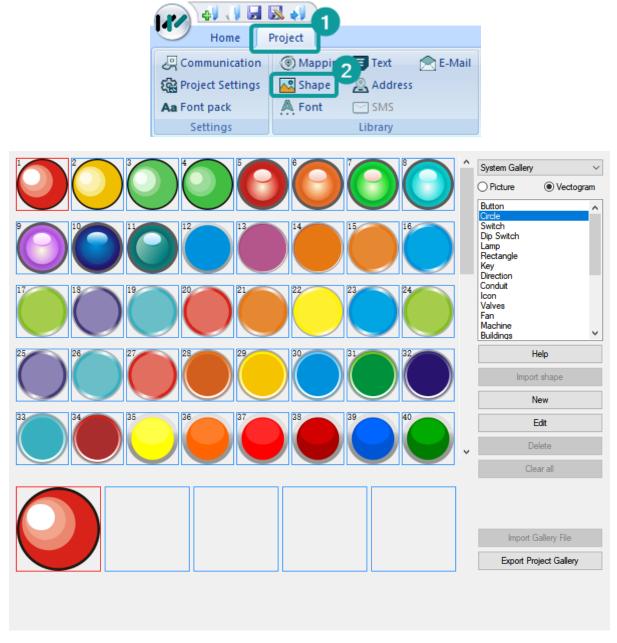
04 Library

last modified by Joey on 2022/06/16 11:54

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Shape

It is used for storing bitmaps. The source of bitmaps are: system bitmap library and imported bitmaps.



You could view all the bitmaps in the library, and import or export them accoriding to your own needs. You can also create multi-state bitmaps.

There are four kinds of galleries as follows.

- 1. **Project gallery:** The bitmaps added in the project and the bitmaps applied in the project are displayed in the project gallery.
- Rename: You could click one bitmap to rename. Bitmap names can be a combination of Chinese characters, numbers, and letters (case sensitive), but no special characters. The length of it cannot exceed 18 characters.
- When you place the mouse on the display area of bitmap, its name and resolution would be displayed.
- You can export the current project bitmap file, import the file in another project, and call it in the new project.

- 1. System gallery: The software system gallery, including pictures and vector diagrams (svg picture).
- 2. Gallery file: You can import the corresponding picture file from and call it in the project library.
- You could import library files with suffixes "aa. pLb" and "aa. bLb".
- Select one bitmap, right click to perform three operations: Use library, Delete library, and rename library (F2).
- 1. Extended gallery: The image applied in the screen style can be found in the extended gallery.

Font

You could pre-set the font and directly call the settings in the font library when editing the project.

	Project
Communication	🛞 Mapping 🧧 Text 🔄 🚖 E-Mail
🕵 Project Settings	Shape Address
Aa Font pack	Font SMS
Settings	Library
Font Library	X
Built-in font	Name:
Arial_16	Arial
	Size:
	16
	Example
	Example
	Add font
	Delete font
	Properties
	Close
	Help

Items	Description
Add font	Add an new font in library
Delete font	Delete selected font
Properties	Edit selected font
Close	Close current setting window

Help

Click it to open help document

Font Library	×	Add font
Built-in font Arial_16	Name: Arial Size: 16 Example Example Add font Delete font	2 Name: Calibri_20 Font: 3 Size: 4 Style: 5 Calibri 20 Pr Calibri Light 9 Pr Calibri Light 9 Pr Calibri Light 10 Pr Calisto MT 12 Pr Cambria 12 Pr Cambria 14 Pr Candara 16 Pr Candara 18 Pr Century Gothic 22 Pr Century Gothic 26 Pr Colonna MT 36
	Properties	Example 6 ABC123
	Close Help	ABC123
		OK Cancel

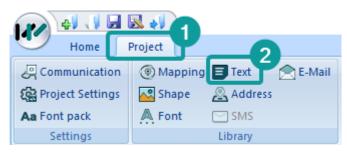
Operating procedures of create font

- 1. Click [Add font] to open setting window.
- 2. Enter font name.
- 3. Select font.
- 4. Select font size.
- 5. Select font style.
- 6. Preview font.

Text

Text library contains commonly used text. It avoids setting the text repeatedly. HMI provides up to 8 languages in text library.

Click "Project"-"Text" to open the setting window.



D	Language 1	Language 2	Language 3	Language 4	Language 5	Language 6	Language 7	Language 8

Items Description ID The identifier of the text in the list Languages One text can be set in 8 languages New Add an new text in list Delete Delete selected text Edit Edit select text Close Close text library list Help Open help document Export EXCEL Export text library to PC as excel file Import EXCEL Import text library from excel file Clear Delete all texts in list

Operating procedures of creating new text

- 1. Click "New" button to open setting windows as below.
- 2. Set at least one language and support up to 8 languages.
- 3. Click "Save" to complete operations.

ext Editor								Х
ID:	1							
Language 1		5 characters]	Language 2	[2 characters		
Hello			^	你好				^
			~					~
Language 3		6 characters]	Language 4		5 characters]	
привет			^	Hallo				^
			~					Υ.
Language 5		7 characters]	Language 6	[4 characters]	
Bonjour			^	Hola				^
			~					~
Language 7		3 characters]	Language 8	[6 characters]	
Olá			^	안녕하세요.				^
			\sim					~
				Г	Save	Cancel		
				_				

#Note:

Text library: Supports importing edited Excel files into projects for use. However, the following two points need to be noted:

- 1. When importing an Excel file, if the contents of language one to language eight in ID (ID) information is all empty, the information of the subsequent ID will not be imported.
- 2. When importing Excel files, if there is pure digital content in the imported information, you need to set the format of the table box to "text" mode. Otherwise, the text import fails or an error occurs due to incorrect information format.

Introduction

We con HMI can send email with information from fields to the specified email address as soon as the conditions is triggered, but email sending is based on the network.

Email

Email setting

In "PIStudio" software, click "Project"-> "E-mail" to open email function setting screen.

	Home 🔽	Project	1		6		
20	Communication	-	ping 3	Text 🕅 E-Ma	2 il 🕕 Bit Alarm	🌌 Trend Chart	💄 User Permissi
(2) F	Project Settings			Address		arm 🕂 History XY Plot	📑 MessagePron
Aa F	ont pack	A Fon	t 🖂) SMS	🔒 Recipe	Data record	🔒 Traditional R
E-N	1ail settings						×
	-SMTP setting: ☑ Enable ma						
	Sender nan	ne	ааа				
	E-mail addr	ess	XXX@v	ve-con.com.cn			
	Password		•••••	•			
	Confirm pas	ssword	•••••	•			
	Smtp serve	r	smtp.ex	kmail.qq.com			
	The port nu	mber	465				
	01	Not encry	ption	◯ STARTTLS er	ncryption	SSL encryption	
	Red	cipient		Sending	settings	Test Sending s	ettings
	Error messag	e					
	🗹 Enab	le					
	Addr	ess	HDW4		Edit		
	Manual trigge	r					
	🗹 Enab	le					
	Addr	ess	HDW1		Edit		
					ОК	Cancel	Help

(1) SMTP Settings

1) Sender Name: Fill the sender's name, which is composed of Chinese characters, letters (case sensitive) and numbers. But it can not contain the following special English symbols: ',', ';', "", '<'. Maximum character length 32 is allowed.

2) **Password:** Fill in the password or authorization code of the mailbox. If the server needs to set the authorization code, the authorization code needs to be used. If the authorization code is not used, the password is used. Please refer to the SMTP service in the mailbox for the authorization code information. It cases sensitive, maximum character length 32 allowed in password.

3) Confirm Password: Confirm the password or authorization code of the mailbox.

4) Email Address: Fill in the sender's email address, case sensitive, maximum character length 32 allowed in it.Such as support@we-con.com.cn.

5) SMTP Server: Please refer to the mailbox account settings. If you enter a common mailbox, the corresponding server address will be automatically written. such as smtp.exmail.qq.com.

Email	Email server	Port number
163 email	smtp.163.com	465
126 email	smtp.126.com	465
QQ email	smtp.qq.com	465
Sina email	smtp.sina.com	465
Sohu email	smtp.sohu.com	465
Yahoo email	smtp.mail.yahoo.com.cn	465
Google email	smtp.gmail.com	465

#Note:

Gmail also needs to enable the [allow unsafe apps] option in the account, otherwise the mail will not be sent normally.

6) Encryption Type: SSL is a security protocol that provides security and data integrity for network communications. It encrypts network connections at the transport layer; TLS (STARTTLS) upgrades connections to SSL instead of using a separate encrypted communication port.

7) The Port Number: Enter corresponding port number according to the SMTP serve address entered. You could only enter interger between 1 and 65535. Do not enter more than 6 digits in length. Common port numbers are port 25, 465 and 587.

- Port 25: It does not protect the original data when transmitting data. The data can be seen. Generally, port 25
 must be selected as no encryption or TLS(STARTTLS) encryption mode to send data correctly.
- Port 465: It protect the original data when transmitting data. The data can not be seen. Generally, port 465 must be selected as SSL encryption mode to send data correctly.
- Port 587: The original data is protected only after the TLS(STARTTLS) command is executed. Generally, port 587 must be selected as TLS(STARTTLS) encryption mode to send data correctly.

#Note: Port 25 is open to SMTP servers, mainly for sending mail. But the port has vulnerability. Hackers often use port 25 to find SMTP servers to forward spam.

8) Error Message

Set the error message receiving address, you could use the information to get the reasons of errors.

The error types in the mail function are divided into two types: custom rule error and server's error.

Custom rule errors are as follows.

Message

Email settings are incorrect

Email account is incorrect

Email password could not include blank

the settings of SMTP server are incorrect The range of SMTP server ports number should be integer, which is between 1 and 65535. The type of encryption for SMTP is incorrect The name of sender or email address setting is incorrect. The names of Recipients or email address setting are incorrect. The names of CC recipients or email address setting are incorrect. The names of Secret delivery recipients or email address setting are incorrect. Email topic could not be blank Email content could not be blank Total size of attachments should be below 25M Attachment "xxxx" is nonexistent

Server's errors are as follows.

Message

smtp-server: 554 DT: SPM smtp-server: 550 RP: TRC smtp-server: 550 Limitation of connecting counts smtp-server: 535 smtp-server: 550 Error: Content rejected smtp-server: 451 Internal server error smtp-server: 535 Invalid login user or password smtp-server: 550 too many sending requests today smtp-server: 452 Too many recipients received this hour. smtp-server: 535 Error: Authentication failed, system busy could not connect: Connection timed out Unexpected EOF on SMTP connection could not initiate SSL/TLS connection smtp-server: 530 Need to issue a STARTTLS command first. could not resolve host could not connect: Connection timed out could not connect: Connection refused smtp-server: 550 User not found: aaa.163.com

9) Manual Trigger

It is for modifying the email sending settings when HMI is running. According to the set manual trigger address, the address is offset backward to get the address of the corresponding function (a total of 201 words). Take HDW100 as an example.

Address	Description
HDX100.0	Sending trigger
HDX101.0 to HDX101.15	It is used for triggering recipient groups, for example, HDW101.0 set ON, and the address in group 1 will be in recipient list.
HDX103.0 to HDX103.15	It is used for triggering recipient groups, for example, HDW103.0 set ON, and the address in group 1 will be in CC list.
HDX105.0 to HDX105.15	It is used for triggering recipient groups, for example, HDW105.0 set ON, and the address in group 1 will be in BCC list (Secret delivery).

HDW107 to HDW171	The subject length is limited to 64 words. (If it exceeds, it will intercept 64 words of content)
HDW172 to HDW300	The content length is limited to 128 words. (If it exceeds, it will intercept 128 words of content)
HDX301.0	Whether to send an alarm record attachment (a file named AlarmDataFile.db)

- 1. Emails that sent manually are not queued. Emails trigger by bit change, rising edge, falling edge and timing need to be sent in the sequence of triggering. The maximum value is 100, and those who are added after it is exceeded will be discarded. If an email is sending, it would send immediately after the current email is sent. If there is no email sending, it would send immediately.
- 2. If the trigger condition sent manually is the rising edge trigger, before the mail is sent, no new mail will be sent even if it is triggered again. No matter the email is sent successfully or not, the corresponding trigger would be OFF.
- 3. Emails that sent manually would only be sent once no matter the sending error is custom error, network or other errors.

E-Mail settings			X Preview Window	🚡 Delete report 👸 Property 💾 Passw	
SMTP settings				Tool	Tool × Commor
Sender name	a	Mailing list settings			×
E-mail address	om.cn	ID Trigger se	nding nd on rising edge	Content of email df	Recipient group 3 Group 1;
Password	•••••				
Confirm password	•••••				
Smtp server	smtp.exmail.qq.com				
The port number	465				
○ Not encry	vption OSTARTTLS encryption	3			
Recipient	Sending settings	e			
Error message					
🗹 Enable					
Address	HDW1 Edit				
Manual trigger					
🗹 Enable					
Address	HDW2 Edit	New	Modify D	elete	OK Cancel
	ОК Са	ncel Help			

Email sending settings

- 1. Add. A maximum of 1024 email can be added.
- 2. Modify. Select an email to modify the content and configuration.
- 3. Delete. You could select an email to delete or click the "ID" column to delete in batch.

Them		1		\bigcirc Timed send interval	$0 ~~ \vee$ Hour 0	 Minute
ID 1	Types Ordinar	Text content df				
1	Orulliar	u		Bit address trigger tran		
				Bit address	HDX2.0	Edit
				Triggering conditions	Send on rising edge	~
				Recipient	roup 1;	
				Add CC		
6				cc 5		
				Add secret delivery		
				Secret delivery 6	1	
	Add	Modify	Delete			
Previe	ew	2				
df			^			

(1) Email sending configuration.

1) Theme. The value cannot be empty and case sensitive. The total length cannot exceed 256 characters.

2) Content of email. The contents are divided into three combinations: text, alarm and variable. The list can contain only 32 items at most, and the total length of the preview cannot exceed 1024 items.

- **Text.** You could directly edit the text of language 1 to language 3. If you need to set multiple languages, click "edit all text" to set. You may also select "Text library". The content is case sensitive, and the total length of English/Chinese characters/numbers/symbols does not exceed 253.
- Alarm. You could select "bit alarm" or "word alarm" from the list. The content is from alarm text. if the alarm changes, the content changes with it. The content is case sensitive, and the total length of English/Chinese characters/numbers/symbols does not exceed 253.
- Variable. Set the corresponding variable address. Read value or strings according to the specified format, and the read information will be displayed in the corresponding position in the mail content.

3) Preview. Combine the content of current edited email and diaplay it for you to modify the content conviniently. The preview length cannot exceed 1024.

4) Sending method. It is divided into timed send interval and bit address trigger transision. The two methods cannot be used at the same time.

- timed send interval. After booting, the current system time is used to start calculating, and each time the time is up, the information will be sent to the set recipient in the form of an email, and the minimum time should be set to 5 minutes. **Note:** The first boot is not sent.
- Bit address trigger tranmission. When the set trigger address meets the trigger conditon, the information will be sent to the set recipient in the form of an email. If the content select alarm, the alarm address would be

written in the trigger address. There are three methods to trigger: sending on rising edge, sending on falling edge and send when the bit changes.

5) Recipient. It is set in groups. You could send multiple groups, and each group can have multiple recipients.

6) Add CC. Sends the current email to other recipients.

7) Add secret delivery. Sends the current email to other recipients, but the recipient and cc recipients do not see the BCC recipient.

when sending an email, you must set a recipient. CC recipients and BCC recipients are not to be set. The total number of recipient, CC recipients and BCC recipients is 40.

8) Recipient priority. Set the priority order of recipients to recipient, BCC, and CC.

#Note: If the recipient address you select exists in all three positions, it exist only in the highest priority position. For example, if the recipient of an email has aaa, the bcc has aaa, and the cc has aaa, then let aaa only be the recipient.

Recipient group setting

ettings	Sending setti	ngs					×
ble mail	Content	abc			Sending method	0 ~ Hour 0	Minute
All g	t group settings roups pen recipient set	>>	Group to send Group 1 OK	×	 Bit address trigger tran Bit address Triggering conditions Recipient Add CC CC Add secret delivery Secret delivery 	smission HDX2.0 Send on rising edge roup 1;	Edit
71001-055				~		ОК	Cancel

- 1. All Group. The groups you added.
- 2. Group to send. The groups that you send the emails to.
- 3. Open recipinet settings. Set the information of recipients, and add and subtract groups.

Recipie	ine noe				Group	member list		
ID	Recipient name	Address	E-mail address		ID	Recipient name	Address	E-mail address
1	1		v ve-con.com.		1	1		/e-con.com.cr
2	2		e-con.com.cn		2	2		
3	3		e-con.com.c		3	3		-con.com.cn
				>>				
				<<	-			
					<			
					Num	per of groups	1	* *
<			>		Curre	ent group name	Group 1	~
A	dd Modif	y De	lete		Desc	ription		

Recipient setting

1. Add. Add a recipient. There are non-dynamic recipient and dynamic recipient. They cannot be used at the same time. You may just fill in the recipient's name and email address. The dynamic recipient address is limited to 32 characters, and a maximum of 40 recipients can be added.

Recipient editing	×
The recipient's name	
1	
E-mail address	
-con.com.cn	
Dynamic recipient	
Address	
	Edit
ОК	Cancel

- 1. **Modify.** Select one recipient and click "modify" or double click the recipient to modify. If it is non-dynamic recipient, you could modify the name and email address. The email is unique. If it is dynamic recipient, you could modify the address, and the address is unique.
- 2. Delete. Select one recipient or multiple recipents to delete, or click the ID column to select all.
- 3. **Nuber of group.** You could click the up/down arrow to increase or devrease groups. The default number is 1. The maximum number is 16.
- 4. **Description.** To decribe the group information. The total length shall not exceed 32.

Test sending settings

Test Sending settings	×
Recipient Recipient	
Test Clos	Se la

#Note:

- You can open this after the SMTP server is set.
- When NetEase mail (126, 163 and yeah) occurs erros 554, it may be that the mailbox used is restricted by the anti-spam mechanism, and the performance may be that it cannot send emails in bulk or directly.
- When TOM mail is sender's mail, the name of it and the recipient tested must be English, otherwise the email would be returned.
- When testing with Zoho mailbox, there was a delay of less than 3 minutes.
- The custom errors for the test error is as follows.

Error code	Cause of reason
0	CSMTP_NO_ERROR
100	WSA_STARTUP = Unable to initialize winsock2
101	WSA_VER = Wrong version of the winsock2
102	WSA_SEND = Function send() failed
103	WSA_RECV = Function recv() failed
104	WSA_CONNECT = Function connect failed
105	WSA_GETHOSTBY_NAME_ADDR = Unable to determine remote server
106	WSA_INVALID_SOCKET = Invalid winsock2 socket
107	WSA_HOSTNAME = Function hostname() failed
108	WSA_IOCTLSOCKET = Function ioctlsocket() failed
109	WSA_SELECT
110	BAD_IPV4_ADDR = Improper IPv4 address
200	UNDEF_MSG_HEADER = Undefined message header
201	UNDEF_MAIL_FROM = Undefined mail sender
202	UNDEF_SUBJECT = Undefined message subject
203	UNDEF_RECIPIENTS = Undefined recipient
204	UNDEF_RECIPIENT_MAIL = Undefined mail recipent
205	UNDEF_LOGIN = Undefined user login
206	UNDEF_PASSWORD = Undefined user password
207	BAD_LOGIN_PASSWORD = Invalid user login or password

208	BAD_DIGEST_RESPONSE = Server returned a bad digest MD5 response
209	BAD_SERVER_NAME = Unable to determine server name for digest MD5 response
300	COMMAND_MAIL_FROM = Server returned error after sending MAIL FROM
301	COMMAND_EHLO = Server returned error after sending EHLO
302	COMMAND_AUTH_PLAIN = Server returned error after sending AUTH PLAIN
303	COMMAND_AUTH_LOGIN = Server returned error after sending AUTH LOGIN
304	COMMAND_AUTH_CRAMMD5 = Server returned error after sending AUTH CRAM-MD5
305	COMMAND_AUTH_DIGESTMD5 = Server returned error after sending AUTH DIGEST-MD5
306	COMMAND_DIGESTMD5 = Server returned error after sending MD5 DIGEST
307	COMMAND_DATA = Server returned error after sending DATA
308	COMMAND_QUIT = Server returned error after sending QUIT
309	COMMAND_RCPT_TO = Server returned error after sending RCPT TO
310	MSG_BODY_ERROR = Error in message body (邮件正文中 出现错误)
400	CONNECTION_CLOSED = Server has closed the connection
401	SERVER_NOT_READY = Server is not ready
402	SERVER_NOT_RESPONDING = Server not responding
403	SELECT_TIMEOUT
404	FILE_NOT_EXIST = File not exist
405	MSG_TOO_BIG = Message is too big
406	BAD_LOGIN_PASS = Bad login or password
407	UNDEF_XYZ_RESPONSE = Undefined xyz SMTP response
408	LACK_OF_MEMORY = Lack of memory
409	TIME_ERROR = time() error
410	RECVBUF_IS_EMPTY = RecvBuf is empty
411	SENDBUF_IS_EMPTY = SendBuf is empty
412	OUT_OF_MSG_RANGE = Specified line number is out of message size
413	COMMAND_EHLO_STARTTLS = Server returned error after sending STARTTLS
414	SSL_PROBLEM = SSL problem
415	SSL_PROBLEM = SSL problem
416	STARTTLS_NOT_SUPPORTED = The STARTTLS command is not supported by the server
417	LOGIN_NOT_SUPPORTED = AUTH LOGIN is not supported by the server

Email status

(1) Network disconnection error

If the fault is determined as a network disconnection error, the system does not delete the sent information and does not record the number of errors, and it would make an infinite send attempt.

(2) Custom rule error

If the fault is determined as a custom rule error, delete the information.

(3) Server return error

If the fault is determined as a server return error, then the error time add 1. It would try to send the email for 3 times. Regardless of whether the transmission is successful or not, it would delete the email to be sent. The test results are as follows.

Server name	The number of sent	Consequences of exceeding the limit
126	160	No more delivery on that day
163	160	No more delivery on that day
we-con	800	No more delivery on that day
qq	50	It can be sent again after a few minutes or a few hours
sohu	160	No more delivery on that day
sina	50	It can be sent again after a few minutes or a few hours, but cannont be received normally
gmail	500	No more delivery on that day

(4) Message Prompt

- 1. If the email to be sent is deleted, a message will pop up.
- 2. If the email is sent successfully, a messge will pop up: "The email is sent successfully."
- 3. If the five symbols ',', ' | ', '<', '>' and '&' appear in the fields set by the message prompt, the message prompt will display an abnormal message.

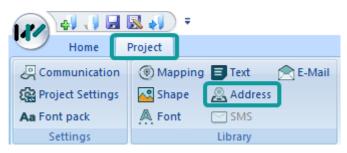
(5) Mail attachment

Currently, the email attachment function only supports sending the specified alarm record (AlarmDataFile.db file), and does not support selecting content to send.

Address

Address library contains commonly used addresses. It not only avoids setting the addresses repeatedly but also expresses the function of an address more clearly.

Click "Project"-"Address" to open the setting window.



ldress Libr	ary				
Word A	ddress 🔿 Bit A	ddress			
ID] 1	Address Name Word address0	Address HDW1	Byte order 12(Normal)	Extended tag1 0	Extended tag2 0
2	Word address1	HDW2	12(Normal)	0	0
Add	Insert	Edit	Delete	Up	Close
Export EXC	EL Import EXCEL		Clear	Down	Help

Item	Description
Word Address	Select [Word Address] to display word addresses in list
Bit Address	Select [Bit Address] to display bit addresses in list
Add	Add a set of address to display in the address library to associate addresses with identifiers
Insert	Insert (add) an new address before selected item in list
Edit	Edit selected item
Delete	Delete selected item in list
Up	Move the selected item up one line
Close	Close current setting window
Export EXCEL	Export address library to PC as excel file
Import EXCEL	Import address library from excel file
Clear	Delete all items in list
Down	Move the selected item down one line;
Help	Click it to open help document;

Operating procedures of creating new address

Address Libra	ry	Edit			×
• Word Ac	ddress 🔘 Bit Add	d 📿 d address	s0		
ID	Address Name	Connection		- COM1 ~	
	Word address1 Word address2	Address Type	3	~	Note:Word Address.
3	alam	Data Format	3 W	'ord \vee	Mark: 3. No. : 0~999999. Decimal
		Byte order	12	2(Normal) V	
		Address No.	0		
		Extended tag	0		
		Extended tag	2 0		
		A B	С	D E F	PLC Station No.
0		7 8	9	<i>←</i>	Default 0
Add	Insert	4 5	6	Clear	
Export EXCEL Import EXCEL		1 2	3	Close	
		0.	0	KNONE	
			Н	elp	

- 1. Click "Add" to open address edit window.
- 2. Set "Address name".
- 3. Set address.
- 4. Set PLC station number (It is not necessary setting, the user sets according to the actual situation).

#Note:

Address Library: it supports importing addresses information from Excel files. However, the following two points need to be noted:

- 1. When importing an Excel file, if the contents of a certain Name, Type, and Address are all empty, the information of the subsequent ID will not be imported.
- 2. When importing Excel files, if there is pure digital content in the imported information, you need to set the format of the table box to "text" mode. Otherwise, the text import fails or an error occurs due to incorrect information format.

Mapping

Address mapping is to build the relationship between two different addresses. Forwarding address from source address to target address, so the value in both addresses would be same according to the predefined mapping mode. Both addresses could be from different, in this way, to make HMI processing faster.

For example:

Forward "D0" to "HDW100" (length: 10), so the address D0, D1,..., D9 would be related to HDW100, HDW101, .., HDW109.

Description

	ng						
Setting							
Clear	Clear 1 O Bit address			ord address			
2 s	Source 1: HDW0		Edit	Data	type		
S	Source 2:		Edit	Data	type		
3 Cal	lculation: None	~	4 Ler	ngth: 1			
5	Mode: Read-wr	ite 🔪	6 Update freque	ency: General		~	
7 (wh	Mapping ien OFF)		Edit	Mappin	g when ON		
8 Target	address: D10		Edit	Data	type		
9 ⊠ <mark>∞</mark>	ont. Length		10 Glo	bal mapping cont	rol		
Add	Edit	Dele	ete Clea	ar List	Close	Help	
Туре	Source addr	Calculation	Source addr	Target addr	Mode	Trigger bit a	Ler
Гуре	Source addr	Calculation	Source addr	Target addr	Mode	Trigger bit a	Ler
Туре	Source addr	Calculation	Source addr	Target addr	Mode	Trigger bit a	Ler
Туре	Source addr	Calculation	Source addr	Target addr	Mode	Trigger bit a	Ler
Туре	Source addr	Calculation	Source addr	Target addr	Mode	Trigger bit a	Ler
Туре	Source addr	Calculation	Source addr	Target addr	Mode	Trigger bit a	Ler
Туре	Source addr	Calculation	Source addr	Target addr	Mode	Trigger bit a	Ler

(1) Address type

It is used for selecting address type in address mapping.

(2) Source address

The origin address that need to be mapped to other addresses. If there is calculation, 2 source addresses are required, and the result would be saved in "target address".

Data type: Only word address need to set data type. If it is the address of 32-bit register, check "32-bit register".

(3) Calculation

Designated mathematical relationship between two source addresses, the result will be saved in target address.

(4) Length

It is used to set the length of the operation address.

For example

Source address is D0, target address is 40, and length is 10.

Result

- 40=D0
- 41=D1
- ...
- 48=D849=D8

(5) Mode

It provides two modes, Read-write and read only. The value of source address would not change if target value changed after read only selected.

(6) Update frequency

It provides two modes, general and read-through.

General: Read data from HMI cache (Recommended)

Read-Through: Read data directly from the device without going through the HMI cache

(7) Mapping

This is control bit for mapping one item, the default mode is mapping when OFF; If user want to change control condition, please check [Mapping when ON];

(8) Target address:

It is address used to store source address data;

(9) Cont. Write:

Write address length for single time, used for some special device addresses that need to be written continuously;

(10) Global mapping control

The function and mode are similar to [Mapping], but it is used to control all mapping items. The setting screen as below show;

Mapping control	×
Control bit Edit	
Control Enabled when ON	
OK Cancel	

(11)Buttons

- Clear: Delete all settings in settings, such as [Source address], [Length] and so on.
- Add: Create a new mapping item.
- Edit: Change selected item.

- Delete: Delete selected item.
- Clear list: Delete all mapping items in list.
- **Close:** Close address mapping window.
- Help: Click it to open help document.

(12) Item List

It lists all address mapping items.

#Note:

- Too many [Read-Through] items will cause HMI running slow.
- · If there are multiple consecutive addresses, please increase the length to reduce the mapping items

Fucntion descrition

Address mapping is to map the source address to the destination address or the two source addresses are mapped to the destination address by some operation. The source and destination addresses can be PLC addresses or internal addresses or from different serial ports.

For example: Map D0 to HDW100, the map length is 10, then the value of D0 to D9 are mapped to HDW100 to HDW109.

There are two map methods: read and write and read-only.

- 1. **Read and write:** If the value of source address is changed, the value of the destination address changes accordingly. After the value of the destination address is changed, the value of the corresponding source address does not change. Four some four operations or logical operations, they can only be selected in this way.
- 2. **Read-only:** If the value of source address is changed, the value of the destination address changes accordingly. After the value of the destination address is changed, the value of the corresponding source address changes too. Four some four operations or logical operations, they can not be selected in this way.

There can be two sets of source addresses, and mapping the results to the destination address through operations (four operations or logical operations). For example: source address 1 is HDW100, source address 2 is HDW200, Map to destination address HDW300 by addition and the map length is 10.

- HDW300=HDW100+HDW200
- HDW301=HDW101+HDW201
- HDW309=HDW109+HDW209

Yon could use the bit address to control whether to enable the mapping function. There is one bit address for bits and one for words. Each mapping block also has a bit address. For bit address mapping and word address mapping, there are controlled by their own global bit addresses. Each mapping block relationship can also have its own control address, but the global control bit address has a high priority.

#Note:

- 1. Some of four operations do not have inverse operation such as trigonometric function, shift, remainder and so on. They can only be read-only.
- For example: If HDW100 is devided by HDW200, and the value is mapping to HDW300. When the value of HDW300 changes, the vaue of HDW100 will not change. Because you can't calculate what the HDW100 value should be.
- 1. The maximum length of each mapping block is 65535.
- 2. If there is no bit address to control the mapping, the mapping is enabled by default. If you set the bit address, the mapping is disabled when the value of the bit address is 1 and it is enabled when the value of the bit address is 0. If you select "control on closed state", the result is opposite.
- 3. Update frequency refers to the update frequency of reading device data. The default is 0.
- Normal read speed is 0, read through value is 1, fast read value is 2. There is no need to fill in the data type in address mapping. The selection of "32-bit register" is special for some PLC whose address interval is 1 in 32 bits. You don't have to choose it.