1	Option		
Action:	Var/Const	•	Security:	By scene	-
Format:	[16Bit] Signed	•	Confirm:	Press.action	-
Write Address:	LANGUAGE INDEX	• >>	Key Def:	Undefined	-
Rule:	0	• 📾	Key Window:	Undefined	•
Max:		• 📾	Destine Voice	Undefined	•
Min:	[	- 65	Controlled con		-
Notification: Befor Macro:	[		Hide Obj.	wity lack or disable	
After Macro:		• •	Prompt as pro	priority lack priority lack prity after play.	
ormat					
Decimal Pos.:	0		Dec		
	0		C 32bit Float		

[Status] page, set the language of Chinese status and the language of English status, as below.

Const Button		× Const Button		>
Push Button   Control Language	Status status Status Status Add Delete Brush Image Text Copy Index Text 0 + +	Push Button   Control S	Status Status Status Add Delete Brush Image Text Copy Index Text 0 Chinese 1 Chinese	•
	Word Input 中文	<b>1</b>	Word Input Chinese	
	V OK X Cancel	]	V OK X Cancel	

Step 8. Add a second [Value button], set the setting button properties as shown below

Data Action: Format: Write Address: Rule: Max: Min: Notification: Befor Macro:	Var/Const [16Bit] Signed LANGUAGE INDEX		Option Security: Confirm: Key Def: Key Window: Destine Voice Controlled con Hide Obj. Hide as prio	By scene Press.action Undefined Undefined Undefined	• • • •
Format Decimal Pos.: [	0	•	G Dec G Hex G 32bit Float	ority after play.	

Set its status page to Chinese and English text as shown below.

nst Button	× Const Button		
Push Button   Control Status	Push Button Co	ontrol Status	
Language Chinese (Smplified, China)  Preview  英文  英文	Language Preview Englis	Sh (United States)	•
Word Input 英文		Word Input	<b>B</b> ≩ <sup>*</sup>

Step 9. The setting is completed, and the project can be downloaded to the HMI. Or select [HMI (M)]-> [Offline Execution] or use the hot key Shift + F9 to check the effect.

When you click the [English] button, the effect is as shown in the figure below.



When you click the [Chinese] button, the effect is as shown below.

1 : Start Scene	×
mView爹	国语言案例
	中文
	英文

### **Chapter 6 Alarm management**

Alarm Mar	nagement												
Add A	Jarm	e, Edit Alarm		•_ Delete Al	larm	Alarm Set	Alarm Configura	ation Import	Exp	port			
Alarm Para	. Area			Alarm I	nfo.								
Name	Alarm A	Mask Ad	Upc	Index	Level	Trig Method	Alarm Picture	Alarm Picture Set	Check Picture	Alarm Voice	Description	Word Color	Alarm word
•													10

Click the New Alarm Area button to open the New Alarm Area window, as shown in the figure below.

Name:	Alarm0	
Address:		• 69
Mask:		• 69
Update:	3Sec	•
Delay:	0Sec	•
Group:	Alarm Group 0 Alarm Group 1 Alarm Group 2 Alarm Group 2	Ŷ
Description:		^
	~	~
	<	>

Name: Enter the set name for the newly added alarm zone.

Address: Enter the position of the variable, you can select it through the drop-down arrow symbol or directly enter the position of the variable. As shown in the figure above, the icon button <sup>113</sup> behind the input box indicates that the position must be WORD. Click the button to pop up the variable window as below to check which variable is in WORD type. At the same time, you can also enter or select the required variable in the number edit box as below.

Controllor:	0 : CoolMay	3U Series [	[St=1]			
Variable/Para.:	Туре	Name	Range	Sp	Description	^
	BIT	Xooo	0 - 367	1	Inputs	
	<b>BIT</b>	Y000	0 - 367	1	Outputs	
	BIT	Mnnnn	0 - 7679	1	Auxiliary r	
	<b>BIT</b>	Mnnnn	8000 - 8511	1	Special au	
	BIT	Snnnn	0 - 4095	1	States	
	BIT	TSnnn	0 - 511	1	Timer con	
	BIT	CSnnn	0 - 255	1	Counter c	
	C WORD	TNnnn	0 - 511	1	Timer curr	
	C WORD	CNnnn	0 - 199	1	Counter c	
	B DWORD	CNnnn	200 - 255	1	Counter c	~
Number:						
Number:		Chinin	200 - 255	1	counter c	

- Alarm shielded address: When the alarm is triggered, this function can be used to shield the alarm, that is, the alarm message and sound are not displayed. The selection method of the shielded address is same as that of the alarm area address.
- Update cycle: You can choose how often you want to update. If you select 3 seconds, it means that the alarm will be checked every 3 seconds.
- Classification group: You can check which group this alarm will be classified into. Double click the left mouse button in the group to edit the group name.
- Start-up delay: Select whether to wait for the controller to start the alarm time after the completion of data creation.
- Help: Type a help statement for this alarm.

When the alarm area is added, the [Alarm] is shown in the figure below. At this time, there are two setting buttons added in the toolbar of the window, which are [Edit Alarm] and [Delete Alarm], [Edit Alarm] means to edit the data of the current alarm area again. [Delete alarm] is to delete the data of the selected alarm event area.

Alarm Para. Area       Alarm Info.         Name       Alarm A       Mask Ad       Upd         Alarm No       355         Image       Alarm Victure       Alarm Picture         Alarm No       355         Image       Image       Undefined       Undefined       Undefined       Undefined       Undefined       O         Image       Image       Image       Undefined       Undefined </th <th></th>	
Name     Alarm A     Mask Ad     Upd       No     306       301     prompt     Undefined     Undefi	
Abirm0       N0       S56         Q 0       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         Q 1       prompt       Undefined       Undefined       Undefined       Undefined       Undefined       0         Q 2       prompt       Undefined       Undefined       Undefined       Undefined       0         Q 2       prompt       Undefined       Undefined       Undefined       Undefined       0         Q 3       prompt       Undefined       Undefined       Undefined       Undefined       Undefined       0         Q 4       prompt       Undefined       Undefined       Undefined       Undefined       Undefined       Undefined       0         Q 5       prompt       Undefined       Undefined       Undefined       Undefined       Undefined       0         Q 6       prompt       Undefined       Undefined       Undefined       Undefined       Undefined       0         Q 7       prompt       Undefined       Un	or Alarm wo
I       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         Image: State	
1       2       prompt       Undefined       Undefined       Undefined       Undefined       0         1       4       prompt       Undefined       Undefined       Undefined       Undefined       0         1       4       prompt       Undefined       Undefined       Undefined       Undefined       0         1       5       prompt       Undefined       Undefined       Undefined       Undefined       0         1       6       prompt       Undefined       Undefined       Undefined       Undefined       0         1       6       prompt       Undefined       Undefined       Undefined       Undefined       0         1       7       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       8       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       10       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         11       prompt       Undefined       Undefined       Dialogue Box       Undefined       0       0         111       prompt       Undefined       Undefined	
③3       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         ④4       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         ④5       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         ④6       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         ④7       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         ④8       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         ④9       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         ④10       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         ④11       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         ④12       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         ④12       prompt       Undefined       Undef	
1       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       5       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         1       6       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       7       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       7       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       8       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       9       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       10       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       prompt       Undefined       Undefined       D	
1       5       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         1       7       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         1       7       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         1       9       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         1       10       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         11       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         12       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         11       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         12       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         12       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         13       prompt       Undefined       Unde	
Image: Second	
1       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         1       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         1       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         1       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         1       prompt       Undefined       Undefined       Dialogue Box       Undefined       0       0         1       prompt       Undefined       Undefined       Dialogue Box       Undefined       0       0         1       prompt       Undefined       Undefined       Dialogue Box       Undefined       0       0         1       prompt       Undefined       Undefined       Dialogue Box       Undefined       0       0         1       prompt       Undefined       Undefined       Dialogue Box       Undefined       0       0         1       prompt       Undefined       Undefined       Dialogue Box       Undefined       0       0         1       prompt	
Image: Sympt of the sympt	
10       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         11       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         12       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         13       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         14       prompt       Undefined       Undefined       Dialogue Box       Undefined       0	
③ 11       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         ③ 12       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined       0         ③ 13       prompt       Undefined       Dialogue Box       Undefined       Undefined       0         ④ 14       prompt       Undefined       Undefined       Dialogue Box       Undefined       0         ④ 14       prompt       Undefined       Undefined       Dialogue Box       Undefined       0	
12         prompt         Undefined         Undefined         Dialogue Box         Undefined         Undefined         0           13         prompt         Undefined         Undefined         Dialogue Box         Undefined         Undefined         0           14         prompt         Undefined         Undefined         Dialogue Box         Undefined         Undefined         0	
13 prompt Undefined Undefined Dialogue Box Undefined Undefined 0 14 prompt Undefined Undefined Dialogue Box Undefined Undefined 0	
14 prompt Undefined Undefined Dialogue Box Undefined Undefined 0	
15 prompt Undefined Undefined Dialogue Box Undefined Undefined 0	

As below figure, at the selected message to be set, and then press [Alarm Setting] or double-click directly on the selected message, will pop up the alarm setting window as below .

Alarm Set		×
Alarm Define Alar	m Mes.	
Alarm Define		
Index:		
Level:	prompt	
Trigger method	<sup>1</sup> Undefined	•
Alarm screen:	Undefined	•
Alarm screen se	Dialogue Box	•
View screen:	Undefined	•
Alarm sound:	Undefined	•
Description:		^
	2	~
*	🗸 OK 🕺 Cancel	]

#### Alarm define

Alarm definition

Index value: Because the alarm location is stored in WORD, the size of WORD is 2bytes. When WORD is 1, it will be converted to binary [0000 0000 0000 0000 0001]. Please refer to the table below.

2power	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
2Carry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
index	5	4	3	2	1	0										

Level: After setting the level, it is convenient for users to edit which level this alarm is.

Trigger method:

Positive edge: When the data changes from 0 to 1, trigger the alarm.

Negative edge: When the data changes from 1 to 0, trigger the alarm.

Positive and negative edge: When the data changes from 0 to 1 or from 1 to 0, trigger the alarm.

High level: When the data is 1, trigger the alarm.

Low level: When the data is 0, trigger the alarm.

Positive edge and high level mixing: When the positive edge and high level conditions are met, trigger the alarm.

Negative edge and low level mixed: When the negative edge and low level conditions are met, trigger the alarm.

Alarm screen: Select the screen that appears during the alarm. You must add a new dialog box before editing the screen to be used during the alarm.

Alarm screen settings:

Dialog box: 1. When selecting a dialog box, please note that the set screen must have the function of leaving the dialog box; otherwise, when the alarm occurs, the set dialog box will cause the problem of being unable to leave.

2. When operating the screen (screen type is dialog box), if the alarm occurs at this time, the screen that has not been completely operated before will disappear.

Screen change: Select the display screen to jump to when the alarm occurs, such as the current alarm display table screen.

Message: When selecting message, you can choose seconds for the message to appear, will not affect the function of the current operation.

View screen: You can add a dialog box to edit the screen. When an alarm occurs, you want to see what kind of alarm occurred before, this screen will appear. We set the screen expressed by this alarm, and can do convenient alarm point to search screen.

Alarm sound: Select the sound when the alarm occurs, you must first set the sound in the sound management.

Description: A description of this setting.

Alarm message

Alarm message

Language: Set the language when the alarm message is displayed. Color: Set the color of the text when the alarm message is displayed.

Text: Set the text displayed in the alarm message.

Click the [Alarm Configuration] button. The alarm configuration dialog box is displayed as below:

Alarm Configuration				×
Alarm Record				
Record Count:	62		(2 - 2048)	
Retentive				
	🗸 ОК	X Cancel		

#### Alarm record

Record Numbers: Set the number of recorded alarms, ranging from 2 to 2048. When the number of alarms exceeds the set number, the first recorded data will be deleted one by one to increase the latest alarm record.

Use power-off retention: Select this option to save the data in the alarm log when the HMI is powered off and then Restart on.

### 6.1 Alarm case

This chapter uses a simple case to explain how to set the alarm (trigger, shield), and uses the alarm record table to display the occurred alarm information.

Step 1. Before setting the alarm information, you need to edit the alarm screen, as shown in the following figure .





Step 2. Click [Project]-> [Alarm] in the menu bar or directly select the [Alarm] icon<sup>①</sup> in the toolbar to open the it, As shown in the following figure.

Add A	Narm	edit Alarm	Del	•_ ete Alarm	Alarm :	Set Alar	<b>%</b> rm Configuration	Impo	ort	export	t	
larm Para	. Area		Alarm									
Name	Alarm A	Mask Ad	Index	Level	Trig Met	Alarm Pi	Alarm Pictu	Check Pi	Alarm V	Desc	Wor	Alar

Step 3. Click the [Add Alarm] button to open the new alarm area window and set the parameters as shown in the following figure.

Name:	Alarm-Urgent	
Address:	NO	• 6
Mask:	N1	• 6
Update:	3Sec	-
Delay:	0Sec	-
Group:	Alarm Group 0 Alarm Group 1 Alarm Group 2 Alarm Group 3	^ ~
Description:		^
	6	~

After the settings are completed, click the [OK] button to save the settings. Show as shown in the following figure.

Add	Alarm	m Edit Alarm		•_ Delete Alarm		💁 Alarm Set	Alarm Configura	ation Import	Exp	oort			
Alarm Pa	a. Area			Alarm I	nfo.								
Name	Alarm A	Mask Ad	Upd	Index	Level	Trig Method	Alarm Picture	Alarm Picture Set	Check Picture	Alarm Voice	Description	Word Color	Alarm wor
Alarm-Urg	NO	N1	3Se	0	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				1	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				(i) 2	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				<b>(</b> )3	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				14	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				15	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				06	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				107	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				108	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				19	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				10	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				11	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				12	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				13	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				14	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				15	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	

Step 4. Select the information bar with an index value of 2 and click the [Alarm Setting] button, or double-click in the information to open the alarm information setting dialog box. The setting contents are shown in the following figure.

larm Define		
Index:	2	
Level:	prompt	•
Trigger metho	d High-level	•
Alarm screen:	2 : Alarm Screen2	•
Alarm screen se	el prompt,2Sec Auto Close	•
View screen:	8 : Alarm Point2	•
Alarm sound:	Undefined	•
Description:		^
		~
	<	>

After the settings are completed, click the [OK] button to save the settings. Show As shown in the following figure.

Add Alarm         Edit Alarm         Delete Alarm         Alarm Set         Alarm Configuration         Import         Export           Alarm Para. Area         Alarm Info.         Alarm A         Mask Ad         Upd         Index         Level         Trig Method         Alarm Picture         Alarm Pictu					1	0		- 1 · · · · · · · · · · · · · · · · · ·		40			
Alarm Para. Area       Alarm Info.         Name       Alarm A       Mask Ad Upd         Alarm-Urg       N0       N1         30e       prompt       Undefined       Undefined       Dialogue Box       Undefined	lit Ala	Alarm		Delete A	larm	Alarm Set	Alarm Configura	ation Import	Exp	ort			
Name     Alarm A     Mask Ad     Upd       Alarm-Urg     N0     N1     35e       Alarm-Urg     N0     N1     35e       Image: Distribution of the state of				Alarm I	nfo.								
Alarm-Urg NO N1 35e 3 prompt Undefined Undefined Undefined Dialogue Box Undefined Undefined 3 prompt High-level 2: Alarm S prompt, Sce c 7: Alarm P Undefined 3 prompt High-level 2: Alarm S prompt, Sce c 8: Alarm P Undefined 3 prompt High-level 2: Alarm S prompt, Sce c 9: Alarm P Undefined 4 prompt Undefined Undefined Dialogue Box Undefined	lask /	k Ad	. Upd	Index	Level	Trig Method	Alarm Picture	Alarm Picture Set	Check Picture	Alarm Voice	Description	Word Color	Alarm wor
1       prompt       High-level       2 : Alarm S       prompt. 0.5Sec       7 : Alarm P       Undefined         3       prompt       High-level       2 : Alarm S       prompt. 2.5ec A       8 : Alarm P       Undefined         3       prompt       High-level       2 : Alarm S       prompt. JSec A       8 : Alarm P       Undefined         3       prompt       High-level       2 : Alarm S       prompt. JSec A       9 : Alarm P       Undefined         3       prompt       High-level       2 : Alarm S       prompt. JSec A       9 : Alarm P       Undefined         4       prompt       Undefined       Undefined       Dualegue Box       Undefined       Undefined         5       prompt       Undefined	1		3Se	10	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
1       1       prompt       High-level       2: Alarm S       prompt, 2Sec Au       8: Alarm P       Undefined         3       prompt       High-level       2: Alarm S       prompt, 2Sec Au       9: Alarm P       Undefined         3       4       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined         3       5       prompt       Undefined       Undefined <td></td> <td></td> <td></td> <td>1</td> <td>prompt</td> <td>High-level</td> <td>2 : Alarm S</td> <td>prompt,0.5Sec</td> <td>7 : Alarm P</td> <td>Undefined</td> <td></td> <td>0</td> <td></td>				1	prompt	High-level	2 : Alarm S	prompt,0.5Sec	7 : Alarm P	Undefined		0	
Image: Spring to the spring				<b>3</b> 2	prompt	High-level	2 : Alarm S	prompt,2Sec Au	8 : Alarm P	Undefined		0	
			3	prompt	High-level	2 : Alarm S	prompt,1Sec Au	9 : Alarm P	Undefined		0		
① 5       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined         ③ 6       prompt       Undefined       Undefined       Undefined       Undefined       Undefined       Undefined         ③ 7       prompt       Undefined       Undefined       Dialogue Box       Undefined       Undefined         ③ 8       prompt       Undefined       Undefined       Undefined       Dialogue Box       Undefined       Undefined         ④ 9       prompt       Undefined				14	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				1 5	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
<ul> <li></li></ul>				16	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
Pompt Undefined Undefined Dialogue Box Undefined Un				107	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
				18	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
Q 10 prompt Undefined Undefined Dialogue Box Undefined Undefined Undefined Undefined Undefined Dialogue Box Undefined Undefined Dialogue Box				19	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
11 prompt Undefined Undefined Dialogue Box Undefined Undefined				10	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
(Department Haddend Haddend Distance Haddend Hadde				11	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
12 prompt Underined Underined Dialogue Box Underined Under				12	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
13 prompt Undefined Undefined Dialogue Box Undefined Undefined				13	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
14 prompt Undefined Undefined Dialogue Box Undefined Undefi				14	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	
15 prompt Undefined Undefined Dialogue Box Undefined Undefined				15	prompt	Undefined	Undefined	Dialogue Box	Undefined	Undefined		0	

Step 5: Return to the starting screen, design the starting screen, set the value of N0 by using the increment and decrement buttons, and use the display lamp to display N0 bit situation. As shown in the following figure.





The new added screen is set as a shielding screen, design the shielding screen, set the value of N0 by using the increment and decrement buttons, and use the display lamp to display N0 bit situation. As shown in the following figure.



Use [Alarm Display Table], [Alarm Count Table] and [Current Alarm Table] respectively to design one screen to record the alarm, as shown in the following three figures. Please refer to section 3.4.16 for specific instructions on the alarm record table.

🔜 4 : Alarm Record Scene [100%]	×
Alarm Display Table	
	a <b>a</b>
Alarm Show Scene Shield Secen	Current Alarm
5 : Alarm Count [100%]	<b></b>
S: Alarm Count [100%]	<u> </u>
S : Alarm Count [100%]	<b></b>
S : Alarm Count [100%] Alarm Count Table Num Message Time	<b>1</b> 5
S : Alarm Count [100%] Alarm Count Table Num Message Time	s A
S : Alarm Count [100%] Alarm Count Table Num Message Time	25
S : Alarm Count [100%] Alarm Count Table Num Message Time	S. A.
S : Alarm Count [100%] Alarm Count Table Num Message Time	25 A
S : Alarm Count [100%] Alarm Count Table Num Message Time	<b>≥</b> 5 ▲
S : Alarm Count [100%] Alarm Count Table Num Message Time	<u>19</u>
S : Alarm Count [100%] Alarm Count Table Num Message Time	25
S : Alarm Count [100%] Alarm Count Table Num Message Time	S. A.
S : Alarm Count [100%]	
Stale Count [100%]	S Current Alarm
S: Alarm Count [100%]         Alarm Count Table         Num       Message         Time         Alarm Show Scene         Shield Secen	S A Current Alarm Scene





Step 6. After all screen settings are completed, you can start executing actions. Click [Offline Execution] or press [Shift]+[F9], and the execution screen is shown in the following figure.



At this time, we can find that when clicking the [+] button, the value of N0 changes from [0] to [1], but the alarm is not triggered until [4]. Setting the high level trigger, why does it being triggered when value is 4? the alarm location is stored in WORD. In step 4, we select index 2 in [Alarm] to set, that is, when the second bit of N0 is 1, the value of N0 must be 4 to trigger. Because the WORD data size is 2bytes and is [0000 0000 0000 0000] (refer to the table in

4 : Alarm Record Scene

this chapter) in binary terms, when in the high level triggers, the binary value corresponding to index 2 is 1, that is, [0000 0000 0000 0100], and the corresponding binary screen is  $2^2$  power, 1 \* $2^2$  power = 4, so the setting of index 2 will only be triggered when N0 value is 4.

Step 7. If the user does not turn off the alarm or shield the alarm after the alarm occurs, the alarm screen will be reproduced every other update cycle according to the update cycle which is set in [Alarm (Event) Management] (3 seconds in this case) until the alarm is turned off or shielded.

When an alarm occurs, the display information of [Alarm Display Table], [Alarm Count Table] and [Current Alarm Table] are shown as below.

[Alarm Display Table] will be compiled into a record table according to the alarms that have occurred.

	Ala	IIII DISP	hay rabic	
NUM	Time	Restore	Message	
000	15:17:28		Alarm Happen02	
001	15:17:31		The front door is open	ned
Scene	Shield Sec	cen	Alarm Count 5	Current Alarm
		100	cene	Scene
	NUM 000 001	NUM         Time           000         15:17:28           001         15:17:31	NUM         Time         Restore           000         15:17:28         001         15:17:31           001         15:17:31         Straight of the second sec	NUM     Time     Restore     Message       000     15:17:28     Alarm Happen02       001     15:17:31     The front door is open

### Alarm Display Table

[Alarm Count Table] All the number of alarms that have occurred so far will be counted and compiled into a count table.

Х

Coo	may®
-----	------

-		Alum Count Tab		
L	Num	Message	Times	<b>_</b>
	000		0	
	001	The front door is opened	1	
	002	Alarm Happen02	1	
	003	The back door is opened	0	
	004		0	
	005		0	
	006		0	
	007		0	
	008		0	
	009		0	
	010		0	
	011		0	
	012		0	
Alarm Show Scene		Shield Secen	Record	Current Alarn

[Current Alarm Table] Displays the alarm information that is currently happening and has not been cleared into the record table.

10 : Current Alarm			
	Current	Alarm Table	
	Index Alarm Time 000 15:17:28	Message Alarm Happen02	
	001 15:17:31	The front door is opened	
Alarm Show Scene	Shield Secen	Scene	cene
J			

Step 8: After the alarm occurs, the alarm information sent needs to be closed or shielded. The method of closing the alarm information is to restore the value of N0, namely restore the bit corresponding to the index value to 0. Shield alarm information refers to setting the value of alarm shielded address N1 to be the same as that of N0. As shown in the following figure, alarm information can be shielded.

3 : Shield Secen							×
			N1 4	+1		_	
Power of 2	2 <sup>15</sup> 2 <sup>14</sup>	<sup>1</sup> 2 <sup>13</sup> 2 <sup>12</sup>	<sup>2</sup> 2 <sup>11</sup> 2 <sup>10</sup> 2	<sup>9</sup> 2 <sup>8</sup> 2 <sup>7</sup>	2 <sup>6</sup> 2 <sup>5</sup> 2 <sup>4</sup>	2 <sup>8</sup> 2 <sup>2</sup> 2 <sup>1</sup> 2 <sup>0</sup>	
2 carry	••	••					
Index	15 14	13 12	11 10 9	876	5 5 4 3	3 2 1 0	
Description: Press g bit value and in	s +1 /-1 Idex tabl	to change e through	e Value of N I the binary Iarm	1 to trigge ight signal case.	r the alarm, I, to facilitat	display the c e the underst	orrespondin and of the a
Alarm Show Sce	ene	Alarm I Sci	lecoed ane	Alarn Si	n Count cene	Current Sco	t Alarm ene

At this time, the display information of [Alarm Display Table], [Alarm Count Table] and

[Current Alarm Table] are shown in the following three figures.

[Alarm Display Table] records all alarms that have occurred. If the alarm has been cleared or shielded, the recovery time will be displayed.

4 : Alarm Record Scene						×
		Ala	arm Disp	lay Table		
	NUM	Time	Restore	Message		
	000	15:17:28	15:18:49	Alarm Happen02		
	00i	15:17:31		The front door is oper	neci	
Ĩ	1	1	í.			terit.
Alarm Show S	cene	Shield Se	cen	Alarm Count S	Curr	ent Alarm
Autorion of	Conc		0.000	cene		Scene
L						

[Alarm Count Table ] is the same as before, and will always count the times each alarm occurs.



Num	Message	Times	<b>▲</b>
000		0	
001	The front door is opened	3	
002	Alarm Happen02	2	
003	The back door is opened	0	
004		0	
005		0	
006		0	
007		0	
008		0	
009		0	
010		0	
011		0	
012		0	-
		5	

Because the alarm has been cleared, there is no record of any alarm in [Current Alarm Table].

10 : Current Alarm			×
	Current A	Alarm Table	
	Index Alarm Time	Message	
	light states	Alarm Record	Alarm Count S
Alarm Show Scene	Shield Secen	Scene	cene

So far, the basic description of the alarm information settings is completed.

The following steps will introduce to use the inspection screen to mark fault points.

Step 9. First add the viewing screen in the alarm setting dialog, as shown in

#### the figure below.

larm Define		
Index:	2	
Level:	prompt	•
Trigger metho	High-level	•
Alarm screen:	2 : Alarm Screen2	•
Alarm screen se	e <sup>1</sup> prompt,2Sec Auto Close	•
View screen:	8 : Alarm Point2	•
Alarm sound:	Undefined	•
Description:		^
		~
	<	>

Step 10. Change the screen editing of the current alarm screen to below.



Enter [Current alarm table] property setting page. On the advanced setting page, when selecting the items in [Options], the viewing screen is displayed. select it. As shown below.

Index Alarm Lime Message	Select Bevel
	Out Color:
	Brush Style:
Option	Select
✓ Show Frame when Sel. Item ✓ Index Big->Small Index	Brush Style:
Group Option	Write Addr.

Plan [View Screen 1], [View Screen 2], and [View Screen 3] as shown

#### below

🔚 7 : Alarm Point1 [100%]
Point1



	-X-
	Point2
N 9 : Alarm Point3 [100%]	
- Point3	
Point3	
PointS	
Point3	

Step 11. Repeat step 4 to set the actions of alarm indexes 1, 2, and 3, and set the viewing screen like View screen 1, View Screen 2, View Screen 3. That is, when the value of N0 is 14, three alarm messages are triggered simultaneously. As shown below

1 : Alarm Show Scene										- 2					×
			NO	14		+: -1	L								
Power of 2	2 <sup>15</sup> 2	<sup>14</sup> 2 <sup>13</sup>	2 <sup>12</sup>	2 <sup>11</sup> 2 <sup>10</sup>	<sup>)</sup> 2 <sup>9</sup>	2 <sup>8</sup> 2	2 <sup>7</sup> 2 <sup>6</sup>	2 <sup>5</sup>	2 <sup>4</sup>	2 <sup>3</sup>	2 <sup>2</sup>	2 <sup>1</sup>	2 <sup>0</sup>		
2 carry	•		• •		•	00		•							
Index	15 14	13	12 1	11 10	9	8 7	7 6	5	4	3	2	1	0		
Description: Press ng bit value and	s +1 /-1 index ta	to cha able thi	ange V rough	alue of the bina e ala	N0 t ary li rm ca	o trig ght si ase.	ger th gnal,	ne al to fa	arm, acilita	dis ate f	play the	the und	e coi lerst	rrespo and o	ondi f th
Shield Secen	1	Alar	m Ro Scen	coed 9		Alar	m Co ceno	e	t S		Cu	rre S	nt /	Alarn 1e	n

At this time, enter the [Current Alarm Screen] and you can see that there are three alarm

information in the [Current Alarm Table], as shown in the figure below.



When selecting the alarm item in the [Current Alarm Table], the relative position of the fault alarm table will be displayed on the screen on the right side of HMI.


#### Chapter 7 Password Management

When operating the equipment, it is often necessary to provide users in different responsibilities with operating functions of different permissions. Some important functions are only available to users who have a password and have sufficient permissions. In this regard, password management provides protection layer and convenience in rights management.

Click [Project]-> [Password] to open the password edit form, as shown in the figure below. This software provides 8 sets passwords and 8 types permission levels for users to set. The first set of systems enforces the highest permissions to avoid insufficient permissions when setting incorrectly.

1:	User Level 1(High) 🗾	
2:	User Level 2 💌	
:	User Level 3 💌	
<b>i</b> :	User Level 4 🔹	
5:	User Level 5 🔹	
i:	User Level 6 🔹	
7:	User Level 7 💌	
3:	User Level 8 🔻	

Generally, the default level of the new added screen is [set by screen group], the default level of the screen group is the lowest authority, and the default level of all components is [set by screen]. Therefore, unless otherwise specified, the user can use all the functions of the editing, because all functions are available at the lowest level of authority.

#### 7.1 Component setting

If some users needs to be restricted to a certain component ( button component & editing component), you can set the use permission of this component when setting the component. As shown in the figure below, set the usage permission of [Screen Button] to [User level 4].

Scene Switch: 1:1	Initial Scene	Option     Priority	User Level 4	-
		Confirm	Press.action	•
Switch Notes	•	Key Def.	Undefined	-
Befor Macro:	<b>.</b>	Sey Window	Undefined	-
After Macro:		Destine Voice	Undefined	-
		☐ Hide Obj. ☐ Hide as pric ☐ Prompt as j ☐ Set Levle 9	rity lack or disable priority lack	<u> </u>

When using this button, the authority is lower than the setting authority, the password input screen will shown as below, requiring the correct password before continuing to use this function.

Size Typ Pl	resen	it pur	view:			9				Pa	asswor	d Inp
		<u>0</u> 2										
	1	2	3	4	5	6	7	8	9	0	-	+
	Q	w	E	R	Т	Y	U	I	ο	Р	]	]
	A	S	D	F	G	H	J	к	L	;	•	
	2	z x	ĸ	c   1	VE	3 1	1	м	,	•	1	
	Sh	ift	Sp	ace	Ba	ck	Cl	ear	E	sc	0	К
					1				1			

#### 7.2 Screen settings

If you need to restrict the user to the components of the entire screen, you can set the use Screen Property when editing the screen, and are restricted by the



settings when using the screen component. The settings are shown below.

ciccii bucu					
Name:	Start screen				
Num.:	1	<b></b>	Auto Swite	h	
Type:	Init Screen	•	Delay Time	:0	Sec \$
Security:	By scene group	-	Jump to:	Undefined	•
Inherit:	User Level 3 User Level 4 User Level 5	_^	Stop funct as Delay T	tion of Auto. swith so ime set zero , The D	creen elay
BG Color:	User Level 5			15 0 32/0/ .	
Description:	User Level 8 User Level 9(Low)				~
	By scene group	¥			>
	Load BG Image				
	Clear BG Image				
Position:	Center	•			
lacro					
Screel	n OPEN Macro	CYCL	E Macro Inte	rval: 0.5Sec	
Scree	n CLOSE Macro			Jupper	
8 -					

#### 7.3 Password screen setting

In addition to planning the HMI project, you can edit the password to be used in [Project]-> [Password Management], or you can design a password page specifically for password management in the man-machine interface project. Show. The input element is [Password Edit] in [Edit].

1 : Initial Scene [100%]		×
PassWord NO.2	*****	
PassWord NO.3	*****	]
PassWord NO.4	*****	]
PassWord NO.5	*****	
PassWord NO.6	*****	]
PassWord NO.7	*****	
PassWord NO.8	*****	

[Password Edit] The property setting page is as below, you can choose to set several groups of passwords. Only the first group of passwords, that is, the password with the highest authority, cannot be set and needs to be set during project planning.

Control	-	Option		
Password Ind	Set No.2 password	Phoney	By scene	_
Work notify	Set No.2 password	Confirm	Press.action	-
	Set No.4 password	Key Def.	Undefined	-
Befor Macro:	Set No.5 password	Key Window	Undefined	
After Macro:	Set No.7 password Set No.8 password	Controlled cor		•
		Hide as pri Prompt as Continue I	ority lack or disable priority lack nput iority after play.	

#### **Chapter 8 Sound Management**

In this software, users are allowed to edit various sound effects to use, click [Project]-> [Sound Management] to open the sound management window, as shown below.

Sound Index Nam ) Key Dialo	e Repeat Non-rep. g Non-rep.	Content Order 0	t Frequence	Time	1	
Index Nam ) Key Dialo	e Repeat Non-rep. g Non-rep.	Order 0	Frequence	Time		
) Key Dialo	Non-rep.	0		TITIC	ê	
. Dialo	g Non-rep.		1000	50		

The part in the circle above is the sound preset by the system. By default, the system sets the index 0 and index 1 in the figure as the sound of the button and the dialog box.

Click the [Add Sound] button, and the [Add Sound Window] as shown below will pop up.

ndex:	2	
Name:	Sound0	
Repeat Count:	Non-repeat	•
Description:	2	^
		~
	<	>

Index: The system automatically adds the index value in sequence.

Name: Enter the name defined for this sound.

Repeat Count: choose the number of repetitions when using this sound, you can choose not to repeat up to 7 times.

Description: Enter a help description for this sound.

After setting, click [OK] button to save the above settings. Click the [Add Item] button, and the [Add Sound Item] as shown below will pop up.

Indov			
Index.			
Frequency:	1000		Hz
Time:	50	 •	ms 🕨

Frequency: Input the frequency of sound. The high and low sound will change with the frequency. The high frequency means sharp sound, and the low frequency means low sound. For the setting of sound frequency, please refer to [Appendix 3 Scale Frequency Table]

Time: Enter the time to make a sound, in ms, 500ms is equal to 0.5s, indicating that the sound will stop after 0.5 seconds.

The triangle button in the circle in the figure is the function of trying to play the sound. After setting the sound frequency and duration, you can press this button to play to confirm whether it is the sound you want to set.

This completes the setting of each parameter of sound. In the process of setting the attributes of components, if there is a demand for sound, you can choose to use it, as shown in the following figure.

Data			Option		
Action: Format: Write Address: Rule: Max: Min: Notification: Befor Macro: After Macro:	Input [16Bit] Signed		Security: Confirm: Key Def: Key Window: Destine Voice Controlled con Hide Obj. Hide as prio Prompt as p	By scene Press.action Undefined 65000 : Value input dialo Undefined Undefined 0 : Key 1 : Dialog 2 : SoundO try fack of disable priority lack ority after play.	· · · ·
Format Decimal Pos.:	0	•	<ul> <li>O Dec</li> <li>○ Hex</li> <li>○ 32bit Float</li> </ul>		

#### **Chapter 9 Data Synchronization Management**

When the device is actually running, there are some materials that need to be updated synchronously, or when you need to use one data to affect another data, you can use [Data Sync] to complete.

Click [Project]-> [Data Sync...] to open the [Data Sync] Window, as shown in the figure below.



Click the [Add] button to open the [Add Data Sync] window as shown below. You can edit the data to be synchronized.

aca byne		
Time:	3Sec	-
Format:	[16Bit] Signed	•
Condition:	1	•
Type:	High Level	•
Data Type:	[16Bit] Unsigned	•
Source:	NO	-
Destination:	N1	• »
Length:	1	•
	🗖 Write multiple data at once	
Description:		^
		4
	<	>

Time: Select the time to achieve synchronization, that is, when the data of the source address changes, how long the data of the destination address will be synchronized after the condition variable reaches. In other words, the time when the synchronization condition is valid. For example, synchronization condition mode: high level; condition variable: N10.0; synchronization time: 10 minutes; then N10.0==1 after 10 minutes, the data starts to synchronize, if it is a falling edge, then the condition must be maintained More than 10 minutes, otherwise the falling edge cannot be detected, so there is no special requirement. Generally set the synchronization time of 0.2 seconds (that is, the trigger condition is very sensitive, and the condition variable is synchronized immediately).

Format: select the type and type of variable used for synchronization data. Condition: Set the condition variable and decide whether to synchronize according to the synchronization condition mode of this condition variable.

Type: In this case, the high level is set to achieve synchronization.

Rising edge: When the data changes from 0 to 1, synchronization is achieved.

Falling edge: When the data changes from 1 to 0, synchronization is achieved.

Rising and falling edges: When the data changes from 0 to 1 or from 1 to 0,

both are synchronized.

Positive level: when the data is 1, synchronization is achieved.

Negative level: when the data is 0, synchronization is achieved.

Source: Set the address of the data source, that is, the address where the data is read. In this case, the system variable N0 is used.

Destination: Set the address of the data destination, that is, the address where the data is written. In this case, the system variable N1 is used.

Description: Enter the definition description for this synchronous data, you can not enter it.

After the above parameter setting is completed, the editable synchronization screen can be edited. This screen changes the value of N0 by the increment and decrement buttons. After the value of N0 changes for 3 seconds, the value of N1 changes to the same value as N0. Show.

2 : Data-Sync Scene [	100%]			:::		
NO	####		10+		N0-	
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
	N1 #	###		· · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · ·
	· · · · · · · · · · · · · · ·					

: Data-Sync Scene



#### **Chapter 10 Recipe Management**

When the HMI is connected to the PLC, there are often a large number of values with the same nature of the data that need to be transmitted. We categorize and sort these data and transmit them at the same time. This is the recipe. When the general equipment is in actual operation, there are some production materials that need to be transmitted to the PLC by the man-machine interface, or when the man-machine interface is required to record the data, you can use [Recipe] to achieve.

Click [Project]-> [Recipe] to open the [Recipe] Management Window, as shown below.



Click the [Add] button to open the [Add Recipe] Definition Window, as shown in the figure below, you can edit the new recipe data .

Index		
INGEX.		
Name:	AA	
Work:	N100	
Control:	NO	
Backup Device:	Read Only	•
Backup Addr.:		
Recipe Count:	8	•
Description:		~
	<	> ~

Index: The system automatically adds the index value of the recipe data in sequence.

Name: Set the name of the recipe.

Work: Use the recipe to temporarily store the starting address of the corresponding variable (the size is 1 group recipe capacity).

Control: variable address that controls the recipe action (the size of the control area is 4 WORD)

Addres	Name	Content	Remarks
+0	Index0	065535	
+1	Rev	0	Кеер
+2	Rev	0	Кеер
+3	Control	Bit0=Read(Move from backup area to work area) Bit1=Write(Move from backup area to work area)	Automatically cleared after moving parts

Backup Addr: Choose recipe backup, currently only 2 options are available.

Data read-only: data is stored in the HMIT program, suitable for read-only recipes.

Use system variable area (N0-N61439): data is stored in the system variable area, suitable for reading and writing recipes.

Remarks: For the system variable area, please check the power failure holding section of individual models.

Backup Addr: The storage address of the backup recipe.

Recipe Count: The total number of recipe groups.

Description: Enter the description text of this recipe, you can not enter it. Formula variable definition:



Add / Delete Variables: Click the Add / Delete button directly to add / delete variables.

Set variable format: Click any column that needs to modify the variable format, and then click the corresponding variable format required by this column.

S16: Set to 16-bit signed number.

U16: Set to 16-bit unsigned number.

S32: Set to 32-bit signed number.

U32: Set to 32-bit unsigned number.

F32: Set to 32-bit floating point.

Definition of recipe variables: Recipe actions are controlled by reading and writing variables in the control area.

Reauteci	pe action.:	
Address	Name	Content
+0	Index0	0
+1	Rev	0
+2	Rev	0
T3	Control	Set 1(Bit0: Move from backup area
3	Control	to work area)

Read recipe action::

Move the group 0 recipe from the backup area to the work area Write recipe action:

Address	Name	Content
+0	Index0	7
+1	Rev	0
+2	Rev	0
1.2	Control	Set 2(Bit1: Move from backup area
+3	Control	to work area)

Moved from group 0 recipe in working area to group 7 in backup area. In addition, in order to write the recipe into the controller PLC or read it out from the same controller PLC, it is necessary to match the data movement button component, as shown in the figure below.



#### 10.1 Recipe use cases

This case is used to explain how to set the usage data recipe.

Step 1. Click [Project]-> [Recipe] on the menu bar to open the [Recipe] Management Window, as shown in the following figure:



Step 2. Click the [Add Recipe] button to open the [Add Data Recipe Definition] window and enter each parameter value, as shown in the following figure.

Index:		
Indext		
Name:	AA	
Work:	N10	
Control:	NO	
Backup Device:	Used Internal Memory(N	0-N61439) 🔻
Backup Addr.:	N100	
Recipe Count:	8	<b></b>
Description:		~
		4
	<	>

Step 3. After setting the parameters, click the [OK] button to return to the [Recipe] Management window. The newly added recipe data is displayed on the right side of the window, as shown in the following figure.

Add Recipe	Ca Ca Edit Delete	e Import	Export	-		
0	AA		Recipe\Para. 0 1 2 3	N10 25 26 89 75		
			1 Items/WOR	D	Save addr.:N53	

Step 4. Click the [Add] Recipe Variable button  $\mathbb{R}$ , add the recipe variable to N13, and enter the numerical value of the recipe, as shown in the following figure.

Recipe Index Name De		16 UIB 83	8 (62) (62)		
0 AA	Recipe\Para	N10	N11	N12	N13
	0	25	36	58	95
	1	26	48	25	74
	2	89	28	15	76
	3	75	81	42	57
		Red	cipe Nun	nerical Va	alue

Step 5. Close the [Recipe] window, return to the project editing screen, and add the numeric editing elements in the work area addresses N10  $\sim$  N13, as shown in the figure below.

1	:	St	а	rt	sc	e	ne	= [	1	00	)9	6	]																																																								
100	1				1	1	1			٩.		4	1	8					8	2	2				0								2	2				1	1			1		1	1			1		20	1				1			1	1			2		1	1	1	1	8	0
20	1			13		2	8	е.	С.	е.	Ċ,	e,	2	3		1	1	Ċ.	S.	2	2				1	1	6		1	٩.	e,	8	8	2		1		×.	8	1		1	1.5	2	2	8		13		2	2	÷.,	÷.,		13	13		2	1	÷.,		1	13		2	1	8		ľ
1	1			13		1	1	۲.	۳.	۳.	Ċ,	Ċ,	2	3		13		Ċ.	S.	2	2		1		1		÷.,	۰.	1	۰.		2	8	2	٣	18	1	ч.	S.,	1		1	- 1	-	94	20	1	1			1	-			Ξ.	22			1	÷.,		4	1		23	-	4	1	ľ
3.5	1		1	1.3		3	8	2	۰.	2	2	2	3	2		13	25	1	3	2	2		1		1	1	1		1	÷.,			٩.		1	12	1	1	1	1	1		٠٦		5	28		13	1		34		٩.	÷.,		1			1	÷.,							1	1	
1				1		1	0	2	1	2	2	2	1			1		2	e,		2				1						2	1		12					2			а.						20			1		0	٥.					1	2					10	1	Э		2
20	23			1		1	1	2	2	2	2	2	1	2		1	23		2	2	2				1				۰.	1	-	-	•	2		-		-	24	1	64		-		-	-	-	- 0	1		-		-	а.	-		-		1	٥.		-80	-	-	-	-	-	-	1
÷.,	1	2	÷		1		1	1	۰.	1		2		2		1	2	2	2		2	-2	•	1	÷	•	÷	1	۴.	8	P								81	1	81									53	E									2									P
	٢.	N			M	P		7	4	E.	5	1	Р	r	-	5		1	2		í.	1	2	C.	1	P	1	Г	2			14	4	4	4	4	4	4		1	2		44	4	44	4	44			83		4	4.	44	4	44	¥			22		÷	44	4.	4	4	4		ľ
а.	7	Γ.	4		A			Ξ.	1	0	2				-	-1	c		2	U.			L	-		ų.			1	8		÷	¥	$t_{1}$	ŧ,	н	++	۴.			2		H	+	44	÷ 1	H			23		+	ŧ ł	4	H	++	+			84		H	÷ŧ	÷ 1	¥	H	6		
	2	8					2		2	1				1			85		2							1	8															-								83	Ł									24									
1				12		1	1	۳.	۰.	÷.	2	2	3	2		13	23	0	S.	2	2		1		1		÷.	۰.	4	1					2	М	118	-	~	in	F	m	hrs.						1		-							-	1.									_	C
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13	13	1	1.	1.	1							1	1	2		1	٥.	62	$\mathbf{z}$	e.	e.	2.2	20	20	20	20	80	20	80	22	12	$\mathbf{z}$	$\mathbf{z}$	1	81	R	ea	d	Δ	de	de	e	-25	N	10	1																							
23	3	13	13	12.	1.	1		1		1		1	0			1							99	•		•	•	•	•	•					81			4	7	u		-				1								8					12		8							18	
2.5		1				1						1	0			1							9	•	•	•	•	•		•					81	N	lay	11	10	0							80	2			12		8	3	2	2		20	12		8	20	2		12	12			ſ
2.3				12.		1						1	0			•					٠,	٠.	33												8					~											12			3					12		65					62	12		
2.5		1				1						1	0			0							37	•	•	•	•	•		•					81	Ν	lin	::0	)								60	2			33		65	3	2	2		20	12		8	20	2		53	12			ſ
1				1		1						1	0			•							36												8				2					-		. 1	15	1					65	1	1	5		5			10	3	3		1	1			ſ
				1.1			•					1	0										33	•		•	•								8	W	rit	te	A	١d	dı	re	55	A	11	01	10	20			12		85	10	20	5		50	12		10	2	5		52	53			ľ
1				1		1						1				•							36												8.					1						1	35	1					65	1	1	3		5			10	3	3		1	1			ſ
	•	•	•	•	81		•	1	1	•	•	•	1	1		۰.	÷.,			٠.	۰.	۰.	х,												ç.	w	rit	te		١o	ti	Fir	c at	hin	DID	: B		18	1	82			28	1	18	1	87	87		1	1		1		1.5	1.5		1	1

Step 6. Add the numeric display elements of backup addresses N100  $\sim$  N123. Generally, it is not necessary to plan the editing of this part during the actual operation. As shown below.

1 : Start scene [100%]				
Work area Ad	N10 N1	1 N1	.2 N13	
Back up Addr	N100 N101	N102	N103	
	#### ####	####	####	
N104	##### Read Address:N100 Max:100 Min:0	####	####	
N108	#### ####	####	####	· · · · ·
N112	#### ####	####	####	· · · · ·
N116	####	####	####	· · · · ·
N120	####	####	####	· · · · ·

Step 7. Add a numeric editing component for the number of recipe groups, which can be used to read and write the number of specified recipe groups. The format is shown in the figure below.



Step 8. Add an ON button component, which is used as recipe data to write into the backup address of the specified recipe group number from the work area address, and its variable position is input as N3.1, as shown in the figure below.

) 1 : Start scene [100%]						<b></b>
Work area Ad	N1 Idr ###	.0 N ## ##	<b>11 N1</b> ### ##	<b>L2 N</b> ## ##	<b>13</b> ###	
Back up Addr	<b>N100</b>	N101	N102	N103	Receipe	Num
N104	####	####	####	####	NO ####	
N108	####	####	####	####	Work are kUp A	a>Bac ddr
N112 N116	####	####	####	####		ON Button Action:Set ON Read Address:N3.1 Write Address:N3.1
N120	####	####	####	####		

Step 9. Add an ON button component written back to the storage area, which is used as recipe data to read from the backup address of the specified recipe group number to the work area address, and enter N3.0 as the variable position, as shown in the following figure.



Step 10. The screen editing settings are completed, at this time click the menu option [HMI]-> [offline execution], the execution screen as shown in the figure below appears.



Step 11. Enter 3 in the recipe group number edit box and press [Backup Addr-> Work area] to write the third group of recipe data from the backup address to the work area address, as shown in the figure below.



Step 12. Change the value in the formula group number edit box to 4, and then modify the value of each recipe in the work area. After modification, press [Work Area-> Backup Address] to read out the recipe data in the work area address to The fourth group of backup addresses is shown below.



Step 13. The use of general recipes must be matched with the PLC register, so the numerical editing components of PLC positions  $D0 \sim D3$  are added as shown in the figure below.

🔚 1 : Start scene [100%]	
PLC Addr D0~D3	###       ####       ####         Numeric Entry       Read Address:D0       N12       N13
Work area Addr ###	Write Address:D0 Write Notification:
Back up Addr N100	N101 N102 N103
####	#### #### Receipe Num
N104 ####	#### #### NO ####
N108 ####	#### #### #### PLC>BackUp A
N112 ####	#### #### ddr
N116 ####	#### #### BackUp Addr-> PLC
N120 ####	#### ####

Step 14. Click [Project]-> [Data Synchronization Management] in the menu bar to add 2 data synchronization from [PLC-> Working Area] and [Working Area-> PLC], as shown in the figure below, more details please refer to Chapter 9.

				D	ata Sync				×
∎÷∎ Add	■+ Edit	Delet	e Import	■→ Export					
Data S	Sync			///		W-1	W-1	W	
In	Synchro	o (	Condition	Synchronize	Source	Target	Data Le	Desc	
0	0.2Sec	. 1	V3.0	2:Falling edge	N10	DO	4		
1	0.2Sec	: 1	V3.1	4:High Level	D0	N10	4		

Step 15. Modify the two ON buttons on the edit screen as shown below.

图 1 : Start scene [100%]				
PLC Addr D0~I	)3 ###	## ###	:# #### ##	##
Work area Ad	N1 dr [###	0 N1	L1 N12 N	<b>113</b> ####
Back up Addr	N100	N101	N102 N10	3
N104	####	####	<i>####</i>	NO ####
N108	####	####		PLC>BackUp A
N112	####	####	#### ####	ddr
N116	####	####	####	BackUp Addr-> PLC
N120	####	####		

Step 16. Click the menu option [HMI]-> [Off-Line Run], the execution screen is as shown in the figure below.



Step 17. At this time, click the number of recipe groups to enter 2, and then click [Backup Addr-> PLC], the recipe data of the third group can be read from the backup address area to the PLC address, as shown in the figure below.



Step 18. Modify the number of recipe groups, enter 1, change the data in the PLC location D0  $\sim$  D3, and then click [PLC-> Backup address], the recipe data in the PLC location can be written to the third group backup address, as shown below.



#### Chapter 11 Macro Types and Grammar

#### 11.1 Types of macros

#### **INITIAL** macro

Macro command that starts when the HMI is powered on or restarted. This macro instruction is executed only once, and is generally used for setting the initial value. By default, it can execute 4096 steps.

#### BACKGROUND Macro

After the HMI is powered on or restarted, the program will be executed all the time. Similar to the background program, 1024 steps can be performed by default 50ms.

#### **CLOCK** macro

After the HMI is powered on or restarted, the program will be executed at intervals, and the interval is set to 500ms to execute 4096 steps.



#### Screen Open Macro

When the screen is switched to the currently set screen, the OPEN macro program will be executed, and the default can perform 4096 steps at a time. Screen Close Macro

When the current screen is switched to another screen, the CLOSE macro instruction program will be executed. By default, it can perform 4096 steps at a time.



#### Screen Cycle Macro

When the screen is switched to the currently set screen, the CYCLE macro command program will be executed all the time. The interval time is preset to 500ms, and the preset can perform 4096 steps at a time.

1	communication [				
Scene Data					
SceneName	Start Scene				
SceneNum.	1	\$	Auto Swite	ch	
SceneType	Init Scene	-	Delay Time	*i0	Sec
Security:	By scene group	•	Jump to:	Undefined	•
Inherit:	Undefined	•	Stop funct as Delay T	tion of Auto. swith scree ime set zero , The Delay	en '
BG Color:				50	
Description:					Ç
	<				>
	Load BG Image				>
	<     Load BG Image     Clear BG Image				>
Position:	<     Load BG Image     Clear BG Image     Center				>
Position:	<     Load BG Image     Clear BG Image     Center				>
Position: Macro	<ul> <li>Load BG Image</li> <li>Clear BG Image</li> <li>Center</li> <li>n OPEN Macro</li> </ul>	CYCL	E Macro Inte	rval: 0.5Sec	>
Position: Macro Scree Scree	<ul> <li>Load BG Image</li> <li>Clear BG Image</li> <li>Center</li> <li>OPEN Macro</li> <li>n CLOSE Macro</li> </ul>	CYCL	E Macro Inte	rval: 0.5Sec	>

Component action macro (button component and editing component) When the button component or editing component is activated, the corresponding macro program will be executed. The preset can perform 4096 steps at a time.

Data			Option	
Action: I Format: [ Write Address: I Rule: I Max: I Min: I Notification: I Befor Macro: I	nput 16Bit] Signed	•           •	Security: Confirm: Key Def: Key Window: Destine Voice Enable Proviso	By scene Press.action Undefined 65000:数值输入对话盒 Undefined T Undefined T T T T T T T T T T T T T
Format			G Dec	ority after play.
eric Entry	[	🗸 ок	X Cancel	er de la contrata de la contrata de la contra
eric Entry vel Control Text		✔ ок	Cancel	
eric Entry vel Control Text Control Data Type [11	5Bit] Signed	✔ ОК	Cancel Option Priority	By scene 💌
eric Entry vel Control Text Control Data Type [[17 Read Addr.	:   5Bit] Signed	✓ ОК	Cancel Option Priority Confirm	By scene 💌
eric Entry vel Control Text Control Data Type [[10 Read Addr. ] Max: ]	5Bit] Signed	✓ ОК ✓ СК ✓ СВ ✓ СВ	Cancel Option Priority Confirm Key Def.	By scene 💌 Press.action 👻 Undefined 💌
eric Entry vel Control Text Control Data Type [11 Read Addr. [ Max: [ Min: []	5Bit] Signed	<ul> <li>✓ ОК</li> <li>✓ С</li> <li>✓ С<td>Cancel Option Priority Confirm Key Def. Key Window</td><td>By scene Press.action Undefined 65000 : Value input dia</td></li></ul>	Cancel Option Priority Confirm Key Def. Key Window	By scene Press.action Undefined 65000 : Value input dia
eric Entry vel Control Text Control Data Type [[10 Read Addr. Max: Min: Write Addr.	5Bit] Signed	<ul> <li>ОК</li> <li>ОК</li> <li>С</li> <li< td=""><td>Cancel Option Priority Confirm Key Def. Key Window Controlled c</td><td>By scene Press.action Undefined 65000 : Value input dia on I</td></li<></ul>	Cancel Option Priority Confirm Key Def. Key Window Controlled c	By scene Press.action Undefined 65000 : Value input dia on I
eric Entry vel Control Text Control Data Type [11 Read Addr. Max: Min: Min: Write Addr. Write Notificat	5Bit] Signed	<ul> <li>✓ ОК</li> <li>✓ С</li> <li>✓ С<td>Cancel Coption Priority Confirm Key Def. Key Window Controlled c</td><td>By scene Press.action Undefined 65000 : Value input dia on on with ack or disable</td></li></ul>	Cancel Coption Priority Confirm Key Def. Key Window Controlled c	By scene Press.action Undefined 65000 : Value input dia on on with ack or disable
eric Entry vel Control Text Control Data Type [[10 Read Addr. Max: Min: Write Addr. Write Addr. Write Notificat Befor Macro:	5Bit] Signed	<ul> <li>ОК</li> <li>ОК</li> <li>С</li> <li< td=""><td>Cancel</td><td>By scene Press.action Undefined 65000 : Value input dia on on Input disable as priority lack or disable briority lack or disable as priority lack br</td></li<></ul>	Cancel	By scene Press.action Undefined 65000 : Value input dia on on Input disable as priority lack or disable briority lack or disable as priority lack br
eric Entry vel Control Text Control Data Type [11 Read Addr. Max: Min: Write Addr. Write Notificat Befor Macro: After Macro:	5Bit] Signed	<ul> <li></li> <li></li></ul>	Cancel Coption Priority Confirm Key Def. Key Window Controlled co Hide as p Prompt a Continue Set last p	By scene Press.action Undefined 65000 : Value input dia on priority lack or disable as priority lack Input priority after play.
eric Entry vel Control Text Control Data Type [[10 Read Addr. ] Max: ] Min: ] Write Addr. ] Write Addr. ] Write Notificat ] Befor Macro: ] After Macro: ] Engineer Transfer	5Bit] Signed	<ul> <li>ОК</li> <li>ОК</li> <li>С</li> <li< td=""><td>Cancel Coption Priority Confirm Key Def. Key Window Controlled co Hide as p Prompt a Continue Set last p nat</td><td>By scene Press.action Undefined 65000 : Value input dia on priority lack or disable as priority lack as priority lack e Input priority after play.</td></li<></ul>	Cancel Coption Priority Confirm Key Def. Key Window Controlled co Hide as p Prompt a Continue Set last p nat	By scene Press.action Undefined 65000 : Value input dia on priority lack or disable as priority lack as priority lack e Input priority after play.
eric Entry vel Control Text Control Data Type [11 Read Addr. ] Max: ] Min: ] Write Addr. ] Write Addr. ] Write Notificat ] Befor Macro: ] After Macro: ] Engineer Transfer- Offset: ]	5Bit] Signed	V OK V CR V CR V CR V CR V CR V CR V CR V CR	Cancel  Option  Priority Confirm  Key Def. Key Window Controlled c  Hide as p Prompt a Continue Set last p nat	By scene Press.action Undefined 65000 : Value input dia on priority lack or disable as priority lack input priority after play.
eric Entry vel Control Text Control Data Type [11 Read Addr. Max: Min: Write Addr. Write Addr. Write Notificat Befor Macro: After Macro: Coffset: Offset: Offset: Offset: 0	5Bit] Signed	✓ OK	Cancel	By scene Press.action Undefined 65000 : Value input dia on on v foriority lack or disable as priority lack input priority after play. C Decimal C Hex.

#### Sub Macro

The sub-macro instruction is equivalent to the sub-program in the macro instruction program. The number is provided from 1 to 512 sub-programs. Common and general functions can be written in the sub-program to facilitate the main program call.

#### TK Series HMI Programming Manual



#### 11.2 Macro Editor

🧐 Macro Editor		×
Add Delete Check Import E	کا میں معلمہ میں معلمہ میں معلمہ معلم معلم	
Macro	INITIAL	
E System INITIAL BACKGROUND CLOCK Screen Macro B Sub Macro	0001	
Message		
Check OK!		

There is a toolbar at the top of the editing screen, with five options: add, delete, Check, Import and export.

Add: Add a component action macro.

Delete: delete a component action macro.

Check: Check the current macro program for errors.

Import: Imported from the project to the currently edited macro program, the current edited program will be cleared.

Export: Save the currently edited macro program to the project.

The left side of the editing screen provides a tree diagram of the macro program, which displays all the macro commands. It is convenient to edit and preview the macro program.

The right side of the editing screen is the main body of the editing program screen.

At the bottom of the edit screen is the check program information window. It will be displayed when the check program is executed. When the check finds a problem, it will be displayed in the window. Double-click the mouse at the displayed problem, the edit macro program screen will automatically jump To the corresponding program position.

#### **11.3 Introduction to Macro Syntax**

#### 11.3.1 Data format, operator, command list

formo		8bit	8bit	16bit	16bit	32bit	32bit	32bit
	Bit	Signed	Unsigned	Signed	Unsigned	Signed	Unsigned	Floating
L		number	number	number	number	number	number	point
defini tion	BIT	INT8S	INT8U	INT16S or SIGNED	INT16U	INT32S or SIGNED DW	INT32U or DW	FLOAT32 or FLOAT

Data format setting table

Set operator column table

Set operator	Explanation
=	Setting
. –	Addition
τ=	settings
_	Subtraction
	setting
*	Multiplication
-	setting
/=	<b>Division setting</b>
	Integer
%=	remainder
	setting

	Left shift
	setting
>>-	Right shift
	setting
<u> </u>	Bits and
&=	settings
A-	Mutually
	exclusive or set
=	Bit or setting

#### Operator column table

Operation symbol	Explanation	
+	addition	
-	Subtraction	
*	Multiplication	
/	Division	
0/_	Integer	
70	remainder	
!	Logical inverse	
~	Bitwise inverse	
==	equal	
!=	not equal to	
<	Less than	
~-	Less than or	
	equal to	
>	More than	
>=	More than or	
	equal to	
ll or "OR"	Logical or	
	Operations	
&& or "AND"	Logical and	
	Operations	
&	Bits and	
	operations	
^	Bit-exclusive	
	OR operation	
	Bits or	
I	operations	
<<	Left shift	
>>	Right shift	



#### Command list

instruction	Explanation
LABEL (constant)	Program position label (constant range is 0-65535)
GOT (constant)	Jump to the program position label unconditionally (constant range is 0-65535)
CALL <expression></expression>	Call sub macro (sub macro number 1-512)
RET	Return to calling program location
IF <expression> THEN GOTO LABEL <constant></constant></expression>	When the variable condition is established (not equal to 0), jump to the program position label, otherwise continue to the next line of instructions.
IF <expression> THEN DO</expression>	When the variable condition is established (not equal to 0), continue to the next line of instructions, otherwise jump to the next judgment (ELIF) or (ELSE DO) to continue to execute or execute the next line of instructions of ENDIF.
ELIF <expression> THEN DO</expression>	When the variable condition is established (not equal to 0), continue to the next line of instructions, otherwise jump to the next judgment (ELIF) or (ELSE DO) to continue to execute or execute the next line of instructions of ENDIF.
ELSE DO	In conjunction with the IF or ELIF instruction, it indicates the position to be executed when the variable condition is not established (equal to 0).
ENDIF	With the IF or ELIF instruction, it indicates the position to jump when the variable condition is not established (equal to 0).
FOR <expression></expression>	Program loop, using the value of the expression as a fixed number of cycles, the program range is the program from FOR to the corresponding NEXT.
NEXT	In conjunction with the FOR instruction, it indicates the range of the program loop.
END	End macro program
SETB (Bit variable address)	Set bit variables
CLRB (Bit variable address)	Clear bit variables
INVB (Bit variable address)	Antiphase variable

System internal address variables N0-N65535

N0-N65535 are address variables planned by HMI internally, with a total of 65536 WORDs (16Bits).

When the data format is set to DWORD, the system will automatically read a WORD after the number, which is defined as the high bit, Hi WORD, and together with the selected variable low bit, Lo WORD, to form a DWORD. For example, DWORD N0, then N0 is Lo WROD and N1 is Hi WROD, forming DWORD.

When the data format is WORD, you can directly use the defined variable name, namely N0-N65535.

When you want to use bit to define the address, you need to add a "." Symbol after the definition name before bit position  $0 \sim 15$ . For example, the fifth bit of N0 can be written as "N0.5", and the eleventh bit of N100 can be written as "N100.11".

#### 11.3.2 Instructions

```
1. LABEL <constant>
```

Program position label (constant range is 0-65535)

The position of the label can be any line in the program. Examples of label macros:

```
N0 = 100
```

```
#Define label number 10
LABEL 10
```

```
N1 = 200
```

```
...
```

GOTO LABEL 10

```
GOTO LABEL 20
```

•••

#Define tag number 20 LABEL 20

2. GOTO <constant>

Unconditionally jump to the program location label (constant range is 0-65536)

```
N0 = 100
LABEL 10
N1 = 200
```

...

...

# Jump to the position of label number 10 GOTO LABLE 10

3. CALL <variable / constant / expression>

Call sub macro (sub macro number 1-512)

The parameters of the call sub-macro instruction can be variables or constants or expressions

N0 = 100 #CALL <variable>

CALL N0

... #CALL <constant> CALL N100

•••

#CALL <expression>

CALL 100 + N0

4. RET

Return to the initial position of the call macro

5. IF <variable> THEN GOTO LABEL <constant>

When the variable condition is established (not equal to 0), jump to the program position label, otherwise continue to the next line of instructions

LABEL 10

...

#When the variable (N0 + N1) is equal to 200, jump to the position of label 10

IF (N0 + N1) == 200 THEN GOTO LABEL 10

6. IF <variable> THEN DO

When the variable condition is established (not equal to 0), continue to the next line of instructions, otherwise jump to the next judgment (ELIF) or (ELSE DO) to continue to execute or execute the next line of instructions of ENDIF. IF, ENDIF support structure up to 16 layers.

#When the variable N0 is not equal to 100, execute the instruction of N1 = 1000 on the next line

IF N0! = 100 THEN DO

N1 = 1000

#IF ... THEN DO must be paired with ENDIF

ENDIF

7. ENDIF <variable> THEN DO

When the variable condition is established (not equal to 0), continue to the next line of instructions, otherwise jump to the next judgment (ELIF) or (ELSE DO) to continue to execute or execute the next line of instructions in ENDIF.

#When the variable N0 is equal to 100, execute the instruction of N1 = 1000

#When the variable N0 is equal to 200, execute the instruction of N1 = 2000

IF N0! = 100 THEN DO

N1 = 1000

```
#ELIF must follow the IF THEN DO syntax
ELIF N0 == 200 THEN DO
N1 = 2000
ENDIF
```

8. ENDIF

With the IF or ELIF instruction, it indicates the position to jump when the variable condition is not established (equal to 0). IF, ENDIF support structure up to 16 layers.

#When the variable N0 is equal to 100, execute the instruction of N1 = 1000 IF N0! = 100 THEN DO

N1 = 1000

#IF ... THEN DO must be paired with ENDIF ENDIF

9. FOR <variable>

Program loop, the loop takes the value of the variable as a fixed number, and the program range is from FOR to the program corresponding to NEXT. FOR, NEXT support structure up to 16 layers.

#Calculate the total number of 1 to 10 in the N0 variable

- N0 = 0
- N1 = 1
- FOR 10
- N0 + = N1
- N1 + = 1
- NEXT
- 10. NEXT

With the FOR instruction, it indicates the range of the program loop. FOR, NEXT support structure up to 16 layers.

#Calculate the total number of 1 to 10 in the N0 variable

N0 = 0

- N1 = 1
- FOR 50
- N0 + = N1
- N1 + = 1

NEXT

11.END

End macro program

- 12. SETB <Bit Variable Position>Set bit variables#Set the fifth bit of N100 variable to 1SETB N100.5
- 13. CLRB <Bit Variable Position> Clear bit variables



#Set the 12th bit of the N10 variable to 0 **CLRB N10.12** 

14. INVB <Bit Variable Position> Antiphase variable #Reverse the 15th position of the N1 variable (0 becomes 1, 1 becomes 0) **INVB N1.15** 

#### **11.4 Introduction to Macro Operator Syntax**

In View Macro, in addition to instruction usage, there are two important syntaxes: operator syntax and set operator syntax.

#### **11.4.1 Operator syntax**

Provide mathematical operations or logical operations between variables. These operation symbols are called operands. The currently available operators are listed in the table Macro Operators, there are 20 operations in total. The expression is mainly used to set the expression syntax and the in-command syntax.

Use Cases:

Pure expression (N0 + N1) / 2(N0 + 100)Collocation operator N0 = (N1 << 2)N0 + = (N1 + 2) / 2Collocation instruction

IF (N0 == 100) && (N1 == 200) THEN GOTO LABEL 10 **ENDIF** CALL (N0+100)

#### 11.4.2 Set operator syntax

The setting operator syntax is the most important syntax for setting the value of variables in macro commands. This setting symbol is called the setting operator. There are currently 11 kinds of setting operators.

Use Cases: N0 = 100N0 = (N1 + N2) / 2N0 + = 100N0 \* = 2N0 << = 2 11.4.3 Data format setting of variable data

Variable information: The only variables that can be used in the macros

currently provided are system variables. The default data format of the system variable is 16-bit symbol number. If you need other format operations, you must add the data format setting. The data format setting is to add parentheses before the variable and fill in the data format definition in the bracket .

Case:

#Indicates the use of 32-bit signed number operation, the data position is in N0 (INT32S) N0

#### **11.4.4 Setting the data format setting for calculation**

Setting operation: When the set variable needs to set the data format, the end of the variable command line must be set with parentheses, and the data format definition is filled in the parentheses. For example, N0 = (INT32S) N100 (INT32S) means that the 32-bit signed number N100 is used for calculation, and the value of the N100 is set to the 32-bit signed number N0. Case:

#Bit address and settings

N0.3 = (BIT) N10.4 && (BIT) N10.5 (BIT)

#If the variable data format of the same line is the same, you can only set the data format of [Set Calculation]

N0.3 = N10.4 && N10.5 (BIT)

# 32 bit signed number operation

N0 = N2 + N4 (INT32S)

N0 = N2 + N4 (SIGNED DW)

# 32-bit floating point arithmetic

N0 = N2 + N4 (FLOAT)
### **Chapter 12 Macro Function**

### **12.1 Introduction to calculation functions and syntax**

Fun. Name	Fun. function	Return value	Paramet er 1	Para mete 2
_PI	Returns $\pi$ floating point value	FLOAT3 2		
_BCD	Convert BIN values to BCD format	INT32U	INT32U	
_BIN	Convert BCD value to BIN format value	INT32U	INT32U	
_SQRT	Square root floating point value	FLOAT3 2	FLOAT3 2	
LOG	Natural logarithmic floating point value	FLOAT3 2	FLOAT3 2	
_LOG10	Base 10 log floating point value	FLOAT3 2	FLOAT3 2	
RADIAN	Convert degrees to radian floating point values	FLOAT3 2	FLOAT3 2	
_DEGRE E	Convert radians to degrees floating point	FLOAT3 2	FLOAT3 2	
SIN	trigonometric function sine value floating point value	FLOAT3 2	FLOAT3 2	
_cos	Trigonometric function cosine value floating point value	FLOAT3 2	FLOAT3 2	
_TAN	Trigonometric function tangent floating point value	FLOAT3 2	FLOAT3 2	
_ASIN	Trigonometric function arc sine value floating point value	FLOAT3 2	FLOAT3 2	
_ACOS	Trigonometric function inverse cosine floating point value	FLOAT3 2	FLOAT3 2	
_ATAN	Trigonometric function arc tangent floating point value	FLOAT3 2	FLOAT3 2	
_ABS	Absolute floating point value	FLOAT3 2	FLOAT3 2	

#### 12.1.1 Function column table



**12.1.2 Introduction to Function Syntax** 1. Floating-point constant Directly set floating point constants to variables N0 = 1.2345 (FLOAT32) 2. BCD Convert BIN values to BCD format Function syntax: INT32U BCD (INT32U) Input data format: INT32U 32-bit unsigned value Return data format: INT32U 32-bit unsigned value Example: N2 = BCD(N0)(INT32U)3. BIN Convert BCD value to BIN format value Function syntax: INT32U BIN (INT32U) Input data format: INT32U 32-bit unsigned value Return data format: INT32U 32-bit unsigned value Example: N4 = BIN (N2) (INT32U)4. SQRT Calculate the square root floating point value Function syntax: FLOAT32 SQRT (FLOAT32) Input data format: FLOAT32 floating point value Return data format: FLOAT32 square root floating point value Example: N0 = SQRT (1.15129) (FLOAT32) # 1.5129 = 1.23 \* 1.23 5. LOG Calculate natural logarithmic floating point values Function syntax: FLOAT32 LOG (FLOAT32) Input data format: FLOAT32 floating point value Return data format: FLOAT32 natural logarithmic floating point value Example: N0 = LOG(N2)(FLOAT32)6. LOG10 Calculate a logarithmic floating point value with base 10 Function syntax: FLOAT32 LOG10 (FLOAT32) Input data format: FLOAT32 floating point value Return data format: FLOAT32 base 10 logarithmic floating point value Example: N0 = LOG10 (N2) (FLOAT32)7. RADIAN Convert degrees to radian floating point values Function syntax: FLOAT32 RADIAN (FLOAT32) Input data format: FLOAT32 degree floating point value Return data format: FLOAT32 radian floating point value Example: NO = RADIAN (N2) (FLOAT32)8. DEGREE Convert radians to degrees floating point Function syntax: FLOAT32 DEGREE (FLOAT32) Input data format: FLOAT32 radian floating point value

Return data format: FLOAT32 degree floating point value Example: N0 = DEGREE (N2) (FLOAT32)9, SIN Calculate trigonometric function sine value floating point value Function syntax: FLOAT32 SIN (FLOAT32) Input data format: FLOAT32 radian floating point value Return data format: FLOAT32 sine floating point value Example: N0 = SIN (N2) (FLOAT32) 10. COS Calculate trigonometric function cosine floating point value Function syntax: FLOAT32 COS (FLOAT32) Input data format: FLOAT32 radian floating point value Return data format: FLOAT32 Cosine floating point value Example: N0 = COS(N2)(FLOAT32)11, \_TAN Calculate trigonometric function tangent floating point value Function syntax: FLOAT32 TAN (FLOAT32) Input data format: FLOAT32 radian floating point value Return data format: FLOAT32 tangent floating point value Example: NO = TAN (N2) (FLOAT32)12, ASIN Calculates the trigonometric function arc sine value floating point value Function syntax: FLOAT32 ASIN (FLOAT32) Input data format: FLOAT32 radian floating point value Return data format: FLOAT32 arc sine floating point value Example: N0 = ASIN (N2) (FLOAT32)13, ACOS Calculate trigonometric function inverse cosine value floating point value Function syntax: FLOAT32 ACOS (FLOAT32) Input data format: FLOAT32 radian floating point value Return data format: FLOAT32 arc cosine floating point value Example: N0 = ACOS (N2) (FLOAT32) 14. ATAN Calculate trigonometric function arc tangent floating point value Function syntax: FLOAT32 SIN (FLOAT32) Input data format: FLOAT32 radian floating point value Return data format: FLOAT32 arc tangent floating point value Example: N0 = ATAN (N2) (FLOAT32)15, ABS Calculate absolute value floating point value Function syntax: FLOAT32 \_ABS (FLOAT32) Input data format: FLOAT32 input calculation floating point value Return data format: FLOAT32 absolute value floating point value

Example: N0 = ABS(-1.23)(FLOAT32)

16, \_PI

Returns  $\pi$  floating point value

Function syntax: FLOAT32 \_PI () Input data format: none Return data format: FLOAT32 returns π floating point value Example: N0 = \_PI () (FLOAT32) Macro option register N65152.0 (bit 0) 0 = When the controller variable is set, modify the value through

communication.

1 = When the controller variable is set, directly modify the HMI memory data and modify the value through communication.

### 12.2 Introduction to register related functions and syntax

Fun. Name	Function
	Memory copy
	Memory comparison
MEMSET	Memory settings
REGCPY	Variable area copy
REGCMP	Variable area comparison
REGSET	Variable locale
_MWORD2	Convert multiple word data to
BYTE	multiple bytes
_MBYTE2W	Convert multiple bytes of data to
ORD	multiple words
	Read the data in the bank memory
	area after power off
	Write data to keep Bank memory
	area after power off

#### 12.2.1 List of register functions

#### **12.2.2 Introduction to Function Syntax**

1.\_MEMCPY

Memory copy: copy data from variable memory area to another variable memory area

INT32S \_MEMCPY (INT32S destRegNum, INT32S srcRegNum, INT32S len) The use range of destRegNum is 0 ~ 64511

The use range of srcRegNum is 0 ~ 64511

len use range is 1 ~ 256

The returned value indicates the number of bits copied. 0 means the memory

range is wrong;  $1 \sim 256$  means the number of copied bits. Example 1:

N100 = \_MEMCPY (200, 250, 10)

It means that 10 BYTEs starting from the N250 variable (that is, 5 variables N250-N254) are copied into N200-N204, and the number of copy bits (BYTE) 10 is placed in N100.

Example 2:

```
N100 = 1000
N101 = 1500
N102 = 20
N500 = MEMCPY (N100, N101, N102)
```

It means that the 20 BYTEs starting from the N1500 variable (that is, the 10 variables N1500-N1509) are copied into the N1000-N1009, and the number of copied bits (BYTE) 20 is placed in the N500.

related functions

\_MEMCMP, \_MEMSET, \_REGCPY, \_REGCMP, \_REGSET

2. \_MEMCMP

Memory comparison: compare the same number of bits (BYTE) in the memory area of 2 variables

INT32S \_MEMCMP (INT32S destRegNum, INT32S srcRegNum, INT32S len) The use range of destRegNum is 0 ~ 65535

The use range of srcRegNum is 0 ~ 65535

len use range is 1 ~ 256

The returned value indicates the comparison result. -1 means that the memory range is wrong; 0 means the variable content is the same; 1 means the variable content is different.

example:

N100 = \_MEMCMP (1000, 2000, 10)

Compare whether the variable values of N1000-N1004 and N2000-N2004 are the same.

related functions

\_MEMCPY, \_MEMSET, \_REGCPY, \_REGCMP, \_REGSET

3.\_MEMSET

Memory setting: set all elements in a variable memory area to a specific value INT32S \_MEMSET (INT32U regNum, INT32S value, INT32S len)

regNum use range is 0 ~ 64511

len use range is 1 ~ 256

The returned value indicates the set number of bits. 0 means the memory range is wrong;  $1 \sim 256$  means the set number of bits.

example:

N100 = \_MEMSET (1000, 55H, 10)

Set the value of N1000-N1004 to 5555H. (The default setting is 8 bits),

and the N variable is 16 bits.)

related functions

\_MEMCPY, \_MEMCMP, \_REGCPY, \_REGCMP, \_REGSET

4. \_REGCPY

Variable area copy: copy data from the variable memory area to another variable memory area

INT32S \_REGCPY (INT32S destRegNum, INT32S srcRegNum, INT32S len) The use range of destRegNum is 0 ~ 64511

The use range of srcRegNum is 0 ~ 64511

len use range is 1 ~ 256

The returned value indicates the number of variables copied. 0 means that the memory range is wrong;  $1 \sim 256$  means the number of copied variables. Example 1:

N100 = \_REGCPY (200, 250, 10)

Copy the value of the N250-250 variable into the N200-N209 variable. Example 2:

N100 = 1000

N101 = 1500

N102 = 20

N500 = \_REGCPY (N100, N101, N102)

Copy the N1500-N1519 variables to the N1000-N1010 variables.

related functions

\_MEMCPY, \_MEMCMP, \_MEMSET, \_REGCMP, \_REGSET

#### 5. \_REGCMP

Variable area comparison: compares a certain number of variables (16Bits) in two variable memory areas

INT32S \_REGCMP (INT32S destRegNum, INT32S srcRegNum, INT32S len) The use range of destRegNum is 0 ~ 65535

The use range of srcRegNum is 0 ~ 65535

len use range is 1 ~ 256

The returned value indicates the comparison result. -1 means that the memory range is wrong; 0 means the variable content is the same; 1 means the variable content is different.

example:

N100 = \_REGCMP (1000, 2000, 10)

Compare whether the variable values of N1000-N1009 and N2000-N2009 are the same.

related functions

\_MEMCPY, \_MEMCMP, \_MEMSET, \_REGCPY, \_REGSET

6. \_REGSET

Variable area setting: Set all variables in a variable memory area to a certain value INT32S REGSET (INT32U regNum, INT32S value, INT32S len) regNum use range is 0 ~ 64511 len use range is 1 ~ 256 The returned value indicates the set number of bits. 0 means the memory range is wrong;  $1 \sim 256$  means the set number of bits. example: N100 = REGSET(1000, 1234, 10)Set the value of N1000-N1009 to 1234. related functions MEMCPY, MEMCMP, MEMSET, REGCPY, REGCMP 7. MWORD2BYTE Convert multiple word data to multiple bytes: The return value indicates the number of conversions INT32U MWORD2BYTE (INT32S destByteRegNum, INT32S srcWordRegNum, INT32S len) The use range of destByteRegNum is 0 ~ 64511 The use range of srcWordRegNum is 0 ~ 64511 len use range is 1 ~ 256 The returned value indicates the number of conversions. 0 means the memory range is wrong;  $1 \sim 256$  means the number of conversions. example: \_STRW (N200, "ABCD") MWORD2BYTE (100, 200, 4) Results of the N100 = 4241HN101 = 4443H N200 = 0041H N201 = 0042H N202 = 0043H N203 = 0044Hrelated functions

\_MBYTE2WORD

#### 8. \_MBYTE2WORD

Conversion of multiple bytes of data to multiple words: the return value indicates the number of conversions

INT32U \_\_\_MBYTE2WORD (INT32S destWordRegNum, INT32S srcByteRegNum, INT32S len)

destWordRegNum is used in the range of  $0 \sim 64511$ 

The use range of srcByteRegNum is 0 ~ 64511

#### len use range is 1 ~ 256

The returned value indicates the number of conversions. 0 means the memory range is wrong; 1 ~ 256 means the number of conversions. example:

```
__STRW (N200, "ABCD")
__MBYTE2WORD (100, 200, 4)
Results of the
N100 = 0041H
N101 = 0042H
N102 = 0043H
N103 = 0044H
N200 = 4241H
N201 = 4443H
related functions
MWORD2BYTE
```

9, \_RBREAD

Read the data in the bank memory area after power off: the return value indicates the number of registers read

INT32S \_RBREAD (INT32S bank, INT32S destRegNum, INT32S scrAddr, INT32S cnt)

Bank usage range is  $0 \sim 6$  (currently only open 0: Bank0)

destRegNum the number of the destination register location for reading data scrAddr read the number of the bank's source location

cnt can be used in the range 1 ~ 8192

When the returned value is 0: it means that the variable range is wrong or the operating model does not provide the power-off retentive bank memory; other values read represent the number of registers read.

Note: This macro function is only supported for models that provide bank memory to keep power off.

example:

```
N100 = _RBREAD (0, 1000, 3000, 100)

Results of the

N100 = 100

N1000 ~ N1099 = RBank.3000 ~ RBank.3099

related functions

_RBWRITE
```

#### 10. \_RBWRITE

Write the data in the bank memory area when power off: the return value indicates the number of registers written

INT32S \_RBWRITE (INT32S bank, INT32S scrRegNum, INT32S destAddr, INT32S cnt)

Bank usage range is  $0 \sim 6$  (currently only open 0: Bank0)

ScrRegNum data source register location number

destAddr writes the number of the destination location in the Bank cnt can be used in the range  $1 \sim 8192$ 

When the returned value is 0: it means that the variable range is wrong or the running model does not provide the power-off retentive bank memory; other values read represent the number of registers written.

Note: This macro function is only supported for models that provide bank memory to keep power off.

```
Example:

N100 = _RBWRITE (0, 1000, 3000, 100)

Results of the

N100 = 100

RBank.3000 ~ RBank.3099 = N1000 ~ N1099

related functions

_RBREAD
```

### 12.3 Introduction to string related functions and syntax

Name	Function
_STR	Set ASCII (bit) string to variable
	memory
_STRW	Set Unicode (word) character
	string to variable memory
	Returns the ASCII (bit) string
	length
	Returns the length of the Unicode
	(word) string
STRODEC	Convert decimal string to numeric
	value
STR2HEX	Convert hexadecimal string to
	numeric value
STR2BIN	Convert binary string to numeric
	value
DECSTR	Convert numeric value to decimal
	string
_HEXSTR	Convert numeric value to
	hexadecimal string
BINSTR	Convert numeric value to binary
	string

#### 12.3.1 List of string functions

12.3.2 Introduction to String Function Syntax1. STR

Set ASCII (bit) character string to variable memory: Write ASCII (8 Bits) character string to variable memory area

INT32S \_STR (REG reg, STRING str)

Reg can be used from N0 to N64511

Str is an ASCII string, the string length is  $1 \sim 256$ 

The return value indicates the length of the bit, 0 indicates that the memory range is wrong;  $1 \sim 256$  indicates the length of the set bit.

In addition to the general text in the string format, you can also use the "\" escape symbol to add non-string text

Escape symbol	Character value
	22H=34
٧'	27H=39
\"	22H=34
\?	3FH=63
١١	5CH=92
\r	0DH=13
\n	0AH=10
\000~\777	Octal code character
\x00~\xFF	Hexadecimal code character
	·

example:

N100 = \_STR (N1000, "ABCD")

```
Results of the
```

```
N100 = 5
N1000 = 4241H // 'BA'
```

```
N1001 = 4443H // 'CD'
```

```
N1002 = 0000H // End of string
```

related functions

STRW

### 2.\_STRW

Set Unocode (word) character string to variable memory: write Unicode (16Bits) character string to variable memory area INT32S \_STRW (INT32U regNum, STRING str) regNum can be used in the range of 0 ~ 64511 Str is a Unicode string, the string length is 1 ~ 256

The return value indicates the length of the bit, 0 indicates that the memory range is wrong;  $1 \sim 256$  indicates the length of the set bit. note:

When the string uses Unicode encoding, when the HMI displays the string, the internal encoding is only the lower 7 bits (0-127 English font) the same as Unicode, so when the Unicode encoding exceeds 127 in the string, the HMI will display incorrect or unable display.

example:

```
N100 = STRW (N1000, "ABCD")
Results of the
N100 = 10
N1000 = 0041H // 'A'
N1001 = 0042H // 'B'
N1002 = 0043H // 'C'
N1003 = 0044H // 'D'
N1004 = 0000H // End of string
related functions
STR, STRLEN, STRWLEN
3. STRLEN
Returns the length of the ASCII (bit) string: the return value represents the
length of the ASCII string
INT32U STRLEN (INT32S regNum)
regNum can be used in the range 0 \sim 64383
The return value indicates the length of the character string. 0 indicates that
the variable range is incorrect or the length exceeds 256 or the length of the
character string is 0;
example:
    STR (N200, "ABCD")
    N100 = STRLEN(200)
Results of the
N100 = 4
N200 = 4241H
```

```
related functions
STR, STRW, STRWLEN
```

```
4. _STRWLEN
```

N201 = 4443H

Returns the length of the Unocode (word) string: the return value represents the length of the Unicode string

```
INT32U _STRWLEN (INT32S regNum)
```

```
regNum can use the range 0 ~ 64255
```

The return value indicates the length of the string, 0 indicates that the variable range is wrong or the length exceeds 256 or the string length is 0;  $1 \sim 256$  indicates the length of the string.

example:

\_STRW (N200, "ABCD") N100 = \_STRWLEN (200) Results of the N100 = 4 N200 = 0041H N201 = 0042H

```
N202 = 0043H
N203 = 0044H
related functions
_STR, _STRW, _STRLEN
5. STR2DEC
Convert a decimal string to a numeric value: The return value represents the
converted numeric value
INT32S STR2DEC (INT32S regNum, INT32S cnt)
regNum can be used in the range 0 ~ 65535
cnt can use the range 1 \sim 256 (when the value range is exceeded, an overflow
error will occur, resulting in an incorrect value)
A return value of 0 indicates that the variable range is incorrect or the value is 0;
               indicate the converted value.
other values
Example 1:
STRW (N100, "12345")
N200 = STRWLEN(100)
    N500 = STR2DEC(100, N200)
Results of the
N100 = 0031H
N101 = 0032H
N102 = 0033H
N103 = 0034H
N104 = 0035H
N200 = 5
N500 = 12345
Example 2:
STRW (N100, "1234567")
N200 = STRWLEN(100)
    N500 = STR2DEC (100, N200) (DW)
Results of the
N100 = 0031H
N101 = 0032H
N102 = 0033H
N103 = 0034H
N104 = 0035H
N105 = 0036H
N106 = 0037H
N200 = 7
N500 = -10617
N501 = 18
Double word N500 = 1234567
related functions
STR2HEX, STR2BIN
```

### 6. \_STR2HEX

Convert hexadecimal string to numeric value: The return value represents the converted numeric value

INT32S \_STR2HEX (INT32S regNum, INT32S cnt)

regNum can be used in the range 0 ~ 65535

Cnt can use the range  $1 \sim 256$  (when the conversion exceeds the value range, an overflow error will occur, resulting in an incorrect value)

A return value of 0 indicates that the variable range is incorrect or the value is 0; other values indicate the converted value.

Example 1:

```
STRW (N100, "55AA")
N200 = STRWLEN(100)
N500 = STR2HEX (100, N200)
Results of the
N100 = 0035H
N101 = 0035H
N102 = 0041H
N103 = 0041H
N200 = 4
N500 = 55AAH
Example 2:
STRW (N100, "1234567")
N200 = STRWLEN(100)
N500 = STR2HEX(100, 2)
Results of the
N100 = 0031H
N101 = 0032H
N102 = 0033H
N103 = 0034H
N104 = 0035H
N105 = 0036H
N106 = 0037H
N200 = 7
N500 = 0012H
related functions
_STR2DEC, _STR2BIN
```

7, \_STR2BIN

Convert a binary string to a numeric value: The return value represents the converted numeric value INT32S \_STR2BIN (INT32S regNum, INT32S cnt) regNum can be used in the range 0 ~ 65535 Cnt can use the range 1 ~ 256 (when the conversion exceeds the value range,

an overflow error will occur, resulting in an incorrect value) Binary strings can use 'H' or '1' to represent the value of 1 Binary strings can use 'L' or '0' to represent the value of 0 Binary strings can use ':' or ' ' to delimit A return value of 0 indicates that the variable range is incorrect or the value is 0; other values indicate the converted value. Example 1: STRW (N100, "10100000 00000001") N200 = STRWLEN(100)N500 = STR2BIN (100, N200)Results of the N100 ~ N116 = "10100000 00000001" N200 = 17N500 = A001H Example 2: STRW (N100, "HLHL: LHLH: HHHH: LLLL") N200 = STRWLEN(100)N500 = STR2BIN (100, N200)Results of the N100 ~ N118 = "HLHL: LHLH: HHHH: LLLL" N200 = 19N500 = A5F0H related functions STR2DEC, STR2HEX

#### 8. \_DECSTR

Convert the numeric value to a decimal string: The return value indicates the length of the converted string

INT32S \_DECSTR (INT32S destRegNum, INT32S data, INT32S format)

destregNum can use the range 0 ~ 64255

data The converted value entered

Format converts the value format

- 0: 8-bit signed number
- 1: 8-bit unsigned number
- 2: 16-bit signed number
- 3: 16-bit unsigned number
- 4: 32-bit signed number
- 5: 32-bit unsigned number

A return value of 0 indicates that the variable range is incorrect or the value is 0; other values indicate the converted string length.

Example 1:

N200 = \_DECSTR (100, 12345, 2)

Results of the

N100 ~ N104 = "12345"

N200 = 5Example 2: N200 = DECSTR (100, -12345, 2) Results of the N100 ~ N104 = "-12345" N200 = 6related functions HEXSTR, BINSTR 9. HEXSTR Convert the numeric value to a hexadecimal string: The return value indicates the length of the converted string INT32S HEXSTR (INT32S destRegNum, INT32S data, INT32S format) destregNum can use the range 0 ~ 64255 data The converted value entered Format converts the value format 0: 8-bit unsigned number, convert string lowercase 0-9, a-f 1: 8-bit unsigned number, converted string uppercase 0-9, A-F 2: 16-bit unsigned number, conversion string lowercase 0-9, a-f 3: 16-bit unsigned number, converted string uppercase 0-9, A-F 4: 32-bit unsigned number, conversion string lowercase 0-9, a-f 5: 32-bit unsigned number, converted string uppercase 0-9, A-F A return value of 0 indicates that the variable range is incorrect or the value is 0; other values indicate the converted string length. Example 1: N200 = HEXSTR (100, 0AA55H, 2) Results of the N100 ~ N103 = "aa55" N200 = 4Example 2: N200 = HEXSTR (100, 55AAFF00H, 5) Results of the N100 ~ N107 = "55AAFF00" N200 = 8related functions \_DECSTR, \_BINSTR 10. BINSTR Convert the numeric value to a binary string: the return value indicates the length of the converted string INT32S BINSTR (INT32S destRegNum, INT32S data, INT32S format)

destregNum can use the range 0  $\sim$  64255

data The converted value entered

Format converts the value format

0: 8-bit unsigned number, convert string 0, 1 1: 8-bit unsigned number, convert character string H, L 2: 16-bit unsigned number, conversion string 0, 1 3: 16-bit unsigned number, convert string H, L 4: 32-bit unsigned number, conversion string 0, 1 5: 32-bit unsigned number, convert character string H, L A return value of 0 indicates that the variable range is incorrect or the value is 0; indicate the converted string length. other values Example 1: N200 = \_BINSTR (100, 0AA55H, 2) Results of the N100 ~ N115 = "1010101001010101" N200 = 16Example 2: N200 = \_BINSTR (100, 55AAFF00H, 5) Results of the N100 ~ N131 = "LHLHLHLHHLHLHLHLHHHHHHHHHHHLLLLLLL" N200 = 32related functions \_DECSTR, \_HEXSTR

### **12.4 Introduction to Mathematical Calculation Related**

### **Functions and Grammar**

Name	Function
_MIN	Take the minimum of multiple
	16-bit signed numbers
_MAX	Take the maximum of multiple
	16-bit signed numbers
_AVE	Take the average of multiple 16-bit
	signed numbers
	Take the minimum of multiple
	32-bit signed numbers
MAXD	Take the maximum of multiple
	32-bit signed numbers
AVED	Take the average of multiple 32-bit
	signed numbers
	Take the minimum of multiple
	32-bit symbol points
_MAXF	Take the maximum of multiple

#### 12.4.1 A column table of mathematical calculation related functions

32-bit symbol points
Take the average of multiple 32-bit
symbol points

### 12.4.2 Introduction to Mathematical Calculation Related Function Syntax

1. \_MIN

Take the minimum value of multiple 16-bit signed numbers: the return value indicates the minimum value of the multiple data

INT32S \_MIN (INT32S regNum, INT32S cnt)

regNum can be used in the range  $0 \sim 65535$ 

Cnt can use the range 1 ~ 256

The return value of 0 means that the variable range is wrong or the minimum value is 0; other values are the minimum value returned. example:

```
N100 = 156
N101 = 6578
N102 = -578
N103 = 4568
N200 = _MIN (100, 4)
Results of the
N200 = -578
related functions
MAX, AVE
```

2. \_MAX

Take the maximum value of multiple 16-bit signed numbers: the return value indicates the maximum value of the multiple data INT32S \_MAX (INT32S regNum, INT32S cnt) regNum can be used in the range 0 ~ 65535 Cnt can use the range 1 ~ 256

A return value of 0 means that the variable range is wrong or the maximum value is 0; other values are the maximum value returned. example:

```
N100 = 156
N101 = 6578
N102 = -578
N103 = 4568
N200 = _MAX (100, 4)
Results of the
N200 = 6578
related functions
_MIN, _AVE
```

3. \_AVE

Take the average of multiple 16-bit signed numbers: the return value represents the average of the multiple data INT32S \_AVE (INT32S regNum, INT32S cnt) regNum can be used in the range 0 ~ 65535 Cnt can use the range 1 ~ 256

A return value of 0 means that the variable range is wrong or the maximum value is 0; other values are the maximum value returned. example:

N100 = 156 N101 = 6578 N102 = -578 N103 = 4568 N200 = \_AVE (100, 4) Results of the N200 = 2681 related functions \_MIN, \_MAX

#### 4. \_MIND

Take the minimum value of multiple 32-bit signed numbers: the return value represents the minimum value of the multiple data INT32S \_MIND (INT32S regNum, INT32S cnt) regNum can be used in the range 0 ~ 65534 Cnt can use the range 1 ~ 128

The return value of 0 means that the variable range is wrong or the minimum value is 0; other values are the minimum value returned. example:

N100 = 1564 (DW) N102 = 6573458 (DW) N104 = -574358 (DW) N106 = 4568 (DW) N200 = \_MIND (100, 4) (DW) Results of the N200 = -574358 related functions \_MAXD, \_AVED

#### 5. MAXD

Take the maximum value of multiple 32-bit signed numbers: the return value indicates the maximum value of the multiple data INT32S \_MAXD (INT32S regNum, INT32S cnt) regNum can be used in the range  $0 \sim 65534$  Cnt can use the range  $1 \sim 128$ 

A return value of 0 means that the variable range is wrong or the

maximum value is 0; other values example: N100 = 1564 (DW) N102 = 6573458 (DW) N104 = -574358 (DW) N106 = 4568 (DW) N200 = \_MAXD (100, 4) (DW) Results of the Double word N200 = 6573458 related functions \_MIND, \_AVED are the maximum value returned.

```
6. _AVED
```

Take the average of multiple 32-bit signed numbers: the return value represents the average of the multiple data INT32S \_AVED (INT32S regNum, INT32S cnt) regNum can be used in the range 0 ~ 65534 Cnt can use the range 1 ~ 128 The 32-bit signed number is used to calculate the average value. Please pay attention to whether the total value overflows.

A return value of 0.0 means that the variable range is wrong or the maximum value is 0.0; other values are the maximum value returned. example:

```
N100 = 1564 (DW)
N102 = 6573458 (DW)
N104 = -574358 (DW)
N106 = 4568 (DW)
N200 = _AVED (100, 4) (DW)
Results of the
Double word N200 = 151308
related functions
_MIND, _MAXD
```

#### 7.\_MINF

Take the minimum value of multiple 32-bit symbol points: the return value represents the minimum value of the multiple data INT32S \_MINF (INT32S regNum, INT32S cnt) regNum can be used in the range 0 ~ 65534 Cnt can use the range 1 ~ 128

The return value of 0 means that the variable range is wrong or the minimum value is 0; other values are the minimum value returned. example:

N100 = 15.64 (FLOAT)

N102 = 6573.458 (FLOAT) N104 = -5743.58 (FLOAT) N106 = 45.68 (FLOAT) N200 = \_MINF (100, 4) (FLOAT) Results of the Floating point N200 = -5743.58 related functions \_MAXF, \_AVEF

#### 8.\_MAXF

Take the maximum value of multiple 32-bit symbol points: the return value indicates the maximum value of the multiple data INT32S \_MAXF (INT32S regNum, INT32S cnt) regNum can be used in the range  $0 \sim 65534$  Cnt can use the range  $1 \sim 128$ 

A return value of 0.0 means that the variable range is wrong or the maximum value is 0.0; other values are the maximum value returned. example:

N100 = 15.64 (FLOAT) N102 = 6573.458 (FLOAT) N104 = -5743.58 (FLOAT) N106 = 45.68 (FLOAT) N200 = \_MAXF (100, 4) (FLOAT) Results of the Floating point number N200 = 6573.458 related functions \_MINF, \_AVEF

9, \_AVEF

Take the average of multiple 32-bit symbol points: the return value represents the average of the multiple data

INT32S \_AVEF (INT32S regNum, INT32S cnt)

regNum can be used in the range 0 ~ 65534

Cnt can use the range 1 ~ 128

The 32-bit signed number is used to calculate the average value. Please pay attention to whether the total value overflows.

A return value of 0.0 means that the variable range is wrong or the maximum value is 0.0; other values are the maximum value returned. example: N100 = 15.64 (DW) N102 = 6573.458 (DW) N104 = -5743.58 (DW)

N106 = 45.68 (DW)

N200 = \_AVEF (100, 4) (DW)

Results of the Floating point number N200 = 222.8 related functions \_MINF, \_MAXF

### **12.5 Introduction to Time-Related Functions and Syntax**

#### 12.5.1 A column of time-related functions

Name	Function
TICK	Get the current time tick value
TICK2TIM	Time tick value conversion to date
E	and time data
TIME2TIC	Conversion of date and time data
к	to time tick value

#### 12.5.2 Introduction to Time-Related Function Syntax

1.\_TICK

Get the current time tick value: The return value indicates the current time tick value

INT32U\_TICK ()

Parameter: None

example:

N100 = \_TICK () (DW)

N102 = N65448 (DW) // (DW) N65448 has the same function as \_TICK Results of the

Double word group N100 = 1287635383 // The value varies with time Double word N102 = 1287635383

related functions

\_TICK2TIME, \_TIME2TICK

#### 2. \_TICK2TIME

Time tick value conversion to date and time data: the return value indicates whether the conversion is successful

INT32U \_TICK2TIME (INT32S destRegNum, INT32U tick)

The range of destRegNum that can be used is 0  $\sim$  64255. 7 data registers are required to convert data

Tick value entered by tick

The return value 0 indicates that the variable range is incorrect or the conversion fails, and 1 indicates that the conversion is successful. Conversion register data configuration

0: sec [0 ~ 59]

1: min [0 ~ 59]

2: hour [0 ~ 23]

3: day [1 ~ 31] 4: month [1 ~ 12] 5: year [1970 ~ 2069] 6: week [0 ~ 6] example: N100 = TICK()(INT32U)TICK2TIME (200, (INT32U) N100) Results of the Double word group N100 = 1277639390 // The value varies with time N200 = 30 // 30 seconds N201 = 36 // 36 minutes N202 = 5 // 5 hours N203 = 21 // 21st N204 = 10 // October N205 = 2010 // 2010 N206 = 4 // Thursday related functions TICK, TIME2TICK 3. TIME2TICK Date and time data is converted to time tick value: the return value indicates the time tick value INT32S TICK2TICK (INT32S destRegNum) The range of destRegNum that can be used is 0 ~ 64255. 7 data registers are required to convert data The return value of 0 means that the variable range is wrong or the conversion fails, and the other values are time tick values. Conversion register data configuration 0: sec [0 ~ 59] 1: min [0 ~ 59] 2: hour [0 ~ 23] 3: day [1 ~ 31] 4: month [1 ~ 12] 5: year [1970 ~ 2069] 6: week [0 ~ 6] example: N200 = 30 // 30 seconds N201 = 36 // 36 seconds N202 = 5 // 5 hours N203 = 21 // 21st N204 = 10 // October N205 = 2010 // 2010 N206 = 4 // Thursday N100 = TICK2TICK (200) (INT32U) Results of the

Double word group N100 = 1287639390 // The value varies with time related functions \_TICK, \_TIME2TIME

### 12.6 Introduction to Functions and Syntax of Data Conversion

Name	Function
	Variables take high-order
	metadata
LOBYTE	Variables take low-order metadata
HIWORD	Variable takes high byte data
LOWORD	Variables take low byte data
SWAPBYT	Variable high and low bit metadata
E	exchange
_SWAPWO	Variable high and low byte data
RD	exchange
_BIN2GRAY	Convert binary data to Gray code
	Gray code conversion into binary
	data
_MAKEWO	Two bits of data combined into
RD	one word
MAKEDW	Two words combined into one
ORD	double word

#### 12.6.1 List of register functions

#### **12.6.2 Introduction to Function Syntax**

```
1._HIBYTE
```

Variables take high-order metadata: the return value is the high-order metadata of the input value

```
INT32U _HIBYTE (INT32U data)
```

example:

```
N100 = _HIBYTE (1234H)
```

Results of the

```
N100 = 0012H
```

related functions

\_LOBYTE, \_HIWORD, \_LOWORD, \_MAKEWORD, \_MAKEDWORD

#### 2.\_LOBYTE

Variables take low-order metadata: the return value is the high-order metadata of the input value

```
INT32U _LOBYTE (INT32U data) example:
```

N100 = LOBYTE (1234H)Results of the N100 = 0034Hrelated functions HIBYTE, HIWORD, LOWORD, MAKEWORD, MAKEDWORD 3. HIWORD Variable takes high byte data: the return value is the high byte data of the input value INT32U HIWORD (INT32U data) example: N100 = HIWORD (12345678H) Results of the N100 = 1234H related functions HIBYTE, LOBYTE, LOWORD, MAKEWORD, MAKEDWORD 4. LOWORD Variables take low byte data: the return value is the low byte data of the input value INT32U LOWORD (INT32U data) example: N100 = LOWORD (12345678H)Results of the N100 = 5678H related functions \_HIBYTE, \_LOBYTE, \_HIWORD, \_MAKEWORD, \_MAKEDWORD 5. SWAPBYTE Variable high and low bit data exchange: the return value is the data after the exchange of high and low bits of the input value INT32U SWAPBYTE (INT32U data) example: N100 = SWAPBYTE (1234H)Results of the N100 = 3412Hrelated functions HIBYTE, LOBYTE, HIWORD, LOWORD, MAKEWORD, MAKEDWORD, SWAPWORD 6. SWAPWORD

Variable high and low byte data exchange: the return value is the data after the exchange of high and low bytes of the input value INT32U SWAPWORD (INT32U data)

```
example:
      N100 = SWAPWORD (12345678H)
 Results of the
 N100 = 1234H
 N101 = 5678H
 related functions
      _HIBYTE, _LOBYTE, _HIWORD, _LOWORD, _MAKEWORD,
MAKEDWORD, SWAPBYTE
 7, BIN2GRAY
 Convert binary data to Gray code: return the binary data whose input value
is converted to Gray code
 INT32U BIN2GRAY (INT32U data)
 example:
      N100 = BIN2GRAY (55555555H) (DW)
 Results of the
 N100 = FFFFH
 N101 = 7FFFH
 related functions
     _GRAY2BIN
 8. GRAY2BIN
 Gray code conversion to binary data: Gray code data whose return value is
input value is converted to binary data
 INT32U GRAY2BIN (INT32U data)
 example:
     N100 = GRAY2BIN (7FFFFFFFH) (DW)
 Results of the
 N100 = 5555H
```

N100 = 5555HN101 = 5555Hrelated functions

\_BIN2GRAY

9. \_MAKEWORD

Two bits of data combined into one word: the return value is the data combined into one word

```
INT32U _MAKEWORD (INT32U hiData, INT32U loData) example:
```

```
N100 = _MAKEWORD (12H, 34H)
Results of the
N100 = 1234H
related functions
MAKEDWORD
```

#### 10. MAKEDWORD

Two words combined into one double word: the return value is the data combined into one double word

INT32U \_MAKEDWORD (INT32U hiData, INT32U loData) example: N100 = \_MAKEDWORD (1234H, 5678H) Results of the N100 = 1234H N101 = 5678H related functions \_MAKEWORD

### 12.7 Introduction to Functions and Syntax Related to

#### Calculation Check Code

#### 12.7.1 Column table related functions of calculation check code

Name	Function
	Using LRC method to calculate the
	variable area check code
_REGCRC1	Use CRC16 method to calculate
6	variable region check code
_REGCRC3	Use CRC32 method to calculate
2	variable region check code
	Use the CCITT method to calculate
	the variable area check code
REGBCC	Use the BCC method to calculate the
	variable area check code
_REGBCC2	Use BCC's complement method to
	calculate the variable area check code

# 12.7.2 Introduction to the Function Syntax Related to Calculation Check Code

1.\_REGLRC

Use the LRC method to calculate the check code of the variable area: the return value is the value of the LRC check code

INT32S \_REGLRC (INT32S regNum, INT32S cnt)

regNum can be used in the range of 0 ~ 65535

Cnt can be used in the range of 1 ~ 256

The return value 0 indicates that the variable is incorrect or the value is 0, and the other values are the values of the LRC check code.

example:

\_STRW (N100, "1234")

```
N200 = _REGLRC (100, 4)

Results of the

N100 = 0041H

N101 = 0042H

N102 = 0043H

N103 = 0044H

N104 = 0000H

N200 = 202 // 202 = 0CAH

related functions

_REGCRC16, _REGCRC32, _REGCCITT, _REGBCC, _REGBCC2
```

2. \_REGCRC16

Use the CRC16 method to calculate the variable area check code: the return value is the value of the CRC16 check code

INT32S \_REGCRC16 (INT32S regNum, INT32S cnt)

CRC16 algorithm (X16 + X15 + X2 + 1)

regNum can be used in the range of  $0 \sim 65535$ 

Cnt can be used in the range of  $1 \sim 256$ 

The return value of 0 means that the variable is wrong or the value is 0, and the other values are the values of the CRC16 check code.

example:

```
_STRW (N100, "1234")
N200 = _REGCRC16 (100, 4)
Results of the
N100 = 0041H
N101 = 0042H
N102 = 0043H
N103 = 0044H
N104 = 0000H
N200 = 30BAH
related functions
_REGLRC, _REGCRC32, _REGCCITT, _REGBCC, _REGBCC2
```

3. \_REGCRC32

Use the CRC32 method to calculate the variable area check code: the return value is the value of the CRC32 check code

INT32S \_REGCRC32 (INT32S regNum, INT32S cnt)

CRC32 algorithm

(X32 + X26 + X23 + X22 + X16 + X12 + X11 + X10 + X8 + X7 + X5 + X4 + X2 + X1 + 1)

regNum can be used in the range of 0 ~ 65535

Cnt can be used in the range of  $1 \sim 256$ 

The return value of 0 means that the variable is incorrect or the value is 0, and the other values are the values of the CRC32 check code.

example:

```
_STRW (N100, "1234")
N200 = _REGCRC32 (100, 4) (DW)
Results of the
N100 = 0041H
N101 = 0042H
N102 = 0043H
N103 = 0044H
N103 = 0044H
Double word N200 = 09BE3E0A3H
related functions
_REGLRC, _REGCRC16, _REGCCITT, _REGBCC, _REGBCC2
```

4. REGCCITT

Use the CCITT method to calculate the variable area check code: the return value indicates the value of the CCITT check code

INT32S \_REGCCITT (INT32S regNum, INT32S cnt) CRC-CCITT algorithm (X ^ 16 + X ^ 12 + X ^ 5 + 1)

regNum can be used in the range of  $0 \sim 65535$ 

Cnt can be used in the range of  $1 \sim 256$ 

The return value 0 indicates that the variable is incorrect or the value is 0, and the other values are the values of the CCITT check code.

example:

```
______STRW (N100, "1234")
N200 = __REGCCITT (100, 4)
Results of the
N100 = 0041H
N101 = 0042H
N102 = 0043H
N103 = 0044H
N104 = 0000H
N200 = 9741H
related functions
______REGLRC, _____REGCRC16, ______REGCRC32, ______REGBCC2
```

5. \_REGBCC

Use the BCC method to calculate the check code of the variable area: the return value indicates the value of the BCC check code

INT32S \_REGBCC (INT32S regNum, INT32S cnt)

regNum can be used in the range of 0 ~ 65535

Cnt can be used in the range of  $1 \sim 256$ 

The return value of 0 means that the variable is incorrect or the value is 0, and the other values are the values of the BCC check code. example:

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```
STRW (N100, "1234")
      N200 = REGBCC(100, 4)
  Results of the
  N100 = 0041H
  N101 = 0042H
  N102 = 0043H
  N103 = 0044H
  N104 = 0000H
  N200 = 0004H
  related functions
  REGLRC, REGCRC16, REGCRC32, REGCCITT, REGBCC2
  6. REGBCC2
  Use the BCC's complement method to calculate the variable area check
code: the return value is the value of the BCC's complement check code
  INT32S _REGBCC2 (INT32S regNum, INT32S cnt)
  regNum can be used in the range of 0 ~ 65535
  Cnt can be used in the range of 1 ~ 256
  The return value of 0 means that the variable is incorrect or the value is 0,
and the other values
                      are the values
                                       of the BCC check code.
  example:
      STRW (N100, "1234")
      N200 = REGBCC2(100, 4)
  Results of the
  N100 = 0041H
  N101 = 0042H
  N102 = 0043H
  N103 = 0044H
  N104 = 0000H
  N200 = 00FBH
  related functions
  REGLRC, REGCRC16, REGCRC32, REGCCITT, REGBCC
```

### **12.8 Introduction to Communication Related Functions and**

#### **Syntax**

#### 12.8.1 A column table of communication-related functions

Name	Function
	Data is sent through the
	communication port

#### **12.8.2 Introduction to Communication Related Function Syntax**

### 1.\_LWRITE

Data is sent through the communication port: the return value indicates whether the sending is completed

INT32S \_LWRITE (INT32S handle, INT32S regNum, INT32S cnt)

Operation value of the handle communication connection (Handle is displayed after the [Link Management] parameter in the Link Management window)



regNum data source register address number

Cnt can use the range 1 ~ 256

The return value 0 means that the variable range is wrong or the handle is wrong or there is a problem with the development.

example:

```
_STR (1000, "A0 = 1234 \ r \ n")
N100 = STRLEN (1000)
```

N101 = \_LWRITE (0, 1000, N100)

```
Results of the
```

The character string is sent through the communication port "A0 = 1234  $\ r \ n$ "

N100 = 9 N101 = 1

### **Chapter 13 Description of Macro Communication**

### Protocol

Receive data and send data is up to 253 bytes (Byte).

N63744 [0xf900] Length of received data (BYTE). (0 ~ 253)

N63745 ~ N63871 Received data The received data is stored from the lower byte, that is, the first BYTE stores the lower 8 bits of N63745, the second BYTE stores the upper 8 bits of N63745, and so on.

When the system receives the data from the communication port, it will store the data in sequence to N63745, and store the number of bytes received to N63744.

N63872 [0xf980] Length of data to be transmitted (BYTE). (0 ~ 253)

N63873 ~ N63999 Transmitted data The transmitted data is stored from the lower byte, that is, the first BYTE stores the lower 8 bits of N63873, the second BYTE stores the upper 8 bits of N63873, and so on.

When the system recognizes that N63872 is greater than 0 and less than 254, it will begin to transmit the data at the variable position of N63873 to the number of bytes recorded by N63872. Commands sent twice. (When data is sent to the communication buffer, the system will sequentially send the data to the corresponding communication port)

Note: The Macro communication protocol does not support the simultaneous use of multiple communication ports.

### Appendix 1 Definition of mView Project Editing

### Keyboard

keyboard	action	remark
Ctrl+Z	Undo the last action	
Ctrl+Shift+Z	Undo last action	
Ctrl+X	Cut	
Ctrl+C	сору	
Ctrl+M	Multiple copy	
Ctrl+V	paste	
Ctrl+Del	delete	
Del	delete	
Ctrl+A	select all	
Up	Component fine-tuning	
Down	Component fine-tuning	
Left	Component fine-tuning to the left	
Right	Components fine-tuned to the right	
Shift+Up	The component moves up one grid	
Shift+Down	Move the component down one grid	
Shift+Left	Move the component one frame to the left	
Shift+Right	Move the component one space to the right	
Ctrl+Up	Reduced component height by one	
Ctrl+Down	Increase the component height by one	
Ctrl+Left	Component width minus one	
Ctrl+Right	Increase the component width by one	
ESC	cancel selection	
G	Group	
U	Ungroup	

I	Enlarged display	
0	Zoom out	
L	Fixed element	
Space	Edit symbol	
F4	Display component order	
Shift+F4	Display component name	
F5	Display variables (simple)	
Shift+F5	Display variables (general)	
F6	Only display information about selected components	
F8	Grammar check	
F9	Online execution	
Shift+F9	Offline execution	
Ctrl+F9	Stop	
Ctrl+Alt+S	Download to HMI	
Shift+"+"	Change the order of components (to the top)	
Shift+"-"	Change the order of components (to the bottom)	
"+"	Change component order (up one layer)	
"_"	Change component order (push back one layer)	

### Appendix 2 List of mView System Preset Variables

The user-available variable range is N0~N65023, and the register range for power interruption is N49152~N61439 (will be expanded to N32768~N49151 in the future). Note that the variables after N65024 are for system use and cannot be customized by users.

### 1 System preset variables

No.	data	Explanation	Default value	Read and write
N65024	Screen brightness	0100	70	R/W
N65025	Screen comparison	0100	50	R/W
N65026	Backlight timer	Unit: second, 3065535, 65535=off	65535	R/W
N65027	volume	0100	100	R/W
N65028	Power LED status display	0=flash,1=stop	0	R/W
N65029	Signal generator switch	0=off,1=on	0	R/W
N65030	Key sound index	65535=off	0	R/W
N65031	Dialog box sound index	65535=off	1	R/W
N65040	Auxiliary cursor	65535=off	65535	R/W
N65041	Auxiliary cursor color		0	R/W
N65044	Dialog box mask	Use dialog mask 0X0001, 0X0002 omit the background picture	1	R/W
N65048	Screen brightness increase rate	120	10	R/W
N65049	Screen brightness reduction rate	120	2	R/W
N65050	Backlight power saving ratio	0100	0	R/W

Power off retentive

N65056	Time zone	-3276832767	0	
N65072	Com port 1 is connected to electrical	0-auto recognition RS232/RS422/RS485 1-RS232 2-RS422 3-RS485	0	
N65073	Com port 1 communication rate	0-150,3-1200,6-9600,9-57600, 1-300,4-2400,7-19200,10-115200, 2-600,5-4800,8-38400,	10	
N65074	Com port 1 data bit	0 - 5bit,1 - 6bit, 2 - 7bit,3 - 8bit	3	
N65075	Com port 1 check bit	0 - None,1 - Odd parity, 2 - Even parity,3 - mark,4 - Space	0	
N65076	Com port 1 stop bit	0 - 1bit,1 - 2bit,	0	
N65077	Com port 1 delay	Unit: ms	20	
N65078	Com port 1 timeout setting	Unit: millisecond, minimum value 1000	1000	
N65080	Com port 2 connected to electrical	Setting as N65072	0	
N65081	Com port 2 communication rate	Setting as N65073	10	
N65082	Com port 2 data bit	Setting as N65074	3	
N65083	Com port 2 check bit	Setting as N65075	0	
N65084	Com port 2 stop bit	Setting as N65076	0	
N65085	Com port 2 delay	Unit: ms	20	
N65086	Com port 2 timeout setting	Unit: millisecond, minimum value 1000	1000	
N65088	Com port 3 connected to electrical	Setting as N65072	0	
N65089	Com port 3 communication rate	Setting as N65073	10	
N65090	Com port 3 data bits	Setting as N65074	3	
N65091	Com port 3 check bit	Setting as N65075	0	

N65092	Com port 3 stop bit	Setting as N65076	0	
N65093	Com port 3 delay	Unit: ms	20	
N65094	Com port 3 timeout setting	Unit: millisecond, minimum value 1000	1000	
N65096	Com port 4 connected to electrical	Setting as N65072	0	
N65097	Com port 4 communication rate	Setting as N65073	10	
N65098	Com port 4 data bits	Setting as N65074	3	
N65099	Com port 4 check bit	Setting as N65075	0	
N65100	Com port 4 stop bit	Setting as N65076	0	
N65101	Com port 4 delay	Unit: ms	20	
N65102	Com port 4 timeout setting	Unit: millisecond, minimum value 1000	1000	
N65104	Flashing time setting 1	Unit: ms	1000	
N65105	Flashing time setting 2	Unit: ms	500	
N65106	Flashing time setting 3	Unit: ms	200	
N65107	Flashing time setting 4	Unit: ms	100	
N65112	Dialog box input effect	0=off,1=on.	1	
N65116	Component enable display	<ul> <li>0: Normal display,</li> <li>1: When the enabling condition is not established, the [Prohibition] symbol is displayed on the upper left.</li> <li>2: When the enabling condition is not established, the module sets the network type shielding pattern</li> </ul>		
N65120	RFID_MODE	RFID reading mode 0=Read UID, 1=Read UID+IID, 2=Write IID		
N65128	MODBUS slave station number			
N65137	Screen language	Bit0=1: Record the current		


	options	language		
N65152	Macro options			
N65168	Adjust column height			
N65264	Last boot state	0=Normal,!=0 wrong	0	

#### Working temporary register(R/W)

No.	Data	Explanation	Read/ write
N65280	Perpetual calendar-year	19602059	R/W
N65281	Perpetual calendar-month	112	R/W
N65282	Perpetual calendar-day	131	R/W
N65283	Perpetual calendar-hour	023	R/W
N65284	Perpetual calendar-minute	059	R/W
N65285	Perpetual calendar-second	059	R/W
N65286	Perpetual calendar-week	06, 0-Sunday, 6=Saturday	R/W
N65287	Current backlight time	065535	R/W
N65288	Dialog box result		R/W
N65289	Dialog box data format		R/W
N65290	Dialogue box decimal point		R/W
N65291	Number of dialog boxes		R/W
N65292	Maximum number of text in dialog box		R/W
N65293	Dialog box button clear	0X8000(Loop input0X00FF)	R/W
N65294-N652 95	Dialogue text		R/W
N65296-N653 27	Dialog box text		R/W
N65328-N653 29	Enter the maximum value		R/W

N65330-N653	Enter the minimum		
31	value		R/VV
N65332	Right to use password dialog box		R/W
N65340	Current user rights	131	R/W
N65341	Current user ID	115	R/W
N65342	Current screen language index	0n	R/W
N65343	Current screen ID	1n	R/W
N65344	Current key status	03	R/W
N65345	Input disable		R/W
N65347	Control register	Bit=0Update the current backlight timing	R/W
N65360-N653 75	Dialog box input max string	Display data format2: -A	R/W
N65376-N653 91	Dialog box input min string	Display data format2: -A	R/W

#### Working read-only register

No.	Data	Explanation	Read/ wirte
N65408	HMI Model	0X5000	R
N65409	OS Version		R
N65410	Screen width	320	R
N65411	Screen height	240	R
N65412	Screen color	1/4/8/16	R
N65413	screen size	5700	R
N65414	Product Number 1		R
N65415	Product Number 2		R
N65422	Screen update time	Unit: ms	R
N65423	Picture updates per second		R
N65424	CPU Usage rate	0100	R
N65430	Type of alarm occurrence information	02	R
N65431	Alarm storage capacity		R
N65432	Number of alarms		R
N65440	System Information Number		R

N65448-N6544 9	Time TICK		R
N65456-N6546 3	protocol name of com port 1	Display format 1-BA display length 16	R
N65464-N6547 1	protocol name of com port 2	Display format 1-BA display length 16	R
N65472-N6547 9	protocol name of com port 3	Display format 1-BA display length 16	R
N65480-N6548 7	protocol name of com port 4	Display format 1-BA display length 16	R
N65488	COM1Number of write buffers	At present, each COM port has 32 write buffers	R
N65489	COM2Number of write buffers	At present, each COM port has 32 write buffers	R
N65504	Signal generator1	[0359]	R
N65505	Signal generator2	[099]	R
N65506	Signal generator3	[011]	R
N65507	Signal generator4	[059]	R
N65508	Signal generator5	Sine wave[0327687]	R
N65509	Signal generator6	Sawtooth wave[0327687]	R
N65510	Signal generator7	Triangle wave[0327687]	R
N65511	Signal generator8	Square wave[0327687]	R
N65528	Communication abnormal alarm	Bit0=COM1,Bit1=COM2.	R
N65529	Boot time status	Bit0 = 1 after booting, Bit1 = 1 after 1 second, Bit15 = 1 at the 15th second.	R

### 2 The usage of internal pointer variable V

The pointer V and the variable N appear in pairs, and the fixed relationship is as follows

Pointer V	VO	V1	V2	V3	٧4	• • •	V32765	V32766	V32767
Variable N	NO	N1	N2	N3	N4		V32765	V32766	V32767

In mView, the relationship between the internal variable pointer V and the variable N is one-to-one. When using it, you need to follow the corresponding relationship in the above table. If you use V0, the other needs to use N0, and so on...

Among them, the value of N represents the address that points to the register, and the value of V represents the value of the register pointed to by N; for example: use the group N0 and V0 for indexing, N0=100, N100=255, then V0=255.



Examples of batch assignment:

```
N0=10
FOR 61430
V0=555(INT16U)
N0+=1(INT16U)
NEXT
END
Analysis: N0=10
```

Analysis: N0=10, the register that specifies the start of the index is N10; V0=555, specify the value to be transmitted, that is, N10=V0=555; Use the FOR loop program to assign all values of 555 to N10-N61439.

scal	е	Octave0	Octave1	Octave2	Octave3
De	С	262	523	1047	2093
	Db	277	554	1109	2217
Do	Db	294	587	1175	2349
Re	Eb	311	622	1245	2489
Mi	Eb	330	659	1329	2637
	F	349	698	1397	2794
⊦a	Gb	370	740	1480	2960
Sal	G	392	784	1568	3136
50	Ab	415	831	1661	3322
	А	440	880	1760	3520
Lа	Bb	466	923	1865	3729
Si	В	494	988	1976	3951

### Appendix 3 mView Scale Frequency Table

### Appendix 4 Instructions for Using Operation

### Variables

#### Operation variable

It means that the general numerical data source location can be set using the calculation between variables.

In this software, if a small icon appears on the right side of the edit box for the input variable position, it means that the variable input position can use arithmetic variables. As shown below:

Control			Display Format		
Data Type	[16Bit] Signed	•	Integer:	4	
Read Addr.	N0+N5	<u> </u>	Decimal Pos.:	0	•
Max:	500	<b>_ E</b>	□ Zero of Hil	Bites	
Min:	10	<b>_</b>			
Visihility		_	Oecimal     O Hex		
violo incy i	4	••	C 32 Bits Floa	it. Point	

#### The operational symbols that can be used are shown in the table below

Operation category	Operation	symbol	Case	remarks
	addition	+	D100 + D101	
	Subtraction	-	D100 - D101	
	multiplication	*	D100 * D101	
computation	Descent	/	D100 / D101	
	Take the remainder	%	D100 % D101	
	Take a negative number	-	-D101	
	and	&	D100 & D101	
	XOR	٨	D100 ^ D101	
Bit operation	or		D100   D101	
	Shift left	<<	D100 << D101	
	Right shift	>>	D100 >> D101	



	Negate	~	~D100	
	Equal to	==	D100 == D101	
	Not equal to	!=	D100 != D101	
Relational	Less than	<	D100 < D101	
operation	Less than or equal to	<=	D100 <= D101	
	more than	>	D100 > D101	
	More or equal to	>=	D100 >= D101	
	Logical OR	11	D100    D101	
logic operation		0 0	D100 &&	
		αα	D101	
	Logical inverse	!	!D100	

In the table above:

D100 and D101 refer to variables in the PLC (controller).

Operators can be used together, for example ((D100 + D101) / 2) == 100

To increase the convenience of reading, when the operator occupies a bit, a space can be inserted between the variable and the operator. However, when the operator occupies two bits, no space can be added between the operators, as explained below:

D100 + D101 can be written: D100 + D101

D100 <= D101 The syntax check is correct here

D100 <= D101 The syntax check is incorrect here because the operator <= has a blank character in the middle.

Constant type	Definition description	Case
Decimal	Number0~9	123 or 100000
	Numbers 0 ~ 9, English letters A ~ F, the last word	100H or
Hex	is 'H', but the first word must not be a letter, it must	1234H or
	be a number	0ABCDH

Definition of constant

Cases

Operation variable	Explanation
(D0+D1+D2+D3+D4)/5	Take the average of D0 to D4
(D0+1234)/1000	Multiply D0 by 1.234
(D0==100H)  (D1==200H )	When D0 is equal to 100 in hexadecimal or D1 is equal to 200 in hexadecimal, the value is 0.
D0>D1	When D0 is greater than D1, the value is 1, otherwise the value is 0
(D0<=D1) && (D0==100)	When D0 is less than D1 and D0 is equal to 100, the value is 1, otherwise the value is 0.

D0 & D1	D0 = [Binary] 0000000000001111-> Decimal = 15 D1 = [Binary] 0000000000000010001-> Decimal = 17 D0 & D1 = [Binary] 00000000000000001-> Decimal = 1
D0 << 2	D0 = [Binary] 0000000000001111-> Decimal = 15 D0 << 2 = [Binary] 0000000000111100-> Decimal = 60

### Appendix 5 Function Description of Multiple

### Intelligent Connected Machines of HMI

At present, more users will have more and more devices connected to the HMI. One RS485 can be connected to multiple controllers. Under this structure, the software can distinguish each controller by station number when designing the HMI program stage, so that the HMI can read the data of each connected controller. When each controller works normally, the communication will work normally.

However, in some use cases, not all connected controllers must be powered on, which will cause the HMI to always try to connect with the controller that is not powered on during communication, which will affect the overall communication speed.

When we designed the software, we added the [multiple intelligently connected machines] function in the HMI software, and the setting page is shown in the following figure:

Protocol:	CoolMay PLC(3U/3G)/FX3U										
Controllor:	Company	Model		D	es						
	CoolMay	CoolMa	y 3U Series	P	LC						
Port:	Auto Detect(	(RS232/RS4	22/RS485)	4	<u> </u>						
Port: Buad Rate:	Auto Detect(	(RS232/RS4	22/RS485) Data Bit:	7Bits	•						
Port: Buad Rate: Parity:	Auto Detect( 9600 Even	(RS232/RS4	22/RS485) Data Bit: Stop Bit:	7Bits 1Bit	•						
Port: Buad Rate: Parity: Delay:	Auto Detect( 9600 Even 0ms	(RS232/RS4	22/RS485) Data Bit: Stop Bit: TimeOut:	7Bits 1Bit 1sec	• • •						

[Multi-Station Smart Link] function basically records the connection status of each controller to adjust the communication parameters and increase the connection speed and stability. When the unpowered controller restarts, the HMI will automatically discover and connect automatically.

The station number must be between 0 and 31 when the station number of the controller is assigned by using the function of [Multiple Smart Links]. If you need to know the status of the connected controller, you can check it from HMI



internal system variables (COM1 = N65352, COM2 = N65354).

The station number corresponds to the bit of the variable, 0 = normal connection, 1 = not currently connected. The specific corresponding table is as follows.

	Vari a-bl e	N6	53	53														N6	53	52													
CO M1	bit	15	1 4	13	12	11	1 0	9	8	7	6	5	4	3	2	1	0	15	14	13	1 2	11	10	9	8	7	6	5	4	3	2	1	0
	Stat- ion No	31	3 0	29	28	27	2 6	2 5	2 4	23	2	2 1	20	1 9	1 8	1 7	16	15	14	13	1 2	11	10	9	8	7	6	5	4	3	2	1	0

	Vari a-bl e	N6	53	55														N6	53	54													
CO M1	bit	15	1 4	13	12	11	1 0	9	8	7	6	5	4	3	2	1	0	15	14	13	1 2	1	10	9	8	7	6	5	4	3	2	1	0
	Stat- ion No	31	3 0	29	28	27	2 6	2 5	2 4	23	2	2 1	20	1 9	1 8	1 7	16	15	14	13,	1 2	1	10	98	8	7	6	5	4	3	2	1	0

Note: [Multiple Smart Links] only supports controllers with station number communication protocol.

### Appendix 6 Function Description of Embedded

### Numerical Value Display in String

The value embedded in the character string means that when a static text component is used, the dynamic variable character string value is displayed in a general static component using the [variable display character string] function.

[Variable display character string]: Refers to the definition character string that uses '{' as the starting symbol and '}' as the ending symbol. For example {N0,4.2d}, {N100,81X}.

If you want to display the '{' symbol in the character string, you need to type two consecutive '{' 's of' {{'to recognize the' {'as a normal character string.

[Variable display string] The definition is divided into 6 parts: prefix, variable definition part, integer part, decimal part, display format definition, suffix. The variable definition part and the integer part are separated by a ',' comma (English comma).

	l l	/ariable displ	ay string form	at description	
Prefix	Variable definitions	Integer part	decimal part	Display format definition	suffix
{	System variables N0 ~ N65535 Index variable V0 ~ V255	Value: 1-12. When high-order zero padding is required, add a number '0' in front.	Value: 1-12. If this bit is 0, that is, the fractional part is not needed, this bit can be omitted. When it is omitted, the separator "." With the integer part needs to be deleted.	<ul> <li>d: Decimal signed number</li> <li>(16Bits)</li> <li>u: decimal unsigned number</li> <li>(16Bits)</li> <li>x: Hexadecimal display (16Bits)</li> <li>ld: Decimal signed number</li> <li>(32Bits ※)</li> <li>lu: decimal unsigned number</li> <li>(32Bits ※)</li> <li>lx: hexadecimal display (32Bits ※)</li> <li>f: floating point display (32Bits ※)</li> </ul>	}
Note:	There can be no w	hite space in t	he variable disp	play string definition	
🔆 The	e reading of 32Bits	is lower 16-bit	data, and high	er 16-bit data.	

Examples of variable display string settings: In {N0,4.2d}, Prefix: {; Variable definition: N0; Integer part: 4;



Decimal part: 2;

Display format: d;

Suffix:}

An example of variable display character string display, taking decimal N0 = 123 as an example:

Set variable display string	displ ay	Explanation
{N0,04x}	007B	Display the value of N0 in the form of hexadecimal high-order zero-filling
{N0,2.2d}	1.23	Display the value of N0 in decimal and 2 decimal places
{N0,d}	123	Display the value of N0 in decimal format

Examples of software settings:

1. Newly added components [static text]

Label
-------

2. Set the [Label] property as shown below

Language:	English (United States)	
Color:		ord Wrap
Align:	Center	
Effect:	Normal	
Flash:	Normal	
Font:	Tahoma [24]	Font
lext:	Current Temp:	{N0,2.1d}

3. [Static text] The display status is shown as below

## Current Temp: {N0,2.1d}

4. Executing the program, the display status of [static text] is shown in the figure below

# Current Temp: 29.8

### Appendix 7 List of Communicable Controllers

518 Singlex Series
AD-4401 Series
Allen-Bradley DH-485
ARCUS Series
CoolMay PLC(2N)
CoolMay PLC(3U/3G)/FX3U
CSIM Series
DELTA DVP Series
DPS Series
Facon FB Series
Fama Series
Fuji MICREX-SX Series
GALIL Series
Jing Yi elevator Series
Keyence KV Series
Koyo K sequence
LG Master-K K120S Series
LUSTBUS Series
Macro Series
Matsushita FP Series
Mitsubishi A1SH Series
Mitsubishi FX Series
Mitsubishi FX Series-Computer link
Mitsubishi FX2N Series
Mitsubishi FX2N-10GM/20GM Series
Mitsubishi FX3U Series
Mitsubishi MR-J2S Series
Mitsubishi MR-J3 Series
Mitsubishi MR-J4 Series
Mitsubishi Q Series
Mitsubishi Q06HCPU Series
Mitsubishi QnA Series
Modbus ASCII Mode
Modbus RTU Mode
Omron C Series
Omron CompoWay
P900 Series
Phoenixtec UPS Series

RM80 Series
SAMCO-Vm05 Series
Simatic S7-200 Series
SMAC LLC-10 Series
SmartMotor Series
TAIE Series
TECORP HC1 Series(ASCII Mode)
TECORP V5000 Series
TOHO TTM-004/X04 Series
TRIO Host link Series
Unidriver Series
UNIPULSE Series
VIGOR M/VB/VH Series
WDH IR-BOX Series
WDH Lamp Series
XP989 Series
Yamatake CPL

### Appendix 8 TK Series HMI Storage Data export

### **Operation Instruction**

#### Software: xExpress

xExpress software is specially designed for mView TK series HMI. The main function is to read the recipe data and record data of the TK series HMI in operation through the communication port, and save it as a text file, which is convenient for customers to further data analysis or make reports, output data can be customized display format, so that the data display closer to actual use. **Simple operation steps** 

1. Edit mView software, design HMI program, and define recipe data or record data.

2. Test the connected HMI program to confirm that is working properly.

- 3. Use mView software to export [cache definition export].
- 4. Open xExpress editor, connect device and communication parameters.
- 5. Import data definition (the file exported by step 3).
- 6. Read the data of HMI buffer area through practice line

7. Select the edited recipe or recorded data, and after editing the attributes, export the data to a text file.

8. Use Microsoft Excel software to open text documents, and then do data analysis and reports.

#### Step1

First of all, use mView to edit the HMI program. When the recipe data or record data is used in the program, it can be used with xExpress software.

Note that editing recipe data [backup device: use system variable area (N0-N61439)]

) <b>-</b>
\$
^
Y

#### Note that editing record data needs [retentive function]

Note: The maximum power-saving interval is 49152 words, which is related to [Data Length] and [Record Count]

Name:	ProductManagement	-
Data Type:	[16Bit] Signed	
Source:	D10 V	>>
Data Length:	4	
Record Count:	5000 Range 1 32767	
Update Time:	2Sec	
Record Flag:	MO	1
Clear Flag:	M1 •	1
Stop Count: Description:	0 setting,No use this function	
	< >	
Record Date/	Time	
Retentive	30004 Word	
	Use Reg. Addr.: NO - N30003	
	Provide hold Reg. N0-N49151(49152Word),Only	

#### Step2

Download the program to the HMI test operation until the test operation is confirmed to be normal.

#### Step3

Open the mView software to edit the HMI program, select [File]-[Export]-[Register Define] to store the buffer definition file.



r Flag,Cle



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Name	~	No ite	Date modified ems match your search.	Туре		Size
File name: Save as type:	Product Management mView Define File (*.def)				•	Save Cancel
Import/Export Export finish	×					

#### Step4

Open the xExpress software, [File]-[Open a new file], press the [Add Device] button in the lower right corner

🧃 xExpress			10.00		Х
File(F) Schedule(S) Tool:	s(T) Help(H)				
🗋 🚔 🕶 🔛					
Ptoject					
····· 🖵 xExpress					
xExpress			NY .		
xExpress Title:			Add De	vice	1
XExpress Title: Description:			Add De	vice	l
XExpress Title: Description:		^	Add De	vice	l
xExpress Title: Description:			Add De	vice	l

This demo explain how to use com port to communication, after adding a



device, please select the communication port; [device] parameter refers to the com port between the PC and the HMI, and set the communication parameters (default 115200, 8, none, 1 is enough)

💘 xExpress						Х
File(F) Schedule(S) Tools(T) Help(H)						
Ptoject						
COM4 [115200,N,8,1]						
COM4 [115200,N,8, 1] Device: Serial Port $\checkmark$			2	Add HN	41	
Port: [croelectronics Virtual COM Port] >				Delete De	vice	
Baud Rate: 115200 V	Data Bits: 88	Bits	~			
Parity: None ~	Stop Bits: 1E	Bit	~			

Then click [Add HMI] to add an new HMI

📲 xExpress		>	<
File(F) Schedule(S)	Tools(T) Help(H)		
🗅 😂 🕶 🔛			
Ptoject	,N,8,1]		
HMI			
Station Number:	0 ~	Import Define File	
Schedule:	1 day 🗸	Delete HMI	
		Read Data	

#### Step5

After adding the HMI, you need to import the data definition (defined by the buffer exported in step 3)



📲 xExpress							$\times$
File(F) Schedule	(S) Tools(T) Help(H)						
🗅 😂 🕶 🔛							
Ptoject							
COM4 [1152	00,N,8,1]						
HMI							4
Station Number	:: 0 ~				Import Def	ine File	
Schedule	: 1 day ~				Delete I	JIMT	
	,				Deleter	LIVIL	
					Read D	ata	
Vpen							~
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Organize 👻 New fold	ler				:==	•	0
A Quick accord	Name	Date modified	Туре	Size			
1033	ProductManagement.def	6/13/2020 1:44 PM	DEF File	1)	KB		
Desktop	· · · · · · · · · · · · · · · · · · ·						
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OneDrive							
This DC							
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Desktop							
Documents							
Music							
Fictures							
Videos 🗸							
File r	name: ProductManagement.def			~ De	fine File		~

#### Step6

The definition data of the HMI will record the data definition. After the data definition is imported, please fix the connection line between the PC and the HMI (the download line of the HMI) and press [Read Data] on the lower right corner of the xExpress screen to start reading the HMI. data



o∉ xExpress		o x	(
File(F) Schedule(S) Tools(T) Help(H)			
Ptoject 			
Station Musicaria	Trans Defe	- File	
	Import Denne	2 File	
Schedule: 1 day	Delete HM	I	
	Read Dat	a	
ar a xExpress			
File(F) Schedule(S) Tools(T) Help(H)			
Ptoject			
□			
Read Register ( 8000 / 65536)			
TK6070FH			
Station Number: 0	Import Define	Hie	
Schedule: 1 day	Delete HM	I	

Read Data

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File(F) Schedule(S) Too	s(T) Help(H)		
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toject	1		
<ul> <li>✓ ↓ KExpress</li> <li>✓ ↓ COM4 [115200,N,8,1]</li> <li>✓ ↓ TK6070FH</li> <li>↓ 配方1</li> <li>↓ 金方1</li> <li>↓ 生产管理</li> </ul>	Communication Communication finish!	×	
K6070FH		Close	
Station Number: 0	<u> </u>		Import Define File
Scredule, I day	×		Delete HMI
			Deleternit

#### Step 7

At this time, the recipe data or recorded data has been read back to the PC, select the edited recipe or record data, after editing the attributes, export the data to a text file. (When data is not recorded in the running HMI, xExpress is empty during data recording)

ject	生产管理					
· · 🖵 xExpress	Item \Field	Record Time	Data0	Data1	Data2	Data3
COM4 [115200,N,8,1]		16:20:1	9 1122	3344	5566	7788
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	16:20:1	9 1122	3344	5566	7788
— (1) 生产管理		16:20:1	9 1122	3344	5566	7788
		16:20:1	9 1122	3344	5566	7788
	5 °	16:20:1	9 1122	3344	5566	7788
		16:20:1	9 1122	3344	5566	7788
		16:20:1	9 1122	3344	5566	7788
		16:20:1	9 1122	3344	5566	7788
	Setup					
		Field Name: Record T	me		e	32 Bits Time
	Di	splay Format: hh:mm:ss				

#### TK Series HMI Programming Manual

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#### Step 8

Use the Microsoft Excel software to open the text file saved in step 7 for data analysis and reporting

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13		9	16:20:1	9 1122	3344	5566	7788			_		_			_		_		_		_	
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15		11	16:20:1	9 1122	3344	5566	7788	ļ		_		_									_	
16		12	16:20:1	9 1122	3344	5566	7788			-		_			-		_		_			
17		13	16:20:1	9 1122	3344	5566	7788					_									_	
18	-	14	16:20:1	9 1122	3344	5566	7788					_			1		1		1			
19		15	16:20:1	9 1122	3344	5566	7788			-		_			-		_		_			
20		16	16:20:1	9 1122	3344	5566	7788			-		_			_		-		_			
21		17	16:20:1	9 1122	3344	5566	7788	-		-		_			-		-		_			
22		18	16:20:1	9 1122	3344	5566	7788			-		_			_		_		_			
23		19	16:20:1	3 1122	3344	5566	7788					-			_		_		_			
24		20	16:20:1	9 1122	3344	5566	7788	_		_		_					_		_			
25		21	16:20:1	3 1122	3344	5566	7788					_										
26		22	16:20:1	9 1122	3344	5566	7788					-			-		_					
27		23	16:20:1	J 1122	3344	5566	7788					-							-			
28		24	16:20:1	9 1122	3344	5566	7788			-		_	_		_				_		-	
29	-	25	16:20:1	9 1122	3344	5566	7788			-		_			_		-					
30		26	16:20:1	9 1122	3344	5566	7788			-		_			_		_		_		_	
31		27	16:20:1	J 1122	3344	5566	7788					-			-							
32		28	16.20.1	1122	2244	5566	7788			1					1		1		1			

### Appendix 9 HMI modbus RTU Communication

#### Instruction

#### Function codes supported by HMI as modbus host

Function No. 01: Read the coil status and get the current status of a group of logic coils (ON/OFF)

Function No. 03: Read holding registers and get the current binary value in one or more holding registers

Function 04: Read the input register to obtain the current binary value in one or more input registers

Function No. 05: Force a single coil, force a logic coil on and off state (write bit) Function No. 06: Load specific binary values into a holding register (write register)

Function No. 15: Forcibly set multiple coils, force a string of continuous logic coils on and off (write multiple bits)

No. 16 function: preset multiple registers, load specific binary values into a series of continuous holding registers (write multiple registers)

#### 1. Make the setting of the master with only one slave

1. 1. Communication parameter setting, use 485 communication to select COM2 to add communication protocol.

 $[Project] \rightarrow [Communication] \rightarrow [Add Protocol], as shown below$ 

23



#### Add Protocol

Protocol:	Modbus RTU M	ode				-
Controller:	Company	Model			Des	
	Modbus Modbus Fatek Mirle	Modbus Modbus Facon C Mirle nD	Controllor Series Controllor Series(Sontrollor Series X Series	ādigit)	PLC	
Port:	Auto Detect(RS	5232/RS42	22/RS485)			-
Baud Rate:	9600	•	Data Bit:	8Bits		-
Parity:	None	•	Stop Bit:	1Bit		•
Delay:	0ms	-	TimeOut:	1sec		-
Multi-Sta	ation Smart Link		Retry Count	Timeou	ut, Repea	t 🔻



D:	0			
Station:	1			
Controller:	Company	Model	Description	
	Modbus	Modbus Controllor Series		
	Modbus Fatek Mirle	Modbus Controllor Series(5digit) Facon Controllor Series Mirle nDX Series	PLC	
	Mirle	Mirle SDPLC Series	PLC	-
)escription:				*
				÷
	4			F

ID: ID number of the controller. (Unique, not repeatable) Station: the station number of the controller, that is, the slave station number to be read/written. (The station numbers of com1 and com2 can be repeated)

The station number (HMI station number) in the display unit setting is the ID (PLC ID) corresponding to the connected controller, and the ID (HMI ID) set in the display unit is the corresponding Several controllers. For the setting of the station number, COM1 and COM2 of the display unit are independent, so COM1 and COM2 can be set separately to connect the controller with the same station number, but for the setting of ID, each HMI cannot be repeated. Because the ID describes the controller which is the first controller connected to the display unit, as shown in the figure below.



1.2. After the addition is successful, the corresponding communication protocol will appear in the selected communication:

mView : [C:\Users\EN\Desktop\121.vxf]				
File Edit View Project HMI(M) Component Tool Wind	ow Help			
D 🗳 - 🖬    ∽ - ⊂ -   X 🗈 🛍    ≒ - H -	E - H -   N H   6 o <sup>i</sup>   6	FF		
/ﷺ   ♣ ♣ @   늘 늘 늘   == ▼ 🕺 ☴ ▼ @ Q	🚡 • 🗣 • 🥢 • 👯 • 🔚 😣		🖳 💱 🕶 📃	
Graphic Component Static Component Button   Display   Edit				
RBC 🛄 📖 🏢				
0 0 2 3 4 5 6 7 8 9 English (United	States)			
Link Management	1 : Start scene [100%]			
9, 9, 9,   <b>9, 9, 9, 1</b> ,   >>				
E TK6070FH	<b>K</b> 4			
E-G COM1	Internet in the second s	odbus KIU Master		
Modbus RTU Mode [9600,N,8,1]:0	r:_40001	r:_40002	r_40003	
	w40001 ####	w40002 ####	w40003	
	r:_40004 w:_40004	: r40005 • wr_40005	r_40006 wr_40006	
	****	****	****	
	r_40007	r_40008	r_40009	
	w:_40007 ####	####	w:_40009 ####	
	Description: se	lect COM2 to add c	ommunication	protocol
	wi	nen using 485 to co	mmunicate	
😤 Screen 🦉 Link 🛷 Tag	-			

1.3. Available variables are as follows

Controller: the device that communicates with the HMI; number: directly enter the address of the variable.

	0 : FX3U Series [St=1]										
Variable/Para.:	Туре	Name	Range	Sp	Description	•					
	BIT	Xooo	0 - 367	1	Inputs						
	BIT	Y000	0 - 367	1	Outputs						
	E BIT	Mnnnn	0 - 7679	1	Auxiliary r						
	BIT	Mnnnn	8000 - 8511	1	Special au	E					
	BIT	Snnnn	0 - 4095	1	States						
	EB BIT	TSnnn	0 - 511	1	Timer con						
	I BIT	CSnnn	0 - 255	1	Counter c						
	III WORD	TNnnn	0 - 511	1	Timer curr						
	C WORD	CNnnn	0 - 199	1	Counter c						
	B DWORD	CNnnn	200 - 255	1	Counter c	-					
Number:											

1.4.Place the corresponding variable on the HMI screen and use 485 to connect the modbus communication device, that is, you can read/write the data of the corresponding variable address, as shown in the following figure:

r:_40001 w:_40001	####	r_40002 w:_40002	####	n_40003 w:_40003	####	
r:_40004 w:_40004	####	ir_40005 w:_40005	####	r_40006 w:_40006	####	
r:_40007 w:_40007	####	r40008 w40008	####	r40009 w:_40009	####	

#### 2. Set up the master with multiple slaves

2.1. Communication parameter setting, use 485 communication to select COM2 to add communication protocol.

If you need to connect multiple slaves, you need to add multiple controllers. Each controller corresponds to a device that reads/writes a different slave station number. [Project]  $\rightarrow$  [Communication]  $\rightarrow$  [Add Controller], as shown below Shown



Or directly select the communication protocol, right click mouse  $\rightarrow$  [Add controller]



Mitsubishi FX3	U Series [9600,E,7,1]:0 Series [St=1]
COM2	Mode (960 <u>0.N.8.11:1</u>
	Add Protocol Contraction C
	🖳 Add Controller
	Edit Controller
	>> Variable Window

Note that when connecting multiple products for communication, you need to tick [Mult-Station Smart Link] and select [Timeout, Non- retransmission]

Protocol:	Modbus RTU	Mode 🛛				•
Controller:	Company	Model			Des	-
	Modbus Modbus Fatek Mirle	Modbus Modbus Facon ( Mirle nE	s Controllor Series s Controllor Series Controllor Series X Series	5digit)	PLC	
Port:	Auto Detect(	RS232/RS4	22/RS485)			-
Baud Rate:	9600	-	Data Bit:	8Bits		-
Parity:	None	-	Stop Bit:	1Bit		-
Doby	0.000	-	TimeOut:	1sec		-

2.2. After adding 3 controllers successfully, it is as follows:

👷 mView	
File Edit View Project HMI(M) Comp	onent To
🗅 🚔 ▼ 🗑     い ▼ ལ ▼   火 📭 🛍	⊨, ▼
] 📰   🌲 🌲 🔍   🛅 🐂 🔡 🗐 🔽 🔻 🔮	? 📆 🔻 🖲
Graphic Component   Static Component   Button	Display Ed
🔁 🕒 123 ABC AO 📼 📼 🔤	=   🔼
0 0 2 3 4 5 6 7 8 9	英语(美
Link Management	
역, 역, 역_   00, 00, 00,   >>	
E TK6070FH	
B Modbus RTU Mode [9600,N,8,1]	]:0
0 : Modbus Controllor Series	[St=1]
2 Modbus Controllor Series	[St=2] [St=3]
1D number	Slave

2.3. Add the variable requesting to read/write the slave station number in the order of (1)(2)(3)(4) as follows, (2)Select the slave station corresponding to the variable address

Control		Variable	Z Selec	ct Contro	bilor				
		Controller:	0 : Modbus (	Controllor S	eries [St=1]				•
Read Addr [16Bit] Signed		Variable/Para.:	Туре	Name	Range	Sp	Description		
1_40001			BIT	Onnnn	1 - 9999	1			
Max:	▼ 📾	1	BIT	1nnnn	1 - 9999	1			
Min:			C WORD		1 - 9999	1			
Write Addr		0	IS WORD	_4nnnn	1 - 9999	1			
40001	<u>~</u>		B DWORD	D4nnnn	1 - 9999	1			
Write Notificat						223			
Befor Macro:	<b>→</b> 8		6	Select V	arable				
After Macro:									
Arcer Macros	• •								
Engineer Transfer	- Dispby Form	Number							
ingineer transfer	Display Form	Number:		_					
Offset: 0	Integer:		40001	_					•
Gain: 1 0	-		4 Selec	t Varabl	e Address				
1210	Decimal Po		-				OK	¥ ~~	
Aury Col	T Zara at							A Cal	nce
Aux. Cal.		TH DICCS							

For example, slave 2 variable address:

lumeric Entry	Variable Window	81				2-	×
Bevel Control Text	Variable						
Control Data Type [16B#1 Gaged	Controller:	1 : Modbus	Controllor S	eries [St=2]			 •
Read Addr.     1:_40001     •     Image: Constraint of the state	Variable/Para.:	Type BIT BIT SWORD SWORD SPDWORD	Name _0nnnn _1nnnn _3nnnn _4nnnn D4nnnn	Range 1 - 9999 1 - 9999 1 - 9999 1 - 9999 1 - 9999 1 - 9999	Sp 1 1 1 1 1	Description	
Engineer Transfer Display Fe Offset: 0 Gain: 1.0 Aux. Cal. Zero-	Number:	1:_40001	]			ОК	ancel

#### Slave 3 variable address:

umeric Entry	Variable Window	/				—		×
Bevel Control Text	Variable							
Control Data Type [168#] Signed	Controller:	2 : Modbus	Controllor S	eries [St=3]				•
Read Addr.    2:_40001    Max:    Win:    Write Addr.    2:_40001    Write Notificat    Befor Macro:          After Macro:	Variable/Para.:	Type BIT BIT S WORD S WORD B DWORD	Name _0nnnn _1nnnn _3nnnn _4nnnn D4nnnn	Range 1 - 9999 1 - 9999 1 - 9999 1 - 9999 1 - 9999 1 - 9999	Sp 1 1 1 1 1	Description		
Engineer Transfer Offset: 0 Gain: 1.0 Aux. Cal.	Number:	2:_40001	]			ОК	×a	• ancel

2.4.Place the corresponding variable on the HMI screen and use 485 to connect the modbus communication device, that is, you can read/write the data of the corresponding variable address, as shown in the following figure:



#### 3. Setting of HMI as slave

3.1 Note: Without adding any protocol and device, the HMI will act as MODBUS RTU slave.

How to set the station number of the slave station:

(1)Project>Setup>ID.

(2)Use N65128 to set directly on HMI.



https://en.coolmay.com/

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### Coolmay®

Currently only supports MODBUS RTU. Two methods for setting communication parameters on HMI:

1 Draw a diagonal line from the upper left corner of the HMI to enter the system settings.

②Use the jump screen button to switch the screen to [65005: System setting screen]

۱.

cono Switch		Deineitre	-	
65005 :	System setting s	Phoney	By scene	-
witch Notes		Confirm	Press.action	-
WICCI NOCES	<b></b>	Key Def.	Undefined	-
Befor Macro:	• 3	Key Window	Undefined	•
After Macro:	<b>.</b> 8	Destine Voice	Undefined	-
1		Controlled cond	jit jit	-
		Hide Obj. Hide as prio Prompt as p Set Levle 9	rity lack or disable vriority lack	
		1.1		

3.2 The variables available when HMI is used as a slave are as follows

Controller:	255 : Syste	m [St=255]				
Variable/Para.:	Туре	Name	Range	Sp	Description	
	CORD WORD	Nnnnn	0 - 16383	1	Internal M	
	C WORD	Nnnnn	16383 - 32767	1	Internal M	
	CORD WORD	Nnnnn	32768 - 49151	1	Internal M	
	15 WORD	Nnnnn	49152 - 65535	1	Internal M	
	Index	Vnnnnn	0 - 32767	1	Internal P	
	I BIT	NTBnn	0 - <mark>63</mark>	1	Timer swi	
	1 WORD	NTRnn	0 - 63	1	Timer curr	
Number:						


# The corresponding address number of HMI register in modbus communication:

Modbus NO	HMI internal
WIOUDUS NO.	variables
400000~465535	N0~N65535

The corresponding address number of HMI bit component in modbus communication:

In HMI, an internal variable N has 16 bits, where N0.0 corresponds to 0X0000, N0.1 corresponds to 0X0001, and so on...



# Appendix 10 Instructions of Coolmay TK series HMI communicating with other band PLC

#### Hardware specifications:

TK6037FH



Pin number	Description
RS232 COM p	ort definition
RXD	Accept
TXD	Send
GND	Ground/DC24V-
RS485 COM p	ort definition
A	485+
В	485-
DC24V Pov	ver Supply
24V	DC24V+
GND	Ground/DC24V-

#### **TK6043FH**





COM1/COM2

HMI download port (Type C) USB port(In development)

Pin No.	Signal	Description		
RS232C	OM port d	efinition		
2	RXD	Accept		
3	TXD	Send		
5	GND	Ground		
RS485 (	OM port d	lefinition		
1	Α	485+		
6	В	485-		

#### **TK6050FH**

LAN(In development) HMI 232/485 port





Pin No. Signal Description RS232 COM port definition Accept 2 RXD 3 TXD Send 5 Ground GND RS485 COM port definition 485+ 1 A 6 В 485-

#### TK6070FH/HD



Pin No.	Signal	Description
RS232 (	COM port	definition
2	RXD	Accept
3	TXD	Send
5	GND	Ground
RS485 (	COM port of	definition
Interface	A1	485+
meriace	B1	485-

#### TK6070KFH



000040
6789

12345

6789 COM

Pin No.	Signal	Description		
COM2 RS2	32 COM po	ort definition		
2	RXD	Accept		
3	TXD	Send		
5	GND	Ground		
COM1 RS4	85 COM po	rt definition		
1	A	485+		
6	В	485-		

#### TK6100FH



C	
1 a	6789 <u>/</u>
9	COM1

Pin No.	Signal Descript			
RS232	COM port o	efinition		
2	RXD	Accept		
3	TXD	Send		
5	GND	Ground		
RS485	COM port	definition		
1	Α	485+		
6	В	485-		

#### 1.Coolmay CX series

Method 1: Use RS232 conr >TK software setting	nection
Parameter item	Recommended settings
Protocol	CoolMay PLC(3U/3G)/FX3U
Communication port type	RS232
Communication rate	9600

Synchronization check	Even parity
Number of data	7 digits
Stop digits	1 digit

1100000	CoolMay PLC(	3U/3G)/FX3U			-
Controller:	Company	Model		[	)es
	CoolMay	CoolMay	3U Series	F	LC
Port:	Auto Detect(	RS232/RS42	2/RS485)		-
Port: Baud Rate:	Auto Detect( 9600	RS232/RS42	2/RS485) Data Bit:	7Bits	-
Port: Baud Rate: Parity:	Auto Detect( 9600 Even	RS232/RS42	2/RS485) Data Bit: Stop Bit:	7Bits 1Bit	- - -
Port: Baud Rate: Parity: Delay:	Auto Detect( 9600 Even 0ms	RS232/RS42	2/RS485) Data Bit: Stop Bit: TimeOut:	7Bits 1Bit 1sec	- - - -

### Operable variable

Controller:	0 : CoolMay	3U Series [	[St=1]			-
Variable/Para.:	Туре	Name	Range	Sp	Description	
	BIT	X000	0 - 367	1	Inputs	
	BIT	Y000	0 - 367	1	Outputs	
	BIT	Mnnnn	0 - 7679	1	Auxiliary r	
	BIT	Mnnnn	8000 - 8511	1	Special au	
	BIT	Snnnn	0 - 4095	1	States	
	BIT	TSnnn	0 - 511	1	Timer con	
	BIT	CSnnn	0 - 255	1	Counter c	
	C WORD	TNnnn	0 - 511	1	Timer curr	
	CE WORD	CNnnn	0 - 199	1	Counter c	
	B DWORD	CNnnn	200 - 255	1	Counter c	+
Number:			•			
	2					-



TK(COM1)-CX series PLC communication line connection diagram (use CX2N series download line)

### TK series HMI side with 9-hole D-shaped female socket

Coolmay PLC side with 8-pin male socket





2 RXD	3 TXD
3 TXD	4 RXD
5 GND	6 GND

#### Method 2: Use RS485 connection

Recommended settings
CoolMay PLC(3U/3G)/FX3U
RS485
9600
Even parity
7 digits
1 digit

Protocol:	CoolMay PLC(	3U/3G)/FX	3U			-
Controller:	Company	Model			Des	
	CoolMay	CoolMa	v 3U Series		PLC	
Port:	Auto Detect(	R5232/R54	, 22/RS485)			<b>•</b>
Port: Baud Rate:	Auto Detect(1	RS232/RS4	22/RS485) Data Bit:	7Bits		•
Port: Baud Rate: Parity:	Auto Detect(I 9600 Even	RS232/RS4	22/RS485) Data Bit: Stop Bit:	7Bits 1Bit		• •
Port: Baud Rate: Parity: Delay:	Auto Detect( 9600 Even 0ms	RS232/RS4	22/RS485) Data Bit: Stop Bit: TimeOut:	7Bits 1Bit 1sec		+ + + +

#### > Operable variable

Controller:	0 : CoolMay	3U Series [	[St=1]			-
Variable/Para.:	Туре	Name	Range	Sp	Description	
	BIT	X000	0 - 367	1	Inputs	
	BIT	Y000	0 - 367	1	Outputs	
	BIT	Mnnnn	0 - 7679	1	Auxiliary r	
	BIT	Mnnnn	8000 - 8511	1	Special au	=
	BIT	Snnnn	0 - 4095	1	States	
	BIT	TSnnn	0 - 511	1	Timer con	
	BIT	CSnnn	0 - 255	1	Counter c	
	15 WORD	TNnnn	0 - 511	1	Timer curr	
	C WORD	CNnnn	0 - 199	1	Counter c	
	B DWORD	CNnnn	200 - 255	1	Counter c	*
Number:						
						-

>TK(COM1)-CX series PLC communication line connection diagram

×





### 2. AD4401 (Japan AIAND weighing controller)

> TK software settings

Parameter item	Recommended settings
Protocol	AD-4401 Series
Communication port type	RS232
Communication rate	9600
Synchronization check	Even parity
Number of data	7 digits
Stop digits	1 digit

#### Add Protocol

FIOLOCOI.	AD-4401 Serie	25			<b>_</b>
Controller:	Company	Model		C	)es
	A&D	AD-440	1 via RS232	I	ndi
Baud Rate:	9600	•	Data Bit:	7Bits	•
Parity:	Even	-	Stop Bit:	1Bit	-
Delay:	0ms	•	TimeOut:	1sec	
Multi Sta	ation Smart Lin	k	Retry Count	Timeout	Reneat -

#### Variable

Controller:	0:AD-4401	via RS232	? [St=1]			-
Variable/Para.:	Туре	Name	Range	Sp	Description	^
	BIT	DT			Clears the	
	BIT	MG			Display th	
	BIT	MN			Display th	
	<b>BIT</b>	MZ			Clears to z	
	BIT	MT			Subtacts	
	BIT	СТ			Clears the	
	BIT	BB			Starts bat	
	BIT	BD			Starts disc	
	BIT	HB			Emergenc	
	B DWORD	SPn	0 - 7	1	Setpoint	~
Number:						

Diagram of TK(COM1)-AD4401 communication cable

	нмі	AD4401	
1			1
2	RS232 RXD	RS232 RXD	2
3	RS232 TXD	RS232 TXD	3
4		RTS	4
5	GND	стѕ	5
6			6
7		GND	7
8		+ CD	8
9	····		9
	SH(shell)		10
			11
			12
			13
			14
			15
			16
			17
			18
			19
			20
			21
			22
			23
			24
			25
		SH(shell)	_
	DB9(female)Connector	DB25(male)Connector	, F

### 3. Fuji MICREX-SX Series (Fuji)

TK software settings

Parameter item	Recommended settings
Protocol	Fuji MICREX-SX Series

Communication port type	RS232
Communication rate	38400
Synchronization check	Even parity
Number of data	8 digits
Stop digits	1 digit

Protocol:	Fuji MICREX-SX Series					
Controller:	Company	Model		D	es	
	Fuji electric	MICREX	-SX Series	P	LC	
Baud Rate:	38400	•	Data Bit:	8Bits	•	
Parity:	Even	-	Stop Bit:	1Bit	•	
Delay:	0ms	•	TimeOut:	1sec	•	
	tion Smart Link		Retry Count	Timeout	Repeat -	

### Manipulable variable

/ariable/Para.:	Туре	Name	Range	Sp	Description	
	<b>WORD</b>	TW, xxxx	0 - 7FFF	1	1.1	
	C WORD	OW.xxxx	0 - 7FFF	1		
	CO WORD	MW1.x	0 - 7FFF	1		
	CO WORD	MW3.x	0 - 7FFF	1		
	🕼 WORD	MW10	0 - 7FFF	1		

TK-Fuji MICREX-SX Series Communication cable connection diagram (using 232 crossover cable)



### 4.Mitsubishi FX series

TK software settings

Parameter item	Recommended settings
Protocol	Mitsubishi Fx Series
Communication	RS232
Communication	9600
Synchronization	Even parity
Number of data	7 digits
Stop digits	1 digit

Protocol:	Mitsubishi FX Series					
Controller:	Company	Model			Des	
	Mitsubishi Mitsubishi	FX Series FX1S Series	5		PLC PLC	
Port: Baud Rate:	Auto Detect(	RS232/RS422/I	RS485) Data Bit:	7Pitc		•
Parity:	Even		Stop Bit:	1 Bit		+
Delay:	0ms		TimeOut:	1sec		•
			Dates Count	1-12		

#### >Manipulable variable

- (i)	To : FX Series	[St=1]				
/ariable/Para.:	Туре	Name	Range	Sp	Description	^
	BIT	X000	0 - 177	1		
	BIT	Yooo	0 - 177	1		
	BIT	Mnnnn	0 - 1023	1		
	BIT	Mnnnn	8000 - 8255	1		
	<b>BIT</b>	Snnn	0 - 999	1		
	BIT	Tnnn	0 - 255	1		
	BIT	Cnnn	0 - 255	1		
	C WORD	RTnnn	0 - 255	1		
	1 WORD	RCnnn	0 - 199	1		
	B DWORD	DRCnnn	200 - 255	1		~
lumber:						
	'					

TK-FX Series Communication line connection diagram (using Mitsubishi programming line, namely SC-11/SC-09)



TK series touch side with 9 holes D-shaped female connector





FX series PLC side with 8-pin male connector



PLC programming port pin definition

PIN number	Signal	Description
1	RXD-	Accept negative
2	RXD+	Accept positive
3	GND	ground
4	TXD-	Send negative
5	+5V	External power supply
6	CCS	Communication direction control line
7	TXD+	Send positive
8	NC	Empty foot

### 5. Keyence KV series

➤TK software settings

Parameter item	Recommended
Protocol	Keyence KV Series
Communication port type	RS232
Communication rate	9600
Synchronization check	Even parity
Number of data	8 digits
Stop digits	1 digit

Protocol:	Keyence KV Series					
Controller:	Company	Model		Des	_	
	Keyence	KV Serie:	5	PLC		
Baud Rate:	9600	•	Data Bit:	8Bits	•	
Parity:	Fuer		Stop Bit:		-	
Delay:	Cven Ome	<u> </u>	TimeOut:	100	-	
	UIIIS		Retry Count	I Sec	-	
Multi-Sta	LION SMARL LIN	ĸ	Reliy Counc	Timeout, Repeat	2	

Manipulable variable

	Ju . Ky Selles	[JC-1]				<u> </u>
Variable/Para.:	Туре	Name	Range	Sp	Description	^
	BIT	_nnn	0 - 415	1	Input Relay	
	BIT	_nnn	500 - 915	1	Output R	
	BIT	_nnnn	1000 - 6915	1	Internal R	
	BIT	Rnnnnn	0 - 99915	1	Relay	
	BIT	BXXXXX	0 - 3FFF	1	Link relay	
	BIT	MRnnnnn	0 - 99915	1	Internal a	
	SI BIT	LRnnnnn	0 - 99915	1	Latch relay	
	BIT	CRnnnn	0 - 3915	1	Control relay	
	BIT	VBxxxx	0 - 3FFF	1	Virtual relay	
	C WORD	DMnnnnn	0 - 65534	1	Data Mem	
Number:	C WORD	TMnnn	0 - 512	1	Temporar	
	C WORD	EMnnnnn	0 - 65534	1	Extended	
	C WORD	FMnnnnn	0 - 32767	1	File register	
	C WORD	ZFnnnnn	0 - 99999	1	File register	
	C WORD	WXXXXX	0 - 3FFF	1	Link register	
	C WORD	TMnnn	0 - 511	1	Temporar	
	1 WORD	Znn	1 - 12	1	Index regi	
	C WORD	CMnnnn	0 - 5999	1	Control m	
	1 WORD	VMnnnnn	0 - 59999	1	virtual me	
	B DWORD	Tnnnn	0 - 3999	1	Timer	
	B DWORD	TCnnnn	0 - 3999	1	Timer (cu	
	B DWORD	TSnnnn	0 - 3999	1	Timer (se	
	B DWORD	Cnnnn	0 - 3999	1	Counter	
	B DWORD	CCnnnn	0 - 3999	1	Counter (	
	B DWORD	CSnnnn	0 - 3999	1	Counter (	
	B DWORD	CTHn	0 - 3	1	High-spee	
	B DWORD	CTCn	0 - 3	1	High-spee	
					Status	*
						-
	1					Ľ

HMI	KV ser	ies
RS232 RXD		
RS232 TXD	RXD	3
	GND	4
GND	TXD	5
DB9(female)Connector	RJ12	
	HMI RS232 RXD RS232 TXD GND DB9(female)Connector 5 1 00000	HMI KV ser RS232 RXD RS232 TXD RS232 TXD RXD GND GND TXD DB9(female)Connector S 1 OB9(female)Connector S 1 OB9(female)Connector

### 6.Koyo K sequence series

➤TK software settings

Parameter item	Recommended
Protocol	Koyo K sequence
Communication port	RS232
Communication rate	9600
Synchronization check	Odd parity
Number of data	8 digits
Stop digits	1 digit

Protocol:	Koyo K sequence						
Controller:	Company	Model		[	Des		
	Коуо	Koyo D	L Series	t	PLC		
Baud Rate:	9600		Data Bit:	8Bits	-		
Parity:	Odd	•	Stop Bit:	1Bit	-		
		-	TimeOut:	1sec			
Delay:	Jums						

### >Manipulable variable

Variable/Para.:	Туре	Name	Range	Sp	Description	
	BIT	X0000	0 - 3777	1		
	BIT	Y0000	0 - 3777	1		
	<b>BIT</b>	T0000	0 - 3777	1		
	<b>BIT</b>	Coooo	0 - 3777	1		
	<b>BIT</b>	S0000	0 - 3777	1		
	<b>BIT</b>	Moooo	0 - 3777	1		
	E BIT	Poooo	0 - 7777	1		
	<b>BIT</b>	SPoooo	0 - 3777	1		
	BIT	GQ0000	0 - 7777	1		
	E BIT	GX0000	0 - 7777	1		
Number:	C WORD	V00000	0 - 77777	1		

### >TK-Koyo K sequence Communication line connection diagram

	HMI	DL205	
1		• OV	1
2	RS232 RXD	5V	2
3	RS232 TXD	RXD	3
4		TXD	4
5	GND	5V	5
		0V	6
	DB9(female)Connector	RJ12	

	HMI			DL250	
1				5V	1
2	RS232 RXD	,		• TXD2	2
3	RS232 TXD			RXD2	3
4				RTS2	4
5	GND	$\checkmark$		CTS2	5
				RXD2-(RS422)	6
				• 0V	7
	DB9(female)connector		DB15(fe	emale)connector	

### 7.LG series

TK Software settings

Parameter item	Recommended settings
Protocol	LG Master-K K120S Series
Communication	RS232
Communication	38400
Synchronization	No information
Number of data	8 digits
Stop digits	1 digit

	LG Master-K K	(120S Serie	5		•
Controller:	Company	Model		D	es
	LG	K1205	Series	LC	3
Baud Rate:	38400	•	Data Bit:	8Bits	•
)arity:	None	-	Stop Bit:	1Bit	-
ancy.	-		TimeOut:	1sec	•
Delay:	Oms				

#### Manipulable variable

/ariable/Para.:	Туре	Name	Range	Sp	Description	
	BIT	Pnnx	00 - 63F	1	I/O Relay	
	BIT	Mnnnx	00 - 191F	1	Auxiliary R	
	BIT	Knnx	00 - 31F	1	Keep Relay	
	BIT	Lnnx	00 - 63F	1	Link Relay	
	I BIT	Fnnx	00 - 63F	1	Special Re	
	<b>BIT</b>	Tnnn	0 - 255	1	Timer	
	<b>BIT</b>	Cnnn	0 - 255	1	Counter	
	US WORD	TVnnn	0 - 255	1	Timer Value	
	1 WORD	CVnnn	0 - 255	1	Counter V	
	CO WORD	Dnnnn	0 - 4999	1	Data Regi	
Number:						
	r					

### >TK-LG Master-K120S Communication line connection diagram

#### TK Series HMI Programming Manual



### 8. OMRON C series

▶TK Software settings

Parameter item	Recommended settings
Protocol	Omron C Series
Communication port	RS232
Communication rate	9600
Synchronization check	Even parity
Number of data	7 digits
Stop digits	2 digits

Protocol:	Omron C Series					•
Controller:	Company	Model			Des	•
	Omron	C Series	5		PLC	
	Omron	CV Serie	es		PLC	
	Omron	CIIM S	Series		PLC	_
		01110			PLC PLC	•
Port:	Auto Detect(R	5232/RS4	22/RS485)			•
Baud Rate:	9600	•	Data Bit:	7Bits		•
Parity:	Even	•	Stop Bit:	2Bits		•
Delay:	0ms	•	TimeOut:	1sec		•
Multi-Sta	ation Smart Link		Retry Count	Timeout	t, Repeat	-

### >Manipulable variable

ariable/Para.:	Туре	Name	Range	Sp	Description	
	BIT	IRnn.nn	0.0 - 511.15	1		J
	BIT	HRnn.nn	0.0 - 99.15	1		
	BIT	ARn.nn	0.0 - 27.15	1		
	BIT	LRnn.nn	0.0 - 63.15	1		
	1 WORD	PVnnn	0 - 511	1		
	1 WORD	DMnnnn	0 - 6655	1		
	<b>BIT</b>	TCnnn	0 - 511	1		
umber:						
umber.	-					

#### >TK-OMRON communication cable connection diagram



#### 9.Siemens S7-200 series

►TK Software settings

Parameter item	Recommended settings
Protocol	Simatic S7-200 Series
Communication	RS485
Communication	9600
Synchronization	Even parity

Number of data	8 digits
Stop digits	1 digit
Communication	1 second

FIULUCUI.	Simatic S7-20	0 Series			<u> </u>
Controller:	Company	Model		D	es
	SIEMENS	Simatic	S7-200	P	LC
Baud Rate:	9600	-	Data Bit:	8Bits	<u>.</u>
Parity:	Even	-	Stop Bit:	1Bit	•
Delay:	0ms	<u> </u>	TimeOut:	1sec	
Multi-Sta	ation Smart Lin	k	Retry Count	Timeout,	Repeat 💌

### Manipulable variable

/ariable/Para.:	Type	Name	Range	Sp	Description	
	C WORD	VWnnnn	0 - 8190	2		
	CO WORD	TWnnn	0 - 255	1		
	C WORD	CWnnn	0 - 255	1		
	C WORD	AIWnn	0 - 63	1		
	C WORD	AQWnn	0 - 63	1		
	BIT	In.nn	0.0 - 15.7	1		
	BIT	Qn.nn	0.0 - 15.7	1		
	BIT	Mnn.nn	0.0 - 127.7	1		
	BIT	Snn.nn	0.0 - 127.7	1		
	BIT	SMnn.nn	0.0 - 127.7	1		
lumber:						
lumber:		Snn.nn SMnn.nn	0.0 - 127.7 0.0 - 127.7	1		

>TK-Siemens S7-200 communication line connection diagram

TK series touch side with 9 holes D-shaped female connector

# •

S7-200 series PLC side 9 pin D type male connector





#### **10.Delta DVP series**

▶TK Software settings

Parameter item	Recommended settings
Protocol	DELTA DVP Series
Communication port type	RS232
Communication rate	9600
Synchronization check	Even parity
Number of data	7 digits
Stop digits	1 digit
Communication timeout	1 second

Protocol:	DELTA DVP S	eries				
Controller:	Company	Model			Des	
	DELTA	DVP ES	S/EX/SS Series	6	PLC	
	DELTA	DVP SA	A/SX/SH Series		PLC	
	DELTA	DVP EH Series PLC			PLC	
	DELTA	DVP ES	S2/EX2/SS2 Series		PLC	
Port:	Auto Detect(	RS232/RS4	22/RS485)			-
Baud Rate:	9600	•	Data Bit:	7Bits		-
Parity:	Even	-	Stop Bit:	1Bit		-
Delay:	0ms	-	TimeOut:	1sec		-
Multi-Sta	tion Smart Lin	¢	Retry Count	Timeou	t, Repeat	

### >Manipulable variable

Variable/Para.:	Туре	Name	Range	Sp	Description	^
	BIT	X000	0 - 177	1	Inputs	
	BIT	Yooo	0 - 177	1	Outputs	
	BIT	Mnnnn	0 - 1279	1	Auxiliary r	
	<b>BIT</b>	Snnn	0 - 127	1	States	
	<b>BIT</b>	TSnnn	0 - 127	1	Timer con	
	BIT	CSnnn	0 - 127	1	Counter c	
	BIT	CSnnn	232 - 255	1	Counter c	
	C WORD	TNnnn	0 - 127	1	Timer curr	
	C WORD	CNnnn	0 - 127	1	Counter c	
	B DWORD	CNnnn	232 - 255	1	Counter c	~
Number:						

### >K-Delta DVP communication cable connection diagram



	НМІ	DVP-ES2-EX2-SS2-SA2-SX2	
2	RS232 RXD		
3	RS232 TXD	RS232 RXD	4
		RS232 TXD	5
5	GND	GND	8
	DB9(female)connector	mini DIN8(male)connector	

### 11. Xinje PLC series

### TK Software settings

Parameter item	Recommended settings
Protocol	Xinjie PLC Series
Communication port type	RS232
Communication rate	19200
Synchronization check	Even parity
Number of data	8 digits
Stop digits	1 digit
Communication timeout	1 second

Protocol:	Xinje PLC Seri	ies				-
Controller:	Company	Model			Des	
	Xinje Xinje	Xinje X( Xinje XI	Xinje XC PLC Series PLC Xinie XD/XL PLC Series PLC			
			the grant of the second			
Port:	Auto Detect	RS232/RS4	22/RS485)			-
Port: Baud Rate:	Auto Detect(	RS232/RS4	22/RS485) Data Bit:	8Bits		
Port: Baud Rate: Parity:	Auto Detect( 19200 Even	RS232/RS4:	22/RS485) Data Bit: Stop Bit:	8Bits 1Bit		•
Port: Baud Rate: Parity: Delay:	Auto Detect( 19200 Even Oms	RS232/RS4	22/RS485) Data Bit: Stop Bit: TimeOut:	8Bits 1Bit 1sec		•

### >Manipulable variable

Controller:	0 : Xinje XC	PLC Series	[St=1]			-
/ariable/Para.:	Туре	Name	Range	Sp	Description	
	BIT	Xooo	0 - 511	1		
	BIT	Y000	0 - 511	1		
	<b>BIT</b>	Mnnnn	0 - 7999	1		
	BIT	Mnnnn	8000 - 8511	1		=
	BIT BIT	Snnnn	0 - 1023	1		
	BIT	Tnnn	0 - 618	1		
	BIT	Cnnn	0 - 634	1		
	CO WORD	Dnnnn	0 - 7999	1		
	CORD WORD	TDnnn	0 - 618	1		
	C WORD	CDnnn	0 - 634	1		-
lumber:						
						-

TK- Xinje PLC communication line connection diagram

#### TK Series HMI Programming Manual



#### 12. Matsushita PLC series

▶TK Software settings

Parameter item	Recommended settings
Protocol	Matsushita FP Series
Communication port type	RS232
Communication rate	9600
Synchronization check	Odd parity
Number of data	8 digits
Stop digits	1 digit
Communication timeout	1 second

Protocol:	Matsushita FP Series					
Controller:	Company	Model			Des	
	Matsushita	FP0 Series			PLC	
						_
Baud Rate:	9600	-	Data Bit:	8Bits		•
Baud Rate: Parity:	9600 Odd	•	Data Bit: Stop Bit:	8Bits 1Bit		•
Baud Rate: Parity: Delay:	9600 Odd 0ms	• •	Data Bit: Stop Bit: TimeOut:	8Bits 1Bit 1sec		- - - -

#### >Manipulable variable

Controller:	0 : FP0 Seri	es [St=1]				•
Variable/Para.:	Туре	Name	Range	Sp	Description	
	<b>BIT</b>	Xnnnx	00 - 511F	1	External i	
	BIT	Ynnnx	00 - 511F	1	External o	
	BIT	Rnnnx	00 - 886F	1	Internal r	
	BIT	Rnnnx	9000 - 910F	1	Special int	8
	BIT	Tnnnn	0 - 3071	1	Timer	
	BIT	Cnnnn	0 - 3071	1	Counter	
	BIT	Lnnnx	00 - 639F	1	Link relay	
	CO WORD	DTnnnn	0 - 32764	1	Data regis	
	1 WORD	DTnnnn	90000 - 90511	1	Special da	
	C WORD	SVnnnn	0 - 3071	1	Timer/Co	-
Number:						

>TK- Matsushita PLC communication line connection diagram



### Appendix 11 HMI program simulation and download

### **11.1 Program simulation**

mView provides the function of simulating directly on the PC. You can use this function to simulate the actions performed on HMI after planning HMI. On the one hand, it increases the convenience of finding program errors, and on the other hand, it can save downloading to the time HMI can connect to the controller. The simulation function of mView is divided into two types: [On-Line Run] and [Off-Line Run], as shown in the figure below.



### 11.1.1 On-Line Run

This function needs to be connected to the controller, and the program will modify the corresponding contacts and registers set by the controller during execution. It can be used to verify whether the planned program can normally act on the controller.

Before [On-Line Run], you need to set up the communication, as shown in the figure below:

HMI(M) C	omponent Too	ol Window	Help			
🛪 🏭 Syntax C	heck	F8		围墙	° o	6 5
On-Line	Run Run	F9 Shift+F9	₩.	/ੈ ▼ \$\$ AB(	•   🗃	0 -
c Downloa	nd to HMI C File	Ctrl+Alt+S		s 55 9	• <b>1 1</b>	<b>4</b> 0 A
Setup		×	🗣 Comn	nunicatio	n Setup .	
COM Por COM1:	t Set	M1			•	
Upload/Dov	vnload Simulate t Set	COM Set				
COM1: COM2:		M1 M2 - (7-TEK	USB-to-Se	erial Com	• •	
001121	ILU ILU	M2 - (2-TEK	030-00-30			

Among them, COM1 and COM2 on the left of [Communication Setup] refer to the communication ports on HMI, and the setting on the right is the set of communication ports designated by the user on the PC side to simulate the sex-corresponding communication ports of HMI side ,As shown below:

E Computer Management

File Action View Help	
🗢 🏟 🛛 🚈 📰 🖾 🖬	<b>P</b>
<ul> <li>Computer Management (Local</li> <li>System Tools</li> <li>Task Scheduler</li> <li>Event Viewer</li> <li>Shared Folders</li> <li>Local Users and Groups</li> <li>Performance</li> <li>Device Manager</li> <li>Storage</li> <li>Disk Management</li> <li>Services and Applications</li> </ul>	<ul> <li>DESKTOP-IFJ5SLB</li> <li>Audio inputs and outputs</li> <li>Bluetooth</li> <li>Cameras</li> <li>Computer</li> <li>Disk drives</li> <li>Display adapters</li> <li>Display adapters</li> <li>Human Interface Devices</li> <li>IDE ATA/ATAPI controllers</li> <li>Imaging devices</li> <li>Imaging devices</li> <li>Jungo</li> <li>Keyboards</li> <li>Mice and other pointing devices</li> <li>Monitors</li> <li>Network adapters</li> <li>STMicroelectronics Virtual COM Port (COM6)</li> <li>Z-TEK USB-to-Serial Comm Port (COM5)</li> </ul>

Protocol Set...

COM1:	COM6 - (STMicroelectronics Virtual 🗸
COM2:	COM5 - (Z-TEK USB-to-Serial Comm 💌

#### 11.1.2 Off-Line Run

This function does not need to be actually connected to the controller, it can be used to test the normal operation of the program and the verification of various functions.

### 11.2 Program download and update O.S. version

After using the PC to simulate and verify that the program is correct, you can start downloading to the HMI and directly use HMI to connect to the controller.

### 11.2.1 Download to HMI

Before downloading the program to HMI, you need to make communication settings first, please select  $[HMI] \rightarrow [Setup] \rightarrow [Communication Setup]$ , as shown in the figure below:



Protocol Set...

onnect	ion Device: COM6 - (STMicro	electronics Virt	ual I
Fix Ba	aud Rate(115200,N,8,1)		
Auto	Baud Rate		
Orden	Cathina	Connect	
Order	Setting	Connect	_
	115200,None,8 Bits,1 Bit	2	
✓ 1	9600,None,7 Bits,1 Bit	0	
✓ 2	9600,Even,7 Bits,1 Bit	0	
✓ 3	9600,Odd,7 Bits,1 Bit	0	
14	9600, Mask, 7 Bits, 1 Bit	0	
		12.5	~

Specify the communication port of the PC in the [Upload/Download] of the communication setting window, that is, the port where the download cable is connected to the PC. For example, COM3, you can select [Use fixed communication rate] in conjunction with HMI [download screen], or let the PC automatically try to download at different rates.

Then select [HMI] → [Download to HMI], and then start to download the

#### HMI program to the HMI, as shown below:



			×
Download Time:	No. 4 12 G		
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Turbo Download(Valid a	A 00 11 01	(Liferran 20100	
	π. 05 v1.21,	KS485 non-valid)	
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COM Port Set: COM6 - (S	TMicroelectro	nics Virtual COM Port	•
COM Port Set: COM6 - (S Option	TMicroelectro	nics Virtual COM Port	•
COM Port Set: COM6 - (S Option Init Register Update Password	TMicroelectron	nics Virtual COM Port tation ID Group te RTC	•
COM Port Set: COM6 - (S Option Init Register Update Password Clear Retentive Reg.	TMicroelectron	nics Virtual COM Port tation ID Group te RTC	•
COM Port Set: COM6 - (S Option Init Register Update Password Clear Retentive Reg.	TMicroelectron	nics Virtual COM Port tation ID Group te RTC	•

#### 11.2.2 Save as HMI program

In addition to directly downloading the planned program to HMI, mView also provides the user to save the planned program into a specific file (\*.vho). For downloading and using in the future, it should be noted that this file is only for downloading and its content cannot be modified.

Select  $[HMI] \rightarrow [Save project as file...]$  to save the project as a special file for man-machine of type vho, as shown in the figure below:







After you need to download this program to the HMI, select  $[Tool] \rightarrow [Download HMI Program]$ , as shown below, you can download this program to HMI.

To	ol Window Help	
1	Download HMI	1
	Upload HMI	-
1	Update HMI OS	
	Language Select	

🚮 Open					×
Look in	: test		•	🗢 🗈 📸 🎫	
3	Name	^		Date modified	Туре
	🚮 test			8/21/2020 7:05 PM	mVie
Desktop					
-					
Libraries					
This PC					
Network					
	<				>
	File name:	Itest		-	Open
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Developed		1	,		~
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	D 10			E IN	
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Ontion	27				-
option		_			
Init F	Register	Init St	ation 1	ID Group	
	Retentive R	u i♥ Upuau Ren	eRIC		
i cica	Recentive I	log.			
	-			1	
L	Download	Cancel	Ş	Setup	

#### 11.2.3 Update HMI OS

Generally speaking, when the new version of mView software is updated, it will be matched with the corresponding version of the OS. This OS supports the old version of the planning software downwards, but if the user wants to use the functions provided by the new version of the planning software, the new version must be matched OS and HMI OS are updated as follows.

Step 1: Select [Tools]→[Update HMI OS].



Step 2: Select the OS version to be updated (it is recommended to update with the planning software version used).

Look III.			
1	Name	Date modified	Туре
	1028	8/21/2020 7:01 PM	File folder
UICK access	1033	8/21/2020 7:01 PM	File folder
	2052	8/21/2020 7:01 PM	File folder
Desktop	model	8/21/2020 7:01 PM	File folder
-	picture	8/21/2020 7:03 PM	File folder
<b>C</b>		8/21/2020 7:01 PM	File folder
Libraries	repository	8/21/2020 7:01 PM	File folder
	nes 📃	8/21/2020 7:01 PM	File folder
~~~		8/21/2020 7:01 PM	File folder
This PC	usb driver	8/21/2020 7:01 PM	File folder
1	VxOS13802.vos	8/18/2020 9:31 AM	VOS File
Network			
	<		
	File name:	•	Open

Step 3: Start downloading. (Note: During the OS download process, the HMI must not be powered off!)

Step 4: After the download is complete, restart the power of the HMI.



### 11.3 Program upload

Use this function to upload the program in the man-machine back to the PC and save it as an HMI program for later downloading or editing by the user.

#### 11.3.1 Upload HMI program

Select [Tool] $\rightarrow$ [Upload HMI Program] to upload the program from the HMI back to the PC. After the transfer is complete, the user will be asked to save the file as a dedicated file named vho, as shown in the figure below:


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Upload from	HMI			×		
Upload Tin Upload 222	ne:7Sec 272 Bytes					
COM Port :	Set: COM6 -	(STMicroelectronic	s Virtual	COM Port 👻		
	/ Upload	X Cancel	🔁 Set	up		
Save As						×
Save in:	English Case		•	🗢 🖻 📩 📰 •		
Quick access	Name	~		Date modified 6/3/2020 11:52 AM	Type VHO File	Size 60 KB
Desktop						
This PC						
Network						
	File name:	test. vho				Save
	Save as type:	, mView HMI Object File	(*.vho)			Cancel

To make the uploaded program editable, you must add the decompiled information before downloading the program, otherwise the uploaded program can only be used for downloading, and the user cannot edit it.

Select [View] $\rightarrow$ [Option(H)] $\rightarrow$ [File], and tick [Add Decompiled Information]. As shown below:



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nap/	Grid   Aux. Data of Obj.   Component Edit File Frame Size Transfer
Se	tup
	Auto. Add Protocol after Open File
	🔽 Save File ? Close Window
	Archive, automatically backup files
	✓ Automatic backup old files
	Program start automatically open file
De	ecompiled Information
	Add Decompiled Information
	✓ Program Compression
-	

### Appendix 12 HMI USB penetrating function

The penetrating communication function provided by HMI is to use PLC programming software on the computer and connect to the PLC through the man-machine interface connected to the computer. In this way, you can monitor, upload, and download PLC programs.



As shown in the figure above, the connection between PC and HMI is USB (virtual serial port), and the connection between HMI and PLC is serial connection. For debugging convenience, the PC can directly download or monitor PLC programs through HMI to improve work efficiency.

Note: Single screen COM1 means RS232, COM2 means RS485;

All-in-one machine COM1 means using HMI and PLC internal communication port, COM2 means using HMI RS232 or RS485.

### 1. COM1 penetration communication

Step 1: Set a screen button on the HMI program interface, select [65021: Virtual connection COM1] for [Screen Switch]; download the program to the touch screen.

Screen Switch: Income and Income	Priority		
65021 : Virtual connectic	Confirm	By scene	
Switch Notes	Key Def	Press.action	
Refor Marro:	Key Window		
	Destine Veise	Undefined	
After Macro:	Descine voice	Undefined	_
	Controlled cond	i	- •
	Hide Obi.		
	Hide as prior	ity <mark>lack o</mark> r disable	
	Prompt as pi Set Levie 9.	riority lack	



Step 2: HMI and PLC are connected through HMI COM1, the touch screen is switched to this page, and the PC can directly download or monitor PLC programs through HMI.



#### 2. COM2 penetration communication

Step 1: Set a screen button on the HMI program interface, select [65022: Virtual connection COM2] for [Screen Switch]; download the program to the touch screen.

Screen Switch: 65022 • Virtual connectid	Priority Pri scope	-
05022 : Virtuar connectic	Confirm Press action	
Switch Notes 🗾 🔹	Key Def. Undefined	=
Befor Macro:	Key Window Undefined	-
After Macro:	Destine Voice Undefined	•
	Controlled condi	1

Step 2: HMI and PLC are connected through HMI COM2, the touch screen is switched to this page, and the PC can directly download or monitor PLC programs through HMI.



### 3. The data of COM1 and COM2 penetrate each other

Step 1: Set a screen button on the HMI program interface, select [65011: Virtual Online] for [Screen Switch]; download the program to the touch screen.

Screen Switch:	Priority		
65011 : Virtual connectio	Confirm	By scene	
Switch Notes	Koy Dof	Press.action	-
	Key Del.	Undefined	-
Befor Macro:	Key window	Undefined	•
After Macro:	Destine Voice	Undefined	-
	Hide Obj. Hide as prior Prompt as p	rity lack or disable priority lack	·] 🚺

Step 2: Connect COM1 and COM2 of HMI to serial controller respectively,

the touch screen will switch to this page, and the controllers connected to COM1 and COM2 of HMI can transmit data to each other;

