

# InoTouchPad

# **User Guide**



INOVANCE

PS00002706 A01

# Preface

### Introduction

InoTouchPad is HMI configuration software developed by Inovance, which provides powerful functions and friendly user interface.

This user guide describes how to use InoTouchPad to configure an HMI project and run it on a PC or embedded hardware. This guide assists you in building communication systems, creating new projects, configuring projects, and applying projects to various platforms. This guide applies to InoTouchPad v0.9.0.0 and above.

### **Other documents**

Name	Description
InoTouchPad User Guide (this guide)	introduces the installation, basic operation, project configuration and function applications.
IT7000 Series HMI Application Cases	Introduces the application cases of InoTouchPad, concerning project management, controls, alarm, communication, tags, reporting, script functions, and recipes to guide users to customize project configuration.
IT7000 Series HMI Quick Start	Introduces the quick commissioning and basic operations of the product.
IT7000 Series HMI Product Selection Guide	Describes the technical specifications and dimensions of products, as well as the detailed specifications and selection of optional accessories (installation accessories, cables, and so on).
IT7150E HMI User Guide	Introduces the technical specifications, installation dimensions, installation method and commissioning of IT7000 series 15-inch products.
IT7100 HMI User Guide	Introduces the technical specifications, installation dimensions, installation method and commissioning of IT7000 series 10.1-inch products.
IT7070 HMI User Guide	Introduces the technical specifications, installation dimensions, installation method and commissioning of IT7000 series 7-inch products.

### Description

This guide introduces the installation, basic operation, project configuration and function applications of the software. The structure of the guide is as follows:

Overview: This section describes the installation and uninstallation of InoTouchPad.

Quick Start: This section guides you to configure the system, and build, compile and simulate and download a project.

Project Management: This section describes project compiling, uploading and downloading, simulation, pass-through, packaging, firmware updating, and language font settings.

Communication: This section introduces communication principles, settings and protocol options in HMI project configuration.

Tags: This section introduces the definition, categories, setting and use of tags in HMI projects.

Creating a Screen: This section guides users how to create screens and use objects.

Controls: This section describes common operations and property setting of all the simple controls and enhanced controls provided by InoTouchPad.

User Management: This section describes the management of user permissions in HMI projects.

Creating an Alarm System: This section guides users to create an alarm system to visualize processes and alarms.

Creating a Recipe: This section guides users to create, use, import and export recipes.

Historical Data: This section describes how to set up, export data logs, and the specific data contained in historical data.

System Functions and Scripts: This section describes all system functions that InoTouchPad supports, scripting principles, and how to call functions in scripts.

Project Language: This section describes how to set up languages in HMI projects.

HMI Settings: This section describes the hotkeys, scheduler, project version, and project settings in InoTouchPad.

Reporting: This section guides users with reporting features through examples.

Major Functions and Applications: This section introduces the key functions in InoTouchPad, including drag and drop, table operation, import and export, printing and SCADA applications.

Data Service: This section describes the use of MQTT data service.

#### **Intended Readers**

This guide is intended for operators and configuration engineers who use InoTouchPad to communicate, configure, commissioning, install and service IT7000 series products.

#### **Revision History**

Date	Version	Description		
2021-08	A01	Minor corrections.		
2021-06	A00	First issue.		

#### Access to the Guide

This guide is not shipped with the product. If you need to obtain the electronic PDF file, you can obtain it in the following ways:

Visit <u>www.inovance.com</u>, go to Services and Support→Download.

# **Table of Contents**

Pr	Preface1						
1	Ove	Dverview					
	1.1	Introduction13					
	1.2	Installation and Uninstallation					
		1.2.1 Installing InoTouchPad13					
		1.2.2 Installing USB Driver Manually16					
		1.2.3 Uninstalling InoTouchPad					
	1.3	Connection of Host Controller and HMI21					
2	Qui	ck Start					
	2.1	User Interface					
	2.2	Project Configuration					
		2.2.1 Overview					
		2.2.2 Creating a Project					
		2.2.3 Establishing a Connection					
		2.2.4 Creating a Tag					
		2.2.5 Configuring a Screen					
	2.3	Downloading a Project					
	2.4	Simulation and Run of a Project					
3	Pro	ject Management					
	3.1	Compiling a Project					
	3.2	Uploading and Downloading a Project35					
		3.2.1 Download					
		3.2.2 Upload					
	3.3	Project Simulation					
		3.3.1 Off-line Simulation					
		3.3.2 On-line Simulation					
	3.4	Pass-through41					
		3.4.1 Application					
		3.4.2 Steps					
	3.5	Packaging Project Files					
		3.5.1 Packaging a Project					
		3.5.2 Packaging Firmware					
		3.5.3 Packaging HMIRuntime					

	3.6	HMI Firmware Update4					
	3.7	Font Setting					
	3.8	Notes for the Use of Peripherals					
	3.9	HMI Common Errors					
4	Con	munication					
	4.1	Introduction					
	1.1	4.1.1 Basic information					
		4.1.2 Communication Principle					
		4.1.3 Communication Tag					
		4.1.4 Protocol					
	4.2	Basic Setting					
		4.2.1 Connection Configuration					
		4.2.2 Connection Editor					
		4.2.3 Connection Parameter54					
		4.2.4 HMI as a Master					
		4.2.5 HMI as a Slave					
	4.3	Supported protocol					
		4.3.1 Supported Protocols					
		4.3.2 OPC UA					
5	Tag						
	5.1	Introduction61					
		5.1.1 Number of Tags					
		5.1.2 External Tag					
		5.1.3 Internal Tag61					
		5.1.4 System Tag					
	5.2	Basic Setting					
		5.2.1 Configuring a Tag64					
		5.2.2 Tag Editor					
		5.2.3 Properties View of the Tag					
		5.2.4 Label Tag					
	5.3	Usage					
		5.3.1 Using Tags in Communication					
		5.3.2 Changing Tag Configuration					
		5.3.3 Limit Value					
		5.3.4 Initial Value of a Tag					
		5.3.5 Updating Tag Values at Run Time71					

		5.3.6	Data Record
		5.3.7	Linear Scaling of Tags72
		5.3.8	Array Tag
		5.3.9	Using Tags73
		5.3.10	Associating an Index Tag
	5.4	Impo	rting and Exporting Tags75
		5.4.1	Overview
		5.4.2	Exporting Tags75
		5.4.3	Importing Tags
		5.4.4	Tag Data File Format
		5.4.5	Tag Reference Lookup   79
6	Crea	ating	a Popup Screen
	6.1	Intro	duction
		6.1.1	Overview
		6.1.2	Screen Association
		6.1.3	Screen Editor
		6.1.4	Using Templates and Popup Screens
	6.2	Using	g Screen Objects
		6.2.1	Overview
		6.2.2	Editing Operations for Screen Objects
		6.2.3	External Graphics
		6.2.4	Favorites
7	Con	trols.	
	7.1	Simp	le controls
		7.1.1	Line
		7.1.2	Polyline
		7.1.3	Polygon
		7.1.4	Ellipse
		7.1.5	Rectangle
		7.1.6	Bezier
		7.1.7	Table
		7.1.8	Text Field
		7.1.9	Bit Indicator
		7.1.10	Bit Button
		7.1.11	Word Button
		7.1.12	Word Button
		7.1.13	Simple Graphics View

	7.1.14	Graphics View	119
	7.1.15	Number IO field	121
	7.1.16	String IO field	123
	7.1.17	Date-Time Field	125
	7.1.18	Graphic IO Field	127
	7.1.19	Symbolic IO Field	128
	7.1.20	Button	130
	7.1.21	Text Switch	132
	7.1.22	Graphic Switch	133
	7.1.23	Timer	134
	7.1.24	GIF Display View	136
7.2	Enhai	nced controls	.37
	7.2.1	Bar	137
	7.2.2	Slider	138
	7.2.3	Progress Bar	140
	7.2.4	Round Progress Bar	141
	7.2.5	Knob	142
	7.2.6	Gage	143
	7.2.7	Meter	145
	7.2.8	3D-Pie	146
	7.2.9	QR Code	147
	7.2.10	Bar Code	148
	7.2.11	Canvas	149
	7.2.12	Flow Block	150
	7.2.13	Alarm Bar	151
	7.2.14	User View	153
	7.2.15	Trend View	154
	7.2.16	XY Curve	160
	7.2.17	Alarm View	162
	7.2.18	Recipe view	165
	7.2.19	Data View	174
	7.2.20	Report View	180
	7.2.21	Picture-in-picture View	183
	7.2.22	OperationRecord View	185
	7.2.23	File Browser View	187
7.3	Plug-	ins1	.88
7.4	Anima	ation and Event Properties	.89
		Animation	

		7.4.2	Event
8	Use	r Man	agement
	8.1	Over	<i>v</i> iew
	8.2	Desci	ription
	8.3	Basic	Setting
		8.3.1	Group Management
		8.3.2	User Management
	8.4	Appli	cation of User View in User Management 209
		8.4.1	Creating a User View
		8.4.2	Configuring System Function for User Login and Logout
		8.4.3	Using User View in HMI
	8.5	Appli	cation
9	Alar	m Sys	stem
	9.1	Over	<i>r</i> iew
			Visualization of Process and System Alarm
		9.1.2	User-defined Alarm
		9.1.3	System alarm
		9.1.4	Displaying Alarm
	9.2	Prop	erties and Basic Settings
		9.2.1	Alarm Properties
		9.2.2	Alarm Configuration Editor
		9.2.3	Analog Alarm Editor
		9.2.4	Discrete Alarm Editor
		9.2.5	System Alarm Editor
		9.2.6	Alarm Classes Editor
		9.2.7	Alarm Group Editor
	9.3	Alarn	ns log
		9.3.1	Description
		9.3.2	Contents of Alarm Record
		9.3.3	Alarm Log Editor
		9.3.4	Basic Settings of Alarm Log
	9.4	Using	g Alarms
		9.4.1	Creating an Analog Alarm
		9.4.2	Creating a Discrete Alarm
		9.4.3	Using Alarm Record230
		9.4.4	Displaying Alarm

10 Recipe	
10.1 Over	rview
10.1.1	Description
10.1.2	Display of Recipe
10.1.3	System Functions for Editing Recipes234
10.2 Prop	perties and Basic Settings
10.2.1	Recipe Editor
10.2.2	Recipe Property
10.2.3	Recipe Data Record237
10.3 View	ving and Editing Recipe at Run Time 237
10.3.1	Recipe view
10.3.2	View and Edit Recipes in Recipe View237
10.3.3	Viewing and Editing Recipe Data Records at Run Time
10.4 Usin	g Recipes
10.4.1	Importing and Exporting Recipe Data Records241
10.4.2	Applications of the Recipe241
11 Historica	al Data
11.1 Over	rview
11.2 Data	a log
	Data Log Editor
11.2.2	
11.2.3	Logging Tag Values
11.2.4	Outputing Logged Data247
11.3 Alarr	m Record
12 System F	Functions and Scripts
-	rview
	of System Functions
	-
12.3 Func	ction Types
12.3.1	
12.3.2	Bit Operations
12.3.3	
12.3.4	User Management
12.3.6	Date and Time in HMI
12.3.7	Settings
12.3.8	-

12.3.9 Printing	257
12.3.10 Alarm	258
12.3.11 Log	258
12.3.12 Recipe	
12.3.13 Operations on Screen Objects	
12.3.14 Free Protocol	
12.3.15 Timer	
12.3.16 Data Operation	
12.3.17 Reading and Writing an Array	
12.4 Using Function list	265
12.4.1 Description	
12.4.2 Properties of Function List	
12.5 Use of Scripts	266
12.6 Script Editor	266
12.6.1 Overview	
12.6.2 Features	
12.7 Syntax	260
12.7 Syntax	
12.7.2 Literal	
12.7.3 Variable	
12.7.4 Operators	
12.7.5 JavaScript Statement Separation	
12.7.6 JavaScript Keywords	
12.7.7 Comments	
12.7.8 Data Types	
12.7.9 Function	
12.7.10 Scope of Variables	
12.7.11 Conditional Statements	
12.7.12 Loop Statement	
12.7.13 Break and Continue Statements	
12.7.14 Letter Case	
12.7.15 JavaScript Character Set	
12.8 Creating a Script	278
12.8.1 Access to Tags	
12.8.2 Calling System Functions in a Script	
12.8.3 Example of Dynamic Drawing	
12.8.4 Assigning Values to Array with Script	

13	Multi-ling	gual Project	
	13.1 Desc	ription	287
	13.2 Proje	ect Language	288
	13.3 Lang	uage and Font Setting	289
	13.4 Inter	nationalization	292
	13.4.1	Overview	
	13.4.2	Filter	
	13.4.3	Importing and Exporting Internationalization Text	
	13.4.4	Internationalization of a Project	
	13.4.5	Translation Service	
14	HMI setti	ngs	
-	14.1 Hotk	eys	307
	14.1.1	Shortcut Keys	
	14.1.2	Hotkey Editor	
	14.1.3	Hotkey	
-	14.2 Sche	duler	310
	14.2.1	Scheduler Editor	
	14.2.2	Event	
	14.2.3	Job	
	-	ect Version	
	14.3.1	Project Version Editor	
	14.3.2	Using Project Version Management	
	14.4 Proje	ect Settings	316
-	14.5 Insta	llment Payment	321
	14.5.1	Basic information	
	14.5.2	Overview	
15	Report		
	15.1 Basic	information	329
	15.2 Creat	ting a Report	329
	15.3 Prop	erties and Basic Settings	329
	15.3.1	Report Properties	
	15.3.2	Property Settings of Report Cells	
	15.3.3	Property Settings of Report History Cells	
	15.4 Com	mon Operations of the Report	
	15.5 Exam	ıples	347

	15.6	Featu	ures of the Runtime	353
16	Ту	pical F	unctions	355
	16.1	Drag	and Drop	355
		16.1.1	Screen Drag-and-drop	355
		16.1.2	Dragging and Dropping a Tag	357
		16.1.3	Dragging and Dropping Recipes	358
		16.1.4	Dragging and Dropping the Report	361
		16.1.5	Dragging a Control	363
		16.1.6	Dragging an Image	364
		16.1.7	Dragging-and-dropping Historical Data	365
		16.1.8	Dragging and Dropping the Status List	367
	16.2	Table	e operations	369
		16.2.1	Add	369
		16.2.2	Delete	370
		16.2.3	Hiding a Column	370
		16.2.4	Sorting a Column	371
		16.2.5	Column Width Adjustment	371
	16.3	Impo	ort and Export	372
		16.3.1	Import and Export Rules	372
		16.3.2	Importing and Exporting Tags	378
		16.3.3	Importing and Exporting Alarms	382
		16.3.4	Importing and Exporting the Recipe	385
		16.3.5	Importing and Exporting Text List	386
		16.3.6	Importing and Exporting Translation Text	389
		16.3.7	Exporting Data Logs	391
		16.3.8	Exporting Alarm Logs	392
		16.3.9	Exporting Operating Log	393
		16.3.10	Exporting the Log	394
		16.3.11	Importing and Exporting the Recipe	394
		16.3.12	Exporting Local Screenshots	396
		16.3.13		
		16.3.14	Important Notes about Import and Export of Chinese Characters	397
	16.4	Print	ing	399
		16.4.1	InoTouch Spooler	399
			16.4.1.1 Printable Items	399
			16.4.1.2 Requirements on the Printer	399
			16.4.1.3 Printing Format	399
			16.4.1.4 Report Printing	

			16.4.1.5	Image Printing		••••	 •••••	
			16.4.1.6	Messages		•••••	 	
	-	16.4.2	HMI Scr	een Printing		•••••	 	
			16.4.2.1	Printing Mode		•••••	 	
			16.4.2.2	Configuration of the	Printer	•••••	 	
			16.4.2.3	Print Function		•••••	 	
	16.5	Setti	ng and A	pplication of SCADA	۹	•••••	 •••••	413
	16.6	Colo	r Picker.			•••••	 •••••	415
	16.7	VNC	Tool			•••••	 •••••	416
	16.8	Glob	al Style.			•••••	 •••••	418
	16.9	Soft	Keypad.			•••••	 •••••	418
	16.10	ΗМ	l Contro	Panel		•••••	 •••••	419
	16.11	Sta	tus List .				 	
	-	16.11.1	L Overvi	ew			 	
		16.11.2	2 Text Li	st		•••••	 	
	-	16.11.3	8 Graphi	c List		•••••	 	
17	Dat	a Ser	vice			•••••	 •••••	
	17.1	MQT	Т			•••••	 •••••	423
	-	17.1.1	MQTT S	erver			 	
	-	17.1.2	Publish	ng MQTT Topics		•••••	 	
		17.1.3	MQTT T	opic Subscription		•••••	 	
	:	17.1.4	Topic W	ildcards		•••••	 	

# 1 Overview

# 1.1 Introduction

InoTouchPad is a configuration screen development system for Inovance InoTouch series HMIs. It features an integrated development environment and rich and powerful functions.

This software is suitable for Inovance IT 7000 series HMI products, and can also runs independently on a PC as the software for a small SCADA.

#### Software

InoTouchPad is a programming tool developed by Inovance. For the latest version, contact your HMI supplier or download it from our website (<u>http://www.inovance.com</u>).

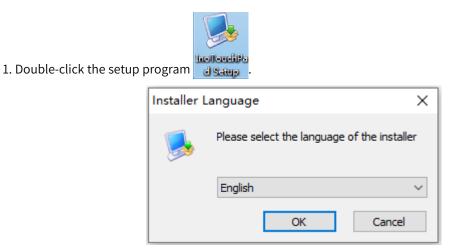
### **Requirements on Computer Specifications**

CPU: Intel or AMD, 2 GHz or faster Memory: 1 GB or above Hard disk: at least 1 GB free space Display: color display with resolution of 1024 x 768 or above Communication port: Ethernet port or USB port Operating system: Windows 7 or Windows 10

# **1.2** Installation and Uninstallation

# 1.2.1 Installing InoTouchPad

The steps to install the InoTouchPad software are as follows:



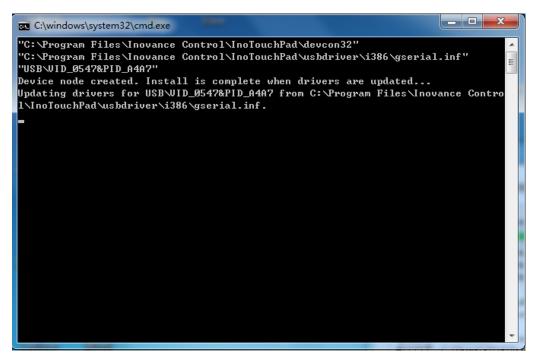
2. Select the installation language and click OK. Click Next in the pop-up window.



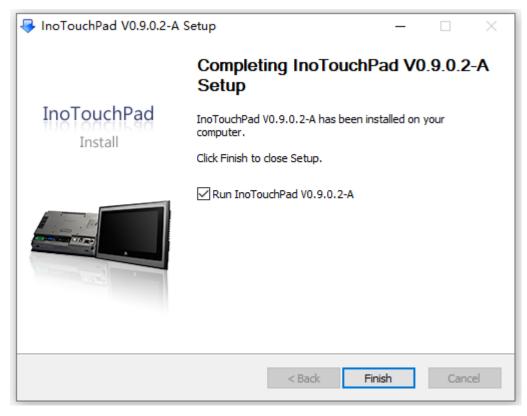
3. Select the installation path. Click Install to start the installation.

InoTouchPad V0.9.0.2-A Setup	_		×
Choose Install Location			
Choose the folder in which to install InoTouchPad V0.9.0.2-A.			
Setup will install InoTouchPad V0.9.0.2-A in the following folder. To inst folder, click Browse and select another folder. Click Install to start the in	all in a d Istallatio	lifferent on.	
Destination Folder D:InoTouchPad\	Bro	wse	
Space required: 225.0MB			
< Back Inst	all	Car	ncel

4. During installation, the USB driver is also installed.



5. The installation takes about one minute, and then the following window will pop up. If you want to run InoTouchPad immediately after the installation is completed, check Run InoTouchPad1.0.0 (R), and then click the Finish button to complete the installation and start the software; If you do not check the option, you will exit the installation wizard.



#### Note

If the USB driver cannot be installed automatically during software installation, you can install it manually.

# 1.2.2 Installing USB Driver Manually

~

1. Find the USB device first.

- For Windows 7, go to Control Panel→Administrative Tools→Computer Management→Device Manager→Other devices;
- For Windows 10, go to Control Panel→Administrative Tools→Device Manager→USB controllers;

₫	wxł	n-10004487
>	4	Audio inputs and outputs
>	\$	Batteries
>	翕	Biometric devices
>	٢	Cameras
>	-	Computer
>	-	Disk drives
>	-	Display adaptors
>	$\square$	Firmware
>	AN	Human Interface Devices
~		Inovance Control
		🔙 H5U USB Device
>		Keyboards
>		Memory technology devices
>	U	Mice and other pointing devices
>	_	Monitors
>	4	Multifunction adapters
>	-	Network adapters
~	Ŵ	Ports (COM & LPT)
		Inovance Serial Port (COM10)
		Inovance Serial Port (COM11)
		Inovance Serial Port (COM4)
		Inovance Serial Port (COM7)
>		Print queues

2. Right-click the device and select "Update Driver Software".

👻 🌆 Inovance Contro	1
🔙 H5U USB De	Update driver
> 🧱 Keyboards	opdate driver
> 🔝 Memory techno	Disable device
> 🕕 Mice and other	Uninstall device
> 📃 Monitors 🛛 🛛	
> 🗓 Multifunction a	Scan for hardware changes
> 🖵 Network adapte	Properties
	Properties
🗸 🛱 Ports (COM & LP	•
V 📮 Ports (COM & LP	•
✓ ♥ Ports (COM & LP ♥ Inovance Series	·
<ul> <li>Ports (COM &amp; LP</li> <li>Inovance Series</li> <li>Inovance Series</li> </ul>	ial Port (COM10)

- 3. Select "Browse my computer for driver software", set the search location to the InoTouchPad software installation path, and check "Include subfolders", as shown in the following figure:
  - ← 📔 Update Drivers H5U USB Device

How do you want to search for drivers?

→ Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.

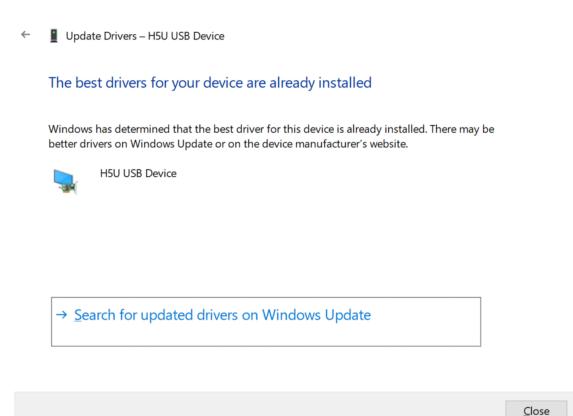
→ Browse my computer for driver software Locate and install driver software manually.

Cancel

÷	Update Drivers – H5U USB Device		
	Browse for drivers on your computer		
	Search for drivers in this location:		
	E:\AutoShop V4.4.1.0 Setup\AutoShop\usb	Browse	
	⊡ Include subfolders		
	→ Let me pick from a list of available drivers on my compu This list will show available drivers compatible with the device, and all driv category as the device.		
		Next	Cancel
4. Clicl	Next and select "Install this driver software anyway".		



5. After the driver is installed, the following window appears. Click Close to finish the installation.



### 1.2.3 Uninstalling InoTouchPad

You can uninstall InoTouchPad in Programs and Features or with the uninstaller in the InoTouchPad software installation directory.

#### With Programs and Features

Go to Control Panel->Programs and Features, find InoTouchPad in the list, right-click and select Uninstall/Change, and confirm to completely remove all its components.

#### Uninstall or change a program

To uninstall a program, select it from the list and then click Uninstall, Change, or Repair.

Organize 🔻 Uninstall/Change				
Name	Publisher	Installed On	Size	Version
💩 Adobe Creative Cloud	Adobe Systems Incorporated	2021/6/15	240 MB	3.9.0.327
🚺 Adobe Genuine Service	Adobe	2021/6/25		
Al Adobe Illustrator CC 2017	Adobe Systems Incorporated	2021/6/15	1.10 GB	21.0.0
Adobe InDesign CC 2018	Adobe Systems Incorporated	2021/6/15	1.47 GB	13.0
🖻 Adobe Photoshop CS6	Adobe Systems Incorporated	2021/6/17	2.88 GB	13.0
🔣 Autodesk Featured Apps	Autodesk	2021/7/15	1.47 MB	1.1.0
Autodesk Material Library Base Resolution Image Libr	Autodesk	2021/7/15	72.0 MB	4.0.19.0
PA CNC Install Bundle Dry	Inovance Technology Europe G	2021/11/5	1.01 GB	4.6.4.3
COSIMA go! RichClient (x64) 6.1.6.5	DOCUFY GmbH	2021/11/4	408 MB	6.1.6.5
🗲 EasyConnect	Sangfor Technologies Co., Ltd	2021/6/11		7,1,0,206
FARO LS 1.1.501.0 (64bit)	FARO Scanner Production	2021/7/15	47.7 MB	5.1.0.30630
📀 Google Chrome	Google LLC	2021/12/9		96.0.4664.93
📧 HyperSnap-DX 5	Hyperionics Technology LLC	2021/7/5		5
InoTouchPad V0.9.0.2-A	ntrol	2021/12/6		0.9.0.2-A
Management Engine Co Uninstall/Change	ition	2020/10/14	18.0 MB	11.5.0.1020
iWebOfficeMsi2009	Microsoft	2020/10/13	10.6 MB	1.0.0
🕌 Java 7 Update 80	Oracle	2020/10/13	120 MB	7.0.800
🕌 Java 7 Update 80 (64-bit)	Oracle	2020/10/13	118 MB	7.0.800
🛑 Lotus Notes 7.0.1 zh-CN	IBM	2020/10/13	353 MB	7.01.6029
🔰 McAfee Agent	McAfee, Inc.	2020/10/14	44.8 MB	5.5.1.342
🔰 McAfee DLP Endpoint	McAfee, LLC.	2020/10/14	523 MB	11.4.0.452
💽 Microsoft Edge	Microsoft Corporation	2021/12/13		96.0.1054.53
🚺 Microsoft Office 专业增强版 2016	Microsoft Corporation	2021/4/22		16.0.4266.1001
🚺 Microsoft Visio Standard 2013	Microsoft Corporation	2021/6/23		15.0.4569.1506
Microsoft Visual C++ 2005 Redistributable	Microsoft Corporation	2021/6/15	4.84 MB	8.0.61001
Microsoft Visual C++ 2005 Redistributable (x64)	Microsoft Corporation	2021/6/15	7.00 MB	8.0.56336
Microsoft Visual C++ 2005 Redistributable (x64)	Microsoft Corporation	2021/6/15	6.83 MB	8.0.61000
Microsoft Visual C++ 2008 Redistributable - x64 9.0.3	Microsoft Corporation	2020/10/13	13.2 MB	9.0.30729
Microsoft Visual C++ 2008 Redistributable - x64 9.0.3	Microsoft Corporation	2021/7/15	12.3 MB	9.0.30729.4148
Microsoft Visual C++ 2008 Redistributable - x64 9.0.3	Microsoft Corporation	2021/6/15	13.2 MB	9.0.30729.6161

InoTouchPad V0.9.0.2-A Uninstall

 $\times$ 

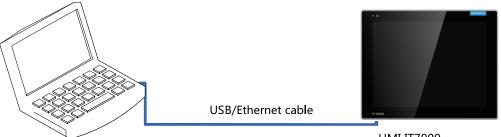


### With the uninstaller

Double-click the uninstaller 🔞 uninst.exe in the installation directory to uninstall InoTouchPad.

# 1.3 Connection of Host Controller and HMI

A PC installed with InoTouchPad is connected with IT7000 through a USB/Ethernet cable. After a project is finished in InoTouchPad, it can be downloaded to IT7000 for commissioning.



PC with InoTouchPad installed

HMI IT7000

# 2 Quick Start

# 2.1 User Interface

When you run the InoTouchPad software for the first time, the Create New Project dialog box will pop up. You can create a new project or open a project or open an Example Project to enter the main interface of InoTouchPad.

InoTouchPad				_		×
Project Edit Compiler View Options Help Tool						
Projects						
	_					
🖹 Example 🚺 Open Project						
Recent Projects :	Clear					
🚾 Create Project			? ×			
	ė- c	levice type	Settings			
		- IT7070S(800x480)	Rotate0*			
* *		IT7070T(800×480)	Rotate0*			
		- IT7070E(800×480)	Rotate0*			
		TTP60E(800x480)	Rotate0*			
		IT7100S(1024x600)	Rotate0*			
		IT7100E(1024×600)	Rotate0*			
		TT7150E(1024x768)	Rotate0*			
		AP70X(1024x768)	Rotate0*			
		IT7PC(800x600)	800×600			
	HERMORE					
Project name						
Location C:/Users/Adr	ninistrator/Documents/InoTouchPad/Projects					
Show this Dialog on Star	tup	Recent 🚽 OK	Cancel			
		•				
			cpu: 0% mem:90876 KB	10004950	V0.9.0.2	2-A /

The user interface includes: menu bar, toolbar, Project tree view, Detailed view, screen editor, right sidebar, Properties view and Output view, as shown in the following figure:

sample	0.28.hmiproj-IT7070E(800x480	)-Inovance Control	-		>	<
Project Ec	lit Compiler Format View	Options Help Tool			2	
+ 🗆 💌		🗵 🔾 🛗 💽 💽 🛓 🖞 🖓 😤 📥 📥 en_US 🔹 😹 🏥 😳 📿 100% 🔹 Status 0	: 6.		»	×
Project	₹¥ Į	00001:Screen_1 ×	izols		۵×	
	Screens(5/256)	0,     190,     200,	R 2 🔳 🖿			<u>_</u>
	T Add Screen	┓	imple Controls			Tools
Details View	00001:Screen 1					
ails	00002:Screen 2	(2)	<ul> <li>Ellipse</li> </ul>	•	- 1	
Det	-	117000 🙂	🔲 Rectangle	7		
	00003:Screen_3		🗂 Bezier			
	00005:All Screen		Table			
÷-[	Embed Screens (4)	]/				
·••	Popup Screens		A Text Field			
÷-8	Templates(0/64)	creen_1(screen) a X	Bit Indicator			
	Communication	General	🔛 Bit Button			
<u></u>	Tata Carriero	Properties     Settings     Events	E Word Indicate	or		
Details V	fiew 6 a x	Number 1	inhanced Controls	51		
≁ Id	Name Info 🝸	Background color	Custom Controls			
8	Text Fiel TextField	Fort Arial 16nv	Graphics			
	\	Page switching None	avorites			
Øutput					$\leq$	
					- 1	
	Category	Description	Tim	e		
Info Info		Parsing Screen!	11:11:34 11:11:34			
Info		Parsing Resources! Deploy Device:CommunicationDeviceFactory.Inovance. <internal tag=""></internal>	11:11:34			
Info		Optimize images size	11:11:34			
Info		the total size of compiled files is 1501 KB	11:11:34			
Info		Compiling finished!	11:11:34			
Info		### Compiling results: 0 error(s), 0 warning(s).	11:11:34			
Output	Properties				_	

x: 251 y: 1 cpu: 0% mem:114796 KB 10004950 V0.9.0.4-R

### Table 2–1 Layout

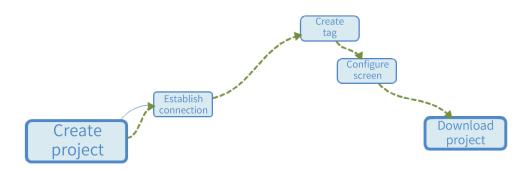
Area		Description	Description
(1)	Menu bar	The framework only provides 5 menus including Edit, View, Options and Help Other menus belong to functional modules	Menus
(2)	Toolbar	The framework only provides three toolbars: Project, edit and compiler Other toolbars belong to functional modules	Buttons for main operations
(3)	Screen editor	Pages Page-specific properties window	You can open up to 20 tab pages
(4)	Project tree view	The tree view includes Screens, Communication, Alarm Management, Recipes, Scripts, and Historical Data	N/A
(5)	Object box	During screen configuration, you can drag an item from Screens, Tags, Recipes, Text Lists and Graphics Lists to the screen to generate a control	Only for Screens, Tags, Recipes, Text Lists, Graphics Lists and Reports
(6)	Details view	If you select a screen item in the Project view, all configured control objects will be listed in the Details view (if there is an object group in the screen, you can select any control in the group in the Details view, and then edit the properties of the control separately in the Properties view). If you select a tag group item, all the tags in the group are listed in the view where you can drag and drop the tags onto the screen	N/A

Area		Description	Description
		For Screens: control list	
(7)	Right sidebar	For Scripts: function list wizard and code template wizard	N/A
		For Communication: protocol list	
	Output view	Displays compiling information	
(8)		Displays operation information of function modules	N/A
		Displays status information	

# 2.2 Project Configuration

### 2.2.1 Overview

Typical configuration process:



The following is a brief description of the typical operation steps to configure a project in InoTouchPad.

# 2.2.2 Creating a Project

Follow these steps to create a HMI configuration project:



1. Double-click the InoTouchPad software icon **InoTouch** on the desktop to open the software, and click New Project, and the following dialog box will pop up:

-					
InoTouchPad				- 0	×
Project Edit Compiler View Options					
	<u>N Q</u>				
Example		vice type 11770705(800x480) 1177070T(800x480)	? × Settings Rotate0* Rotate0*		
		IT7070E(800x480) IT7F00E(800x480) IT7100S(1024x600) IT7100E(1024x600) IT7150E(1024x768) AP70X(1024x768) IT7PC(800x600)	Rotate0* Rotate0* Rotate0* Rotate0* Rotate0* 800x600		
	Project name				
	Location C:/Users/Administrator/Documents/InoTouchPad/Projects				
	Show this Dialog on Startup	Recent 🚽 OK	Cancel		
			cpu: 0% mem:90876 KE	10004950 100.9.	0.2-A

2. Select the desired touch screen equipment (IT7070E is selected in this example), then enter "Indicator Light" as the project name and select the saving location of the project, and click OK to create the project.

# 2.2.3 Establishing a Connection

Connection refers to the communication mode between the host controller software and the target device, and the specific creation steps are as follows:

1. Double-click or right-click Connection in the Communication tree of the project window to open the connection editor.

Project	₽×
🖻 🖾 Screens(1/256)	
🕂 🕂 Add Screen	
🖾 00001:Screen_1	
🕀 🔳 Embed Screens	
🕀 🖃 Popup Screens	
⊞- 🟥 Templates(0/64)	
🖃 🌐 Communication	
- 😴 Connections	
– 😅 Cycles	
⊕ 📲 Tags(3/128)	
🗉 🍙 Data Service	
🕀 🗛 Alarm Management	
⊕ <u> </u>	
🕂 🛗 Historical Data	
⊕	
⊕- 🧾 Reports(0/100)	
🕀 📄 Status Lists	
🕀 🙆 Runtime User Administration	
🗈 🚸 Resource	
🕀 🧔 HMI Settings	
1	

2. Select the physical port type of communication, then configure the connection, and click the + button at the top of the connection table to add a new connection. (Click — to delete the selected connection.)

200001:Screen_1 × Connections ×											
(		Đ,	Name		Number 🝷	Communication protoco	ol	Online	9	Display mode	Comment
		1	Connection_1	1		H3U Monitor Protocol		<b>~</b>		Decimal	
$\odot$	Name	•	Number 🝷		Communication protocol		On	Online Di		play mode	Comment
1	Connection_1	1		H3U	Monitor Pi	rotocol	V	]	Dec	imal	

According to the specific communication mode, you can select the corresponding protocol in Communication Protocol. See Supported Protocols for details.

3. In the parameter window, you can set the corresponding parameters of the selected communication protocol, establish a connection, and select the default parameter settings in Parameter Settings, as shown in the following figure:

roject Edit Compiler View Options H			t Ion US	*					
🗄 🗇 🖾 🔛 📥 🥌 🤲 🗶 🖻 🛍 🗰 🕊 Project	× 🖾 00001:Screen_1								
- Screens(1/256)	Image: Construction of the construction of		unnections >						
- Add Screen		_	Name	<ul> <li>Numbe</li> </ul>	r •	Communication protoco	ol Onlin	e Display mode	Commen
- 20001:Screen_1	*****	1	Connection_1	1	H3U Mo	initor Protocol		Decimal	
Embed Screens	COM1								
Popup Screens									
E III Templates(0/64)	0.000								
Generation	COM2								
- S Connections									
-	0.000								
- 🛱 Cycles	COM3								
	_								
⊕ Data Service									
Alarm Management	Ethernet								
	Eulemet								
🕀 🔝 Historical Data	Blockaddress device								
IE-  Scripts(0/400)	stationNum 1		\$	timeout	200 ms	\$			
⊪- 📃 Reports(0/100)	interval 5		\$	commDelay	0 ms	*			
🗉 📄 Status Lists	readCount 32		÷ re:	sponseDelay	0 ms	*			
⊕ ⑧ Runtime User Administration	writeCount 32		÷ r	esendCounts	3	\$			
E 🔶 Resource									
- 😨 HMI Settings									

### Note

During Ethernet communication, the HMI and PLC must be in the same LAN.

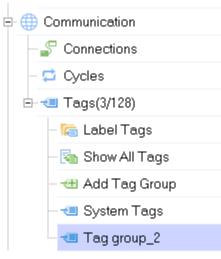
### 2.2.4 Creating a Tag

External tags created in an HMI project can be transmitted to PLC, which is convenient for data exchange between them. In the tag module, tags include internal tags, system tags and external tags. The steps of creating a tag are as follows:

1. In the project view, go to Communication $\rightarrow$ Tags.



2. In the Tags tree, there is already a Tag Group\_2, and you can also add more tag groups as needed. Double-click a variable group to open the tag editor.



3. Click the "+" button in the workspace of the tag editor to create a tag.

⊕.	Name 🔻	🔺 Number 🔻	Connection Id	Data type	Length	Array count	Address 🔹	Acquisition cycle Id	Acquisition mode	Data log Id	Logging cycle Id
1	D 0	1	Connection_1	Int16	2	1	D 0	1s	Cyclic on use	<undefined></undefined>	1s

You can right-click the header to show hidden fields.

4. In the properties view, you can set other properties of the tag as needed.

+,	Name	•	Number	•	Connection Id	Data type	Length	Array count	Address •	Acquisition cycle Id	Acquisition mode	Data log Id	Logging cycle Id
1	DO	1			Connection_1	Int16	2	1	D 0	1s	Cyclic on use	<undefined></undefined>	1s
0 (Tags)													đ
Genera													
	ties				General			Sett	ings				न Genera
Genera Proper	ties					me D 0			ings ay count 1	×			
Proper	ties				Na	me_D0 ion Connection_	1	Arra	-	*			
Genera Proper	ties				Na Connect		_1	Arra	ay count 1	* *			
Genera Proper	ties				Na Connect Data ty	ion Connection_	-	- Arra	ay count 1 Length 2	* *			

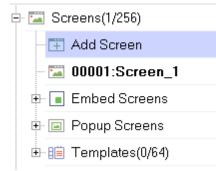
5. Repeat the above steps to configure other tags or tag groups.

### 2.2.5 Configuring a Screen

The screen is the main element of an HMI project. It enables the interaction between the HMI and the users.

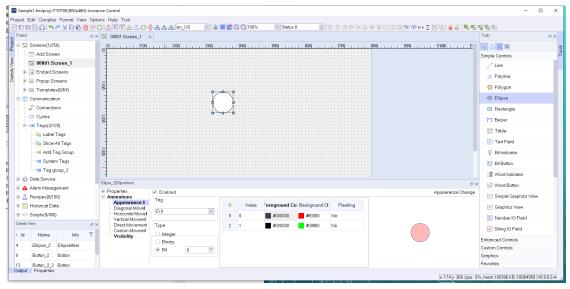
See the previous sections to configure communication connections and related tags, and then create controls on the screen (indicator lights and control buttons) in the following steps:

1. Open the project and enter the default screen (Screen\_1), or open Screen\_1 from the Project tree view:



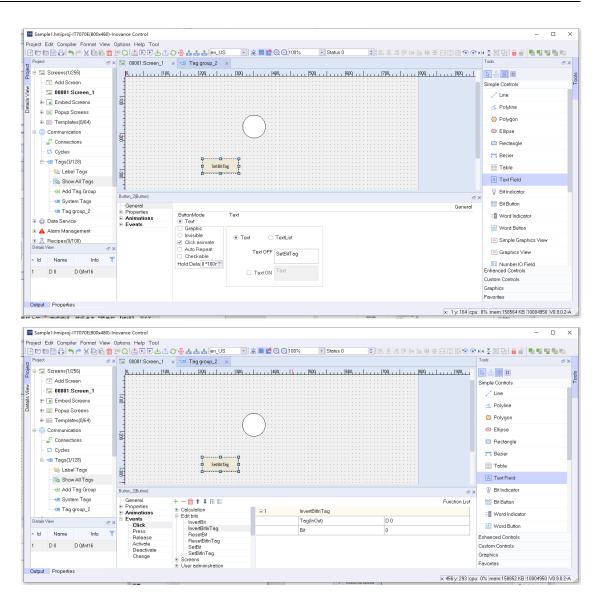
2. Expand Simple Controls and drag and drop Ellipse in the Tools window onto the screen. Under its Animations property, click Appearance Change and check Enabled.

As shown in the following figure, set the tag to D0, and the type to Bit. Click the "+" button in the table to add two bit numbers. Set the background color of bit 0 row to #ff0000, and that of the bit 1 row to #00ff00. (The background colors correspond to different states of the indicator light, which is easy to distinguish. You can set the colors as needed.)



3. Drag and drop a button control onto the screen to control the flashing of the indicator.

- To set the button function to Set, in General property setting of the button, enter "Set" as the Text OFF text. Then select the button trigger mode in Events and associate the system function SetBitInTag with the button event;
- To set the button function to Reset, in General property setting of the button, enter "Reset" as the Text OFF text. Then select the button trigger mode in Events and associate the system function ResetBitInTag with the button event;
- The button is associated with the same tag D0 as the ellipse.



# 2.3 Downloading a Project

After creating the project, click Compiler $\rightarrow$ Compiler on the menu bar or  $\textcircled{1}{100}$  on the toolbar to compile the project, and then click Compile $\rightarrow$ Download or  $\textcircled{100}{100}$  on the toolbar or press F7 to download the project to the HMI.

You can download the project through Ethernet and USB. (Note: The project size cannot exceed 30 M).

ject Ec	dit Compiler Format Vie	w Options	Help Tool							
17 🕅	📔 📩 Compiler	F5	h 🖳 🕞 🕁 🗘 📿	😽 击 击 en_US	- 😹 🏙 🔝 🕣	🔍 100% 🔹 Status (	) 🔹 🕹 🕹 🗇 🕩	山田王田田田	₫ 🖲 😪 🕨 🛬 🛄 🔒	
Project	🖳 Start Runtime	Ctrl+R	00001:Screen_1	×					Tools	e
- 🖂 S	Scr 💽 Start Online Runtin				300	00		1800 1 . 🗖	- 	
	Download	F7							Simple Controls	
- 14	Di Opidad Vo	F10								
	Opdate innivate	Ctrl+U							🦯 Line	
÷ [									< Polyline	
÷ 🖬	1.0.14								Polygon	
÷-80	Pack putting				$\sim$					
• 🌐 C	Con Track running	-			····( )::				<ul> <li>Ellipse</li> </ul>	
	Connections	-							Rectangle	
- 6	3 Cycles	2			$\smile$				T Bezier	
ė	Tags(3/128)									
	- 🔚 Label Tags								Table Table	
	how All Tags				· · · · · · · · · · · · · · · · · · ·	фф			A Text Field	
	- 🖽 Add Tag Group			SetBit	Tag	ResetBitTag			Bit Indicator	
	- System Tags				····	<u>0</u> 00				
	, ,								🔛 Bit Button	
	📹 Tag group_2								3 Word Indicator	
_	)ata Service								123 Word Button	
- 🔺 A	Alarm Management									
P 📕 P	Recipes(0/100)		ton_2_2(Button)					e>	<ul> <li>Simple Graphics Vi</li> </ul>	ew
- 🔤 H	listorical Data		General Properties	十一前11階目				Function List	Graphics View	
-  s	Scripts(0/400)	÷.	Animations	Calculation     Edit bits	E 1	InvertBitInTag			01 Number IO Field	
etails Vie	эм	a x 🖹	Events Click	InvertBit		Tag(InOut)	DO		UI Number 10 Field	
ld	Name Info	T	- Press	- InvertBitInTag		Bit	0		String IO Field	
			Release	ResetBit ResetBitInTag					Enhanced Controls	
	D 0 D 0/Int16		- Activate - Deactivate	SetBit					Custom Controls	
			Change	SetBitInTag					Graphics	
				User administration					Favorites	

During downloading, if the user has set the download password, you must first enter the correct password.

	?	×
connect		
Network - 127 . 0 . 0	1	
password:		
0%		
🗹 sync date time 🗌 boot logo 🗌 clear logs 🗌 clear rw 🗌 retain recipe 🗌 retai	in user (	data
✓ retain InstalMent ✓ close dialog when execute successfully	ad Ca	ncel

#### Note

The default IP address of the IT7000 series HMI is 192.168.1.100.

# 2.4 Simulation and Run of a Project

When the project configuration is completed, select Compiler  $\rightarrow$  Start Runtime/Start Online Runtime from the menu bar or click the ERE button in the toolbar to run the project. As shown in the following figure, you can change the setting value in the simulator to observe the dynamic change of the object in the screen.

HMI	Simulat	or									- 0	>
	-	Tag	Data Type	Current value	Format	Write Cycle	Simulation	Set value	MinValue	MaxValue	Cycle	Star
1												
											_	

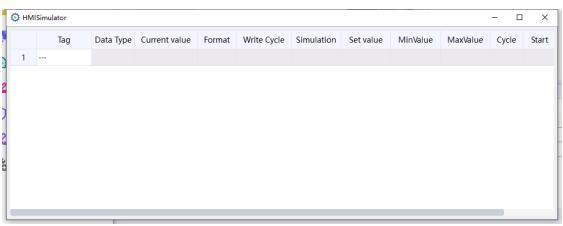
InoTouchPad offers an offline simulator and an online emulator. The two simulators allow you to run a project offline and online respectively. The simulator is a stand-alone application to test a configured project.

### Starting the offline simulator

Note: The offline simulator does not include the controller.

Steps:

- 1. Create a project.
- 2. Save and compile the project.
- 3. Select Compiler  $\rightarrow$  Start Runtime from the menu bar or click the  $\boxed{}$  button in the toolbar to open the simulation table and display the screen. When the project is simulated for the first time, a blank simulation table is created, as shown below.
- 4. Open the configuration tag in the simulation table.
- 5. Now you can manipulate the tags and values of the project in the simulation table. Observe the changes of configured objects in the simulator.



SetBitTag	ResetBitTag	SetBitTag	ResetBitTag

#### Result:

When you click the Set button, the indicator light turns green and when you click the Reset button, and the indicator light turns red.

#### Starting the online simulator

Note: The online simulator includes the controller. Therefore, the external tag is only effective when the programming device is connected to the controller. By connecting the PG/PC to the controller, you can perform online simulation of the configured HMI device in the programming device.

Steps:

- 1. Create a project.
- 2. Save and compile the project.
- 3. Select Compiler  $\rightarrow$  Start Online Runtime from the menu bar or click the  $\mathbb{R}$  button in the toolbar to run the project.
- 4. Now you can manipulate the tags and values of the project in the simulator and observe the change of the screen objects. Similarly, start online simulation of the previously configured project.

		•	
SetBitTag	ResetBitTag	SetBitTag	ResetBitTag

Result: When you click the Set button, the indicator light turns green and when you click the Reset button, and the indicator light turns red.

# 3 Project Management

# 3.1 Compiling a Project

After you have designed a project, you need to compile the project without any error before running it.

Select Compiler $\rightarrow$ Compiler in the menu bar or click the  $\blacksquare$  button in the toolbar or press F5 to compile the configured project. After the compilation is completed, the output view shows the result, as shown in the following figure:

Output		dī ×
Category	Description	Time
Info	Compiling started	14:04:29
Info	Parsing log!	14:04:29
Info	Parsing communication!	14:04:29
Info	Parsing Alarm!	14:04:29
Info	Parsing Recipe!	14:04:29
Info	Parsing Trend!	14:04:30
Info	Parsing Report	14:04:31
Info	Parsing Screen!	14:04:31
Info	Parsing Resources!	14:04:31
Info	Deploy Device:CommunicationDeviceFactory.Inovance. <internal tag=""></internal>	14:04:31
Info	Deploy Device:CommunicationDeviceFactory.Inovance.Inovance H3u	14:04:31
Info	Optimize images size	14:04:31
Info	the total size of compiled files is 1507 KB	14:04:31
Info	Compiling finished!	14:04:31
Info	### Compiling results: 0 error(s), 0 warning(s).	14:04:31

The result provides three types of information: description, warning and error.

If some control properties are set incorrectly in the configuration, warnings or errors will be reported at compile time. You can locate those warnings and errors by clicking an item in the output window, and then modify the project to eliminate the warnings and errors.

# 3.2 Uploading and Downloading a Project

# 3.2.1 Download

If you want to run your project on the HMI, you need to download the project to the HMI.

Select Compiler $\rightarrow$ Download in the menu bar or click the  $\swarrow$  button in the toolbar or press F7, and the following window pops up:

Transfer	-Downlo	ad			?	×
connect						
USB	-	127	. 0	. 0	. 1	
passwor	rd:					
			0%			
   <b>⊽</b> s∨ncda	ate time	🗆 boot logo 🗆	clear logs 🗌 cleai	r rw 🗌 retain re	cipe 🗌 retain use	er data
-		-	g when execute succ		Download (	

Select the connection method and input the IP address of the connected HMI:

Transfer-Downloa	ad			?	×
connect				IP addre	SS
Network 🔹	127 .	. 0 .	0	. 1	
password:					
		0%			
🗹 sync date time 🗌 boot logo 🗌 clear logs 🗌 clear rw 🗌 retain recipe 🗌 retain user data					
🗹 retain InstalMen	nt 🗹 close dialog w	/hen execute succe	ssfully	Download Ca	ncel

By default, downloading requires no password. If you have set the password in Control Panel->Security of the HMI:

Security			Back
Local	Upload	Download	Upload His.
	Old Password:		]
	New Password:		
	Confirm Password:		]
	App	alv	

When you download the project, you must enter the password first.

ΠР	Transfer-Dowr	nload	?	×
0	connect			
	USB	• <u>127</u> . 0 . 0 .	1	
	password:	Enter the password here		
		0%		
	sync date tim	ne 🗌 boot logo 🗌 clear logs 🗌 clear rw 🗌 retain recipe	🗌 retain usei	r data
	∣retain Installv	tent 🗹 close dialog when execute successfully	Download C	ancel

In addition, in the download window, You can also check "sync date time" to synchronize the HMI time with current PC system time, check "boot logo" to customize the boot screen, check "clear logs" to clear data logs, alarm logs and operation logs and check "clear rw" to clear RW internal tag data. Other options include retaining recipes, user data and installment.

Click the Download button to begin downloading. If any error occurs during downloading, you will be prompted. For example, when the PC is not connected with the HMI, the following message box shows:



The project to be downloaded must not exceed 30 M, otherwise it cannot be compiled and downloaded.

#### 3.2.2 Upload

To upload the project running on the HMI to the PC, you can use the upload function in the software tool (note: the project size cannot exceed 30 MB).

Select Compiler $\rightarrow$ Upload in the menu bar or click the  $\bigtriangleup$  button in the toolbar or press F10, and the following window pops up:

Transfer-Uploa	d			?	×
connect					
USB	127 .	0.	0.	1	
password:					
Path					
Project Name	project Name				
C:/Users/Adm	nistrator/Documents/InoToucl	nPad/Projects/Sar	mple1		
		0%			
				Upload Ca	ncel

Select the connection method and input the IP address of the connected HMI:

connect Network ▼ 127 . 0 . 0 . 1 password:	HMI IP Address
Path Project Name project Name C./Users/Administrator/Documents/InoTouchPad/Projects/Sample1	
0% Upload Cancel	

Uploading requires no password by default. If you have set the upload password in Control Panel->Security of the HMI:

Security			Back
Local	Upload	Download	Upload His.
	Old Password:		]
	New Password:		]
	Confirm Password:		]
		Αρρίν	

When uploading a project, you must enter the password.

₩ Transfer-Upload	?	×
connect		
Network - 127 . 0 . 0 .	1	
password: Enter the password here		
Path		
Project Name project Name		
C/Users/Administrator/Documents/InoTouchPad/Projects/Sample1		
0%		
	Upload C	ancel

In addition, you need to set the project name and select the path of the project.

Click Upload. When the progress bar reaches 100%, the upload is successful, and the currently uploaded project will be opened. If any other project is opened before uploading, you will be prompted to save that project.

## 3.3 **Project Simulation**

#### 3.3.1 Off-line Simulation

To display the off-line simulation diagram of a new project, select Compiler→Start Runtime, or click the 💽 button in the toolbar, or press ctrl + R. The off-line simulation includes HMI display simulation

and PLC communication simulation. The following is an off-line simulation example of the communication project between HMI and Inovance H2U, as shown in the following figure

# Off line simulator simulation

## Communication with h2u

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

#### Figure 3-1 HMI simulation

	Tag	Data Type	Curren	Format	Write Cy	Simulati	Set value	MinValue	MaxValue	Cycle	Start
2	D 1	Int16	0	DEC	1	display		-32768	32767		
3	D 2	Int16	0	DEC	1	display		-32768	32767		
4	D 3	Int16	0	DEC	1	display		-32768	32767		
5	D 4	Int16	0	DEC	1	display		-32768	32767		
6	D 5	Int16	0	DEC	1	display		-32768	32767		
7	D 6	Int16	0	DEC	1	display		-32768	32767		
8	D 7	Int16	0	DEC	1	display		-32768	32767		
9	D 8	Int16	0	DEC	1	display		-32768	32767		
10	D 9	Int16	0	DEC	1	display		-32768	32767		

Figure 3-2 PLC simulation

Users can input any value of the address of the configured register in the PLC simulation window to test offline simulation.

## 3.3.2 On-line Simulation

On the menu bar, select Compiler  $\rightarrow$  Start Online Runtime or click the  $\mathbb{R}$  button in the toolbar to start the simulation of the current project. The simulation is displayed as an HMI front panel. The following is an online simulation example of the communication between the HMI and Inovance H2U:

# On line simulator simulation

### Communication with h2u

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

#### Figure 3-3 HMI simulation

You can use online simulation to simulate an HMI device on a PC and connect the HMI to a real PLC, which facilitates screen testing because you need not to download the screen program to the HMI every time. Before simulation, connect the PC and PLC through a serial port or network port communication cable. Since all the serial ports of the computer are of the RS232 type, an adapter may be needed. However, a download cable is usually used to connect the PC with the PLC.

Before connecting the PLC, you must set all communication parameters of the PLC correctly.

If you use a COM1 port to connect the PLC in HMI software settings, you must also connect the PC with the PLC through the COM1 port of the PC.

## 3.4 Pass-through

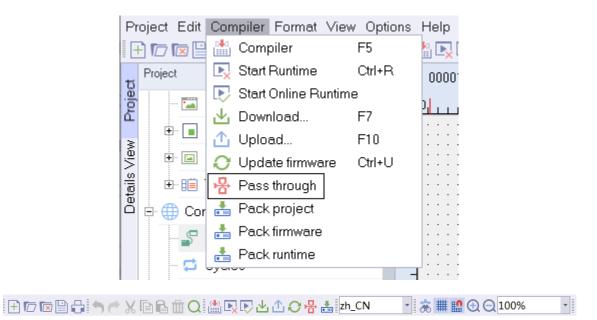
### 3.4.1 Application

The penetration function is specially designed for Inovance H1U, H2U and H3U. This function enables intermediate connection between the PC and PLC through the HMI.

The penetration function is mainly used in applications where the PLC is enclosed and thus can only be indirectly connected to the PC.

#### 3.4.2 Steps

First, select Compiler→Pass through in the menu bar.



	Q 🕍 🖳 🖓 🕁 🛆 📿 🛞 🚠 zh_CN	- 🚴 🇰 🔝 🕣 🖸 100%	•
--	-------------------------	------------------	---

In the pop-up window, set the parameters:

- 1. Add a virtual serial port to connect with Inovance PLC software tool AutoShop;
- 2. Under HMI Connection, set the connection type between PC and HMI (if you select Net, the IP address should be HMI IP);
- 3. Under PLC Connection, choose the port for HMI and PLC connection and set other parameters;
- 4. Click Start.

™ Passthr	ough To	ol							?		×
virtual co	m							_			
com nan	ne:	_			-	Add			Remo	ove	
"Remo∖	/e"buttoi	add a virtu: n to remov ninistrator i	e the virtu			0					
HMI Con	nection						2				
type:	USB						Ŧ				
IP addr:	12	7.	0.		0.	1		port:	5000		
PLC con	nection										
port:	COM1			•	type:	RS485 2	2W				•
timeout:	1000				read delay:	1000					
3										Sta	art
status										€	
virtual C(	OM:		Connect	ion	type:		con	nect:	no		
RX: 0					TX: 0						
				acı	arouna color						

After the parameters are set and the pass-through function is enable, you need to start AutoShop. As shown in the following figure, set the serial port to COM4 in Communication Settings (consistent with the virtual serial port set in the pass-through tool).

	┙᠙║ <b>╗╗┥╸</b> ╬ <b>╸╬╔╔</b> ╔║ <b>╖</b> ╧╪╪╧│→ ↑ ┯ ╧║╫╫╟╫╟╬╶╩
Image: Solution of the second system         Image: Solution of the seco	
CAM Module Config Communication Confi COM0(Download, COM1 CAN(CANLink)	USB to Virtual COM Start Vsvcomvcpp Guide of the Vsvcomvcpp Note:When using penetrating tool, please check the high delay mode OK Cancel

## 3.5 Packaging Project Files

### 3.5.1 Packaging a Project

In addition to InoTouchPad, you can also update an HMI project through a USB drive or SD card. To do so, you need to use InoTouchPad to package the project and transfer it to the USB drive or SD card which will be connected with the HMI.

Select Compiler→Pack Project in the menu bar or click the 📩 button in the toolbar (note the tooltip) to package the project to the specified location. After clicking OK, the current project will be packaged into an HMI project update package with a fixed name (project.zip). The packaging window is as follows:

🚾 Project Packag	ing	?	×
	kage to the specified location, through card to download the Project.		
Name	project.zip		
Target Location	C:/Users/Administrator/Documents/InoTouchPad/Projects		
🗆 🗆 bootlogo 🗆	clear logs 🗌 clear rw 🗌 retain recipe 🗌 retain record 🗌 retai	n Instali	ment
	OK	Canc	el

Note that when packaging the project, check the items to be kept or cleared, including boot logo, clear logs, clear rw, retain recipe, retain record and retain Instalment. None of them are checked by default.

## 3.5.2 Packaging Firmware

In addition to InoTouchPad, you can also update the firmware of the HMI through a USB drive or SD card. Select "Compile"  $\rightarrow$  "Packaging Firmware" in the menu bar or click the button  $\stackrel{\bullet}{=}$  in the toolbar (pay attention to the tooltip), and the Packaging firmware window will show:

Firmware Pack	?	Х			
The Firmware package to the specified location, through the U disk or SD card to download the Firmware.					
Name	firmware.zip				
Target Location )ocuments/InoTouchPad/Projects					
	OK	Canc	el		

### 3.5.3 Packaging HMIRuntime

InoTouchPad allows HMIRuntime packaging through a USB drive or SD card. Select "Compile"  $\rightarrow$ 

"Packaging HMIRuntime" in the menu bar or click the button 📩 in the toolbar (pay attention to the tooltip), and the Packaging HMIRuntime window will show. You can choose what to keep or clear. For details, see the project packaging instructions.

TP HMIRuntime Pa	ackaging	?	×
打包% 到指定路	各徑,可以通過U盤或者SD卡升級HMIRuntime。		
Name	HMIRuntime		
Target Location	C:/Users/Administrator/Documents/InoTouchPad/Projects		
🗌 boot logo 🗌	clear logs 🗌 clear rw 🗌 retain recipe 🗌 retain record 🗌 retain	n Instalı	ment
	OK	Canc	el

## 3.6 HMI Firmware Update

When you have modified the HMI firmware to adjust the functions of the HMI, you need to update the modified firmware to the HMI. Generally, the firmware update occurs after InoTouchPad update is released, and the version of the update must be higher than the old firmware.

Select Compiler $\rightarrow$ Update firmware in the menu bar or click the  $\bigcirc$  button in the toolbar or press ctrl +U, and the following window pops up:

P Transfer-Upda	ate				?	$\times$
connect						
USB	<b>•</b>	127	. 0	. 0	1	
password:						
			0%			

Select the connection method and input the IP address of the connected HMI:

Transfer-Update				?	Х			
connect				IP add	lress			
Network 🔹	127	. 0 .	0	. 1				
password:								
0%								
🗹 close dialog wh	Update C	ancel						

The update requires no password by default. If you have set the update password in the control panel of the HMI (the download password is used as the update password), you need to enter the correct password before updating.

In addition, you also needs to set the storage path of the firmware (usually the installation path of InoTouchPad).

Click Update. When the progress bar reaches 100%, the firmware update is successful and the HMI will be started automatically. If any error occurs, you will be prompted.

## 3.7 Font Setting

See "13.3 Language and Font Setting" on page 289.

## 3.8 Notes for the Use of Peripherals

The HMI allows you to manage project files with a USB drive or SD card. The supported file systems are FAT32, NTFS and exFAT. This section briefly describes their OS compatibility and features.

File System	FAT32	NTFS	exFAT
Compatibility (R/W)	Windows, Mac OS, Linux	Windows	Windows, Mac OS
Features	Low disk utilization, an individual file cannot be larger than 4 GB, best compatibility	Good security and stability, but less favorable compatibility	Support for flash memory and large files

To sum up, it is recommended to use a USB drive or SD card in FAT32 format to manage HMI project files.

## 3.9 HMI Common Errors

When you use InoTouchPad to download a project or update the firmware, the following errors may occur.

Туре	Error Code and Description
	10004: write error
	10005: read error
HMI communication	10006: device start error
	10007: timeout
	10008: device failed to start. For 10004–10008, you need to check the connection at the USB or network port
	10003: device type mismatch
	10002: incorrect password
	10001 or 205: incorrect HMI version
	100: incorrect password (when you try to use pass-through)
	102: HMI is operated by another user (when you try to use pass-through)
HMI operation	3: Please check that you have the proper permissions
	4: Insufficient resources, more flash space needs to be released
	200–202: HMI upload error. You need to check whether the connection is unstable
	302, 303, 203, 204: CRC32 error. Check the file
	301, 400, 401, 10009: Failed to unzip or open the file. More flash space is needed.

# 4 Communication

## 4.1 Introduction

### 4.1.1 Basic information

Data exchange between devices is called communication. Devices can be networked and interconnected through communication media such as serial communication cables, network cables and wireless modules.

#### **Communication device**

A communication device is any device that can access the communication network and exchange data, which is usually called a communication node. In InoTouchPad, an HMI or PLC is generally considered a communication node.

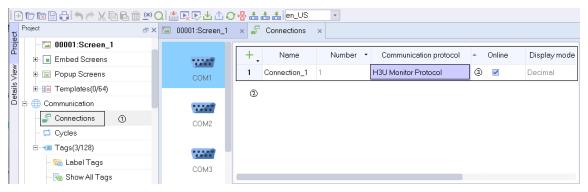
#### Use of communication data

Data transferred between devices can be used for project control, process data collection, process status reporting, and process data recording.

### 4.1.2 Communication Principle

InoTouchPad controls communication between HMI and PLC or between HMIs by mapping device register addresses to communication variables through the selected protocol.

For example, in InoTouchPad, go to Connections, create a connection\_1 connection, and configure an inovance H3U monitoring protocol.



Then, in Tag group\_2 of Tags, create a tag, configure the newly created connection\_1, and map the Inovance H3U register D 0 address to this tag.

Project 🗗 🗙	Genections x <ul> <li>Sometries x</li> <li>Group_2 x</li> </ul>
	+     Name     ▲     Number     Connection Id     Data type     Length     Array count     Address       1     Var_1     2     Connection_1     Int16     2     1     Important
📲 Var Group_2	

In the screen, create a number IO field, configure tag\_1, and download it to the HMI. Then connect the H3U device. The number IO field can access the value of the register with the address of D 0 through the tag name.

ф00000000ф
OField)
Mode Input/output
Process Tag Var_1

### 4.1.3 Communication Tag

Communication tags, which are managed in the tag editor, include internal tags and external tags. Internal tags are defined memory images on an HMI, while external tags are defined memory images on a PLC, all of which can be used for communication. During communication, these defined memory images can be read and written by devices. This is usually done in a periodic or event-triggered manner. See *"5.3.1 Using Tags in Communication" on page 69* for details.

After you create an address tag, the HMI can read the value from the address and display the value. You can also write the tag value to the specified address on the HMI.

#### 4.1.4 Protocol

Different drivers enable different device connections. Users can choose a specific communication interface, configuration and transmission speed for an individual device. For a list of supported protocols, see *"4.3.1 Supported Protocols" on page 56*.

## 4.2 Basic Setting

#### 4.2.1 Connection Configuration

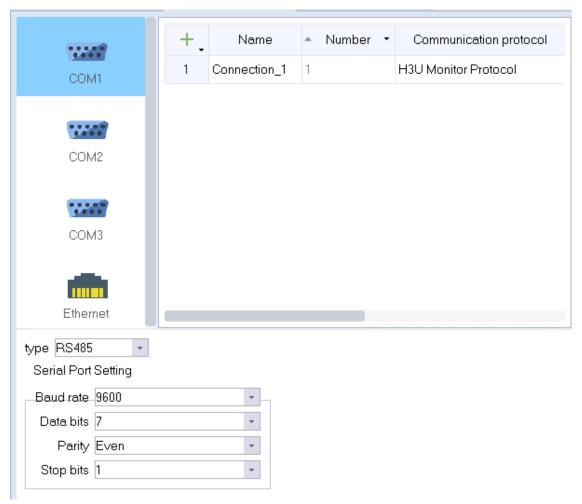
The configuration screen of a HMI project is as shown in the following figure:

1-project view; 2-detail view; 3-workspace; 4-parameter setting area; 5-Tool area

H		🖸 🕒 🖕 🥂 🖉 🔂 🔂	前 🖱 🔿 🐺 🗗 🖓 🕞 🕂 🛛	╘╔╉╋╝	en_US 🔹					
IJ	Proje	ೆ <b>ಕ್</b>	🖾 00001:Screen_1 🛛 🗙	🔓 Connections	🗙 🤕 Tag group	_2 ×				Tools 🗗 🗙
Project	ė 🖸	Screens(1/256)								
		- 🖽 Add Screen	1000	+ Name	Number •	Communication protocol	<ul> <li>Online</li> </ul>	Display mode	Comment	. Omron
Details View		- 🖾 00001:Screen_1	COM1	1 Connection	_1 1	H3U Monitor Protocol	<b>~</b>	Decimal		IEMENS
tails	E	Embed Screens				3				. • Mitsubishi
8		- 🖬 Popup Screens	*****			9				Modicon
	E	🗄 📔 Templates(0/64)	COM2							⊕ Delta DVP
	<b>⊡</b> ∙ (1	Communication	COMZ							
		Connections (1)								Free Protocol
		- 😅 Cycles								⊛ koyo
			COM3							■ FATEK
L	-	Data Service								
	-	Alarm Management								
	1 -		Ethernet							
	1 -	Recipes(0/100)	Blockaddress device							5
	• 6	🖁 Historical Data								
	÷ <	Scripts(0/400)	stationNum_1	÷	timeout 200					
	÷ [	Reports(0/100)	interval 5	\$	commDelay 0 m		۲			
	÷ [	Status Lists	readCount 32	*	responseDelay 0 m					
	Detai	ls View 🗗 🗙	writeCount 32	-	resendCounts 3	\$				
		2								
		0								
l										



- 1. Expand Communication in the project view.
- 2. Double-click Connections to open the connection editor.
- 3. Click the + button in the workspace to create a connection.
- 4. You can customize the parameters as needed. If you need to set the physical serial port communication terminal, you can click a port to show the serial port setting.



5. In the communication protocol, select the communication protocol driver suitable for your PLC.

- 6. Then set the parameters accordingly. By default, the communication parameters, timeout, communication delay and response delay, are auto-tuned during communication.
- 7. Save the project to finish the connection configuration.

#### 4.2.2 Connection Editor

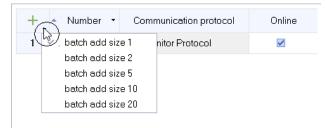
In the connection editor, you can create and configure connections. With the tabular connection editor, you can set the connection name, communication protocol, default status of the protocol, and comments. After selecting the communication protocol, you can edit the related attributes.

Click the + button in the upper left corner to create a connection, and then select the protocol in the Communication Protocol field, as shown in the following figure. Note that the drop-down list box and the communication protocol tree in the right sidebar support filtering according to the current physical port.

	,	+.	•	Number	•	Commu	nication protoco	ol	Online	Disp	lay mode
COM1		1	1			H3U Monito	r Protocol	-	<b>~</b>	Decir	mal
COM2 COM3 COM3 Etherne	7 7					⊕ H5 ⊕ AN ⊕ Tr ⊕ Se	U/H2U/H3U S H1U Monitor F H1U Qlink Pro H2U Monitor F H2U Qlink Pro H3U Monitor F H3U Qlink Pro U Series M600 Series M600 Series M600 Series M600 Series M600 Series M600 Series M600 Series M600 Series M7000 Series M700 Series M700 Series M7000 Series M7000 Series M7000 Series M7000 Series M7000 Series	Protoco Ditocol Protoco Ditocol Protocol	col		
											[15
Blockaddres	s device										
stationNum	1			*		timeout	200 ms		\$		
interval	5			÷.	С	ommDelay	0 ms		*		
readCount	32			÷	esp	onseDelay	0 ms		*		
writeCount	20			*		endCounts			\$		

You can also directly select the protocol in the right sidebar, and then double-click the protocol to create a connection, as shown in the following figure:

If you want to create multiple connections at one time, you can also click the 🚽 button in the upper right corner to select a batch operation in the drop-down menu, as shown in the following figure:



For example, if you select "batch add size 5", and then click the + button, the result is as follows:

<b>5</b> C	Sections ×				
+.	Name	🔺 Number 🝷	Communication protocol	Online	Display mode
1	Connection_1	15	H3U Monitor Protocol		Decimal
2	Connection_2	16	H3U Monitor Protocol		Decimal
3	Connection_3	17	H3U Monitor Protocol		Decimal
4	Connection_4	18	H3U Monitor Protocol		Decimal
5	Connection_5	19	H3U Monitor Protocol		Decimal

Connection state

在线

You can check the check box  $\boxed{}$  in the Online field to activate the connection after the HMI starts. The connection status can be changed by system functions.

#### 4.2.3 Connection Parameter

After selecting a protocol in the connection editor, you can configure the connection parameters of HMI and communication device.

Supported interfaces:

Interface	Туре	Description
COM1	RS485	Up to 32 protocols (of the same family) can be configured, but they
COMI	RS422	cannot cross.
COM2	RS232	Only 1 protocol can be configured
СОМЗ	RS485	Up to 32 protocols (of the same family) can be configured, but they cannot cross.
Ethernet	Ethernet	TCP/IP protocol supports configuration, provided that IP + Port is unique.

#### 4.2.4 HMI as a Master

When an HMI device needs to access the values of registers of other devices, use a master protocol (all are master protocols except Modbus Slave and Modbus TCP Slave protocols).

- 1. For communication through a serial port, you can configure the serial port and the communication parameters of the connected devices as shown in the following figure.
  - Configuration interface for physical port

type RS485		Ŧ				
Serial Port	Setting					
Baud rate	9600					+
Data bits	7					*
Parity	E∨en					•
Stop bits	1					+
	Serial Port Baud rate Data bits Parity	type RS485 Serial Port Setting Baud rate 9600 Data bits 7 Parity Even Stop bits 1	Serial Port Setting Baud rate 9600 Data bits 7 Parity Even	Serial Port Setting Baud rate 9600 Data bits 7 Parity Even	Serial Port Setting Baud rate 9600 Data bits 7 Parity Even	Serial Port Setting Baud rate 9600 Data bits 7 Parity Even

- Configuration interface for communication protocol
- 2. For communication through Ethernet, you only need to configure the parameters of the connected devices as shown in the following figure.

Blockaddres	s device			
stationNum	.1	*	timeout	100 ms 📫
interval	5	-	commDelay	0 ms 📫
readCount	120	*	responseDelay	0 ms 📫
writeCount	120	*	resendCounts	3
IP Address	192 168 1	. 100	Port	502 ‡

#### 4.2.5 HMI as a Slave

When the internal image address of the HMI needs to be accessed by other devices, use a slave protocol (Modbus Slave and Modbus TCP Slave are both slave protocols).

1. For communication through a serial port, you can configure the serial port and slave parameters as shown in the following figure.

type RS485 Serial Port		Blockaddres	ss device			
Baud rate	9600 🗸	stationNum	1	timeout	0 ms	÷
Data bits	7 🔹	interval	0 \$	commDelay	0 ms	*
Parity	Even 🔹	readCount	0 \$	responseDelay	0 ms	*
Stop bits	1	writeCount	0 ‡	resendCounts	0	÷

2. For communication through Ethernet, use the default settings in the following figure.

#### Blockaddress device

stationNum_	0 \$	timeout	0 ms	÷
interval	0 ‡	commDelay	0 ms	÷
readCount	0 ‡	responseDelay	0 ms	÷
writeCount	0 ‡	resendCounts	0	÷
		Port	502	÷

## 4.3 Supported protocol

## 4.3.1 Supported Protocols

At present, InoTouchPad supports all Inovance PLC protocols, standard modbus protocol, and Omron FINS protocol. In addition, InoTouchPad also supports user-defined protocol (free protocol supporting serial port and Ethernet communication), which makes communication more flexible. The protocol applies to all devices that support serial port and Ethernet communication. The protocol is as follows:

Manufacturer		Protocol	Description
		H1U monitoring protocol	Monitoring protocol, supporting Inovance H1U devices
		H1U Qlink	A variant of Modbus family, supporting Inovance H1U devices
		H2U monitoring protocol	Monitoring protocol, supporting Inovance H2U devices
	H1U/H2U/H3U	H2U Qlink	A variant of Modbus family, supporting Inovance H2U devices
	series	H3U monitoring protocol	Monitoring protocol, supporting Inovance H3U devices
		H3U Qlink	A variant of Modbus family, supporting Inovance H3U devices
Inovance		H3U Qlink TCP	A variant of Modbus family, supporting Inovance H3U devices
		H3U Modbus TCP	A variant of Modbus family, supporting Inovance H3U devices
	H5U Series	H5U Qlink TCP	A variant of Modbus family, supporting Inovance H5U devices
	AM600 Series	AM600 Modbus	A variant of Modbus family, supporting Inovance AM600 devices
		AM600 Modbus TCP	A variant of Modbus family, supporting Inovance AM600 devices
		AM600 Qlink TCP	A variant of Modbus family, supporting Inovance AM600 devices
	AC810 Series	AC810 Qlink TCP	A variant of Modbus family, supporting Inovance AC810 devices
	AC drives	MD series AC drive Modbus protocol	A variant of Modbus family, supporting Inovance AC drives
	Servos	IS series Servo Modbus protocol	A variant of Modbus family, supporting Inovance Servo devices
		Modbus slave	Modbus slave, used when an Inovance HMI is used as a slave
	IT7000 Series	Modbus TCP slave	Modbus TCP slave, used when an Inovance HMI is used as a slave
	FINE	FINS serial port protocol	FINS protocol, supporting Omron FINS-enabled devices
Omron	FINS	FINS TCP	FINS protocol, supporting Omron FINS-enabled devices
	Hostlink	Hostlink	

Manufacturer		Protocol	Description
		S7-200 SMART (Ethernet)	
	Siemens	protocol	
	Ethernet series	S7-300 (Ethernet) protocol	
Siemens		S7-1200\1500 (Ethernet)	
		protocol	
	Siemens serial	S7-200	
	port protocol	S7-200 Smart protocol	
	A41 1 1 1 1	MelSec-Q\L (Binary)	
	Mitsubishi Ethernet series	MelSec-Q\L (ASCII)	
	Ethemet series	FX5U (ASCII)	
Mitsubishi		FX0SFX0NFX1SFX1NFX2	
	Mitsubishi serial	FX2N	
	port series	FX3U\FX3G	
		FX5U	
Modicon	Modbus		A variant of Modbus family, supporting MODBUS- enabled devices
Modicon	Modbus TCP		A variant of Modbus family, supporting MODBUS- enabled devices
Delta	Delta DVP RTU		
Della	Delta DVP ASCII		
Panasonic	Panasonic FP		
Free Protocol	Free protocol		
The Flotocol	Free TCP protocol		
Коуо	SN series	SN K series	
Yudian	Serial Port	AlBus	
Fatek	FB/FBS series	FATEK Fbs	
Vie ii -	XC series protocol		
Xinjie	XD\XL series protocol		
Keyence	Network port	KV-L120\700\1000\3000 \5000\7500\Nano	
Yaskawa	Network port	Yaskawa MP23XX	
Kingway	Kingway 984	1	

The communication error codes are as follows:

Protocol	Error Code and Description
	0x10: check error
Inovance monitoring protocol	0x11: incorrect data length
	0x12: unknown operation
	0x15: 15 error
	0x01: illegal function
	0x02: Illegal data address
	0x03: Illegal data value
	0x04: slave device failure
Modbus family protocols	0x05: Acknowledge
	0x07: slave busy
	0x08: storage parity error
	0x0a: unavailable gateway path
	0x0b: gateway target device failed to respond

Protocol	Error Code and Description
FINS protocol	See the user manuals of Omron series PLCs.

The system communication error codes are as follows:

Errors	Error Code and Description
	0x10001: device failed to start
	0x10002: device write error
	0x10003: read error
	0x10004: read timeout
System communication error	0x10006: bus busy
	0x10007: serial port recognition error
	0x10008: offline
	0x10009: error in writing command once
	0x1000a: error in reading command once

#### 4.3.2 OPC UA

OPC Unified Architecture is a new technology created by OPC Foundation, which is more secure, reliable and neutral (independent of suppliers), and transmits raw data and preprocessing information from the manufacturing field to the production planning or enterprise resource planning (ERP) system. The Inovance IT7000 HMI is OPC UA-enabled.

rowse			Impo	ort			
Address spa	ice:			Display Name	Node ID	Data Type	
opc.tcp://	/10.46.71.43:4840		1	AA@ R	ns=4;s	Int16	
⊨ Root			2	CC@ Ro			
🗆 🗢 Vie			3	AA@ R			
- 🗆 🗢 Ty	-		4	CC@ Ro			
i I Obje	viceSet	-	5	AA@ R			
	novance-PLC		6	CC@ Ro			
	Resources	Add Tag	7	ABC@			
Ė	Decision	Delete Tag		ABC@[	115 4,5	intro	
	SerialNumber[String]						
	RevisionCounter[Int32]	Remove All					
	Manufacturer						
	- D Model						
	DeviceManual[String]						
	DeviceRevision[String]						
	SoftwareRevision[String]						
	HardwareRevision[String]						
			🗆 C	reate PLC Tag	gs to grou	p: Variable	group_2

1. General settings of OPC UA protocol communication:

	Name		Description	Remarks
		IP Address	The address of the opc server.	
		Port Number	The port of the opc server.	Default: 4840
General		Timeout Time	The timeout time for connection to the server, which defaults to 1000 ms	in ms
		Interval	Communication interval, which defaults to 100 ms	in ms
	Connection	Session Name	The session name is automatically generated and not modifiable. It is used by the server to identify the connection of a client.	Read only
		Security Policies	The security policies include None, Basic128Rsa15, Basic256, and Basic256Sha256	The default is None
		Data Privacy	Data privacy modes include None, Sign, and SignAndEncrypt	The default is None
	Label	Browser Tags	Click the button to pop up the Browse Tag window for browsing the tags on the server side	With the correct IP and port number, you can browse the online server and view and select tags

#### 2. Authentication and read mode:

	Name		Description	Remarks
		Anonymous	Check this to use anonymous authentication	
Authenti- cation	Authentica- tion Mode	Use Account	Check this to use account authentication	
		User name	User name	Only effective when "User Name/
		Password	Password	Password Login" is checked
		Initiative	Reads tags actively	
Read Mode	Read mode	Monitor	Reads tags through monitoring	
		Monitor time	Monitor time, in ms	Only effective when Monitor is selected

3. The Browse Tag window is as shown in the following figure:

Browse			Import			
Address space:			Display Name	Node ID	Data Type	
		Add Tag				
		Delete Tag				
		Remove All				
			Create PLC Tage	to group: Tag	group_2	
	Refresh					OK

Operation	Description	Remarks
Add Tag	Adds the selected tags the left column to the import table	
Delete Tag	Deletes the selected items in the import table	
Delete All	Deletes all items in the import table	
Create PLC tags to groups	Check this and select a tag group to save tags to the tag group.	After adding tags to the tag group, you can perform configuration

## 5 Tag

## 5.1 Introduction

#### 5.1.1 Number of Tags

In an HMI project created by InoTouchPad, you can create up to 64 tag groups, and the total number of tags saved by multiple tag groups does not exceed 65535 (excluding system tags).

#### 5.1.2 External Tag

Configured connected tags, called external tags, are images of some defined storage locations in PLC. These areas can be accessed by HMI and PLC together (that is, read and write are allowed). The data types supported by these areas depend entirely on the PLC. For example, Inovance AC drives support int16 and unint16 data types, while Inovance H3Us support int16, UInt16, UInt32, int32, unint32, float, Bool and string.

#### 5.1.3 Internal Tag

A tag without a configuration connection, called an internal tag, is an image of some defined storage locations in the HMI, and these areas can only be accessed by the HMI itself. when the HMI is a slave, the storage area in which the internal tags are located can also be accessed by other HMIs: For another HMI device with which it communicates, these internal tags act as external tags.

#### 5.1.4 System Tag

Internal tags ranging from LW 9000 to LW 9982 are used to display some system information, and are called system tags. The addresses occupied by system tags are generally no longer used as ordinary internal tags, and the tags in this area are read-only. Note that when configuring internal tags, do not associate the address area of system tags. If you need to view specific system information, you can add corresponding system tags in the system tag group, as shown in the following figure:

												Tools	
- 🖼 Screens(1/256)													System Time
- 🖽 Add Screen	+	Name	<ul> <li>Number •</li> </ul>	Connection Id	Data type	Length	Array count	Address •	Acquisition cycl	Acquisition mol	Data log Id	Logging cycle I	- \$Year
🖾 00001:Screen_1	1	\$Year	3	<internal tag=""></internal>	Int16	2	1	LW 9000	1s	Cyclic on use	<undefined></undefined>	1s	- \$Moth
Embed Screens	2	\$Moth	4	<internal tag=""></internal>	Int16	2	1	LW 9001	1s	Cyclic on use	<undefined></undefined>	1s	\$Day
🗉 🖃 Popup Screens	3	\$Day	5	<internal tag=""></internal>	Int16	2	1	LW 9002	1s	Cyclic on use	<undefined></undefined>	1s	- \$Hour
🗉 💼 Templates(0/64)	4	\$Hour	6	<internal tag=""></internal>	Int16	2	1	LW 9003	1s	Cvclic on use	<undefined></undefined>	1s	- \$Minute
Communication	5	\$Minute	7		Int16	2	1	LW 9004	1s	Ovclic on use	<undefined></undefined>	1s	\$Second
🖉 Connections			8		Int16	2		LW 9005		-	<undefined></undefined>		\$Weekday
- 📫 Cycles	6	\$Second	0	<internal tag=""></internal>	Intro	2	1	LAA 2002	1s	Cyclic on use	(Undefined)	1s	
🖃 📲 Taqs(3/128)	7	\$Weekday	9	<internal tag=""></internal>	Int16	2	1	LW 9006	1s	Cyclic on use	<undefined></undefined>	1s	
- 🔚 Label Tags								-	2 Double	e click a tag to	add it to the	table -	Screens
- Show All Tags									2.00000	chick a tag to	0001000010		<ul> <li>System Info</li> </ul>
- the Add Tag Group		. Double click											Communication
System Tags	+												i ⊡ Index Tag

1. Double click System Tags to open the System Tags tab.

2. The added system tags are displayed in the system tag table, and you can use the IO field to configure the system tags in the system tag table to obtain the corresponding system information.

3. In the toolbar on the right, double-click thesystem tag you want to add.

#### The system tags are described as follows:

Category	Name	Description	Data type	Address
	\$Year	System time: Year	Int16	LW 9000
	\$Moth	System time: Month	Int16	LW 9001
	\$Day	System time: Day	Int16	LW 9002
System time	\$Hour	System time: Hour	Int16	LW 9003
	\$Minute	System time: Minute	Int16	LW 9004
	\$Second	System time: Second	Int16	LW 9005
	\$Weekday	System time: Weekday	Int16	LW 9006
	\$MACAddress	MAC address of target	String	LW 9007
	\$IPAddress	IP address of target	String	LW 9019
Network	\$Netmask	Subnet mask of target	String	LW 9031
setting	\$Gateway	Gateway of target	String	LW 9043
	\$DNS1	Primary DNS server address	String	LW 9055
	\$DNS2	Secondary DNS server address	String	LW 9067
	\$CurrentUserName	Runtime user name	String	LW 9079
User Management	\$CurrentUserGroupId	Runtime user Group ID	Int32	LW 9099
Management	\$CurrentUserAuthority	Runtime user permission	Int32	LW 9101
Screen	\$CurrentScreenId	Runtime current screen ID	Int16	LW 9103
Screen	\$StartScreenId	Runtime start screen ID	Int16	LW 9104
	\$HMIDeviceType	HMI Device type	Int16	LW 9105
	\$HMISerialNumber	HMI serial number	String	LW 9106
	\$HMIAutorunVersion	HMIAutorun version number	String	LW 9126
	\$HMIRuntimeVersion	HMIRuntime version number	String	LW 9138
	\$IOTSDKVersion	IoT SDK version number	String	LW 9150
	\$ProjectVersion	Project version number	String	LW 9162
	\$CPUUsage	CPU usage	Int16	LW 9174
	\$MemoryUsage	Memory usage	Int16	LW 9175
System	\$Uptime	Device uptime	Int32	LW 9176
information	\$CurrentLanguage	Current language	String	LW 9178
	\$ScreenSaverTime	Backlight timeout	Int16	LW 9190
	\$CloseBacklightTime	Backlight timeout	Int16	LW 9191
	\$Brightness	Backlight brightness	Int16	LW 9192
	\$UsbUnmountCount	USB device unmount count	Int16	LW 9193
	\$UsbMountCount	USB device mount count	Int16	LW 9194
	\$SDCardUnmount- Count	SD card unmount count	Int16	LW 9195
	\$SDCardMountCount	SD card mount count	Int16	LW 9196

Category	Name	Description	Data type	Address
	\$COM1Mode	COM1 mode	Int16	LW 9197
	\$COM1BaudRate	COM1 Baud rate	Int32	LW 9198
	\$COM1DataBits	COM1 data bits	Int16	LW 9200
	\$COM1Parity	COM1 parity check	Int16	LW 9201
	\$COM1StopBits	COM1 stop bits	Int16	LW 9202
	\$COM1ErrorStationId	COM1 wrong station ID	Int16	LW 9203
	\$COM1ErrorCode	COM1 error code	Int32	LW 9205
	\$COM1ErrorCount	COM1 single connection error count	Int16	LW 9204
	\$COM1ErrorTotal	COM1 total error count	Int32	LW 9207
	\$COM2Mode	COM2 mode	Int16	LW 9209
	\$COM2BaudRate	COM2 Baud rate	Int32	LW 9210
	\$COM2DataBits	COM2 data bits	Int16	LW 9212
	\$COM2Parity	COM2 parity check	Int16	LW 9213
	\$COM2StopBits	COM2 stop bits	Int16	LW 9214
	\$COM2ErrorStationId	COM2 wrong station ID	Int16	LW 9215
	\$COM2ErrorCode	COM2 error code	Int32	LW 9217
	\$COM2ErrorCount	COM2 single connection error count	Int16	LW 9216
	\$COM2ErrorTotal	COM2 total error count	Int32	LW 9219
Communica-	\$COM3Mode	COM3 mode	Int16	LW 9221
tion	\$COM3BaudRate	COM3 Baud rate	Int32	LW 9222
	\$COM3DataBits	COM3 data bits	Int16	LW 9224
	\$COM3Parity	COM3 parity check	Int16	LW 9225
	\$COM3StopBits	COM3 stop bits	Int16	LW 9226
	\$COM3ErrorStationId	COM3 wrong station ID	Int16	LW 9227
	\$COM3ErrorCode	COM3 error code	Int32	LW 9229
	\$COM3ErrorCount	COM3 single connection error count	Int16	LW 9228
	\$COM3ErrorTotal	COM3 total error count	Int32	LW 9231
	\$TCPErrorCode	TCP error code	Int32	LW 9244
	\$TCPErrorCount	TCP single connection error count	Int16	LW 9243
	\$TCPErrorConnectio- nId	TCP wrong station ID	Int16	LW 9242
	\$TCPErrorIP	TCP erroneous IP	String	LW 9233
	\$TCPErrorPort	TCP wrong port number	Int16	LW 9241
	\$TCPErrorTotal	TCP total error count	Int32	LW 9246
	\$SelfAdaptionOver- time	Adaptation timeout	Int16	LW 9500
	\$SelfAdaptionInterval- Time	Adaptation interval	Int16	LW 9501
	\$SIMStatus	SIM state	Int16	LW 9300
	\$SIMSignal	SIM signal value	Int16	LW 9301
	\$IOTLoginStatus	IoT login status	Int16	LW 9302
loT	\$IOTLoginType	IoT login type	Int16	LW 9303
	\$IOTLoginTime	IoT login time	String	LW 9304
	\$GPS	GPS	String	LW 9314

Tag

Category	Name	Description	Data type	Address
Index tag	16-bit	If an ordinary tag is associated with an index tag, the address of the ordinary tag can be offset by modifying the value of the index tag. 128 16-bit index tags are supported	Int16	LW9600 address start
	32-bit	128 32-bit index tags are supported	Int32	LW9728 address start

# 5.2 Basic Setting

## 5.2.1 Configuring a Tag

👦 Project Project view 👘 🖙 🛪	🖼 System Tags 🛛 🛪 📹	I Tag group_2 🛛 🗙 🍃	Connections 🛛 🗙 🗟 Sł	now All Tags 🛛 🗙								
Project view = ×												
🕀 🌐 Communication	+ Name •	Number 🝷 Con	nection Id Data type	e Length	Array count	Address •	Acquisition cycle Id					
Connections	1 4x0 1	Connectio	on_1 Int16	2	1	RO	100ms					
📲 – 🛱 Cycles												
🛱 🕞 📲 Tags(3/128)												
- 🔚 Label Tags		Workspace										
🔤 Show All Tags		workspace										
- 📲 System Tags												
Tag group_2												
🗉 🍙 Data Service	4x0 (Tags)											
🕀 🛕 Alarm Management	General						er x					
		General		Settings			General					
🕀 🛗 Historical Data	±-Events	Name	Av(1	Array count	1	*						
			Connection_1	Length		*						
Details View 🗗 🗙		Data type		=    :	Tag group_2	* *						
▲ Id Name Info T		Acquisition mode		- Cloup	. ma a							
1 4x0 R 0/Int16		Acquisition cycle		Properties v	iew							
Details view												

Steps:

- 1. Expand Communication in the project view.
- 2. Expand the sub node Tags, and double click Tag Group\_2 to open the tag editor.
- 3. Click the + button in the workspace of the tag editor to create a tag.
- 4. Then you can select the connection and data type and address of the driver of the PLC to be connected. If you want to use internal tags, just select <Internal tag> in the Connection ID field, and then select the data type and address.
- 5. Other properties of a tag can be set as needed.
- 6. Save the project to finish the tag configuration.

## 5.2.2 Tag Editor

In the tag editor, you can create tags. The tag editor is table as shown below. You can edit the properties of all created tags here.

⊕.	🔺 Name 🔻	Number 🔹	Connection Id	Data type	Length	Array count	Address 🔹	Acquisition cycle Id	Acquisition mode	Data log Id	Logging cycle Id	Logging acquil
1	D0	1	Connection_1	Int16	2	1	D 0	1s	Cyclic on use	<undefined></undefined>	1s	Cyclic continul

Click the + button in the upper left corner to create a tag.

+ Name • Numb	er 🔹 Connection Id	Data type	Length	Array count	Address 🔹	Acquisition cycle Id	Acquisition mode	Data log Id	Logging cycle Id	Logging acqui
1 🗸 Natch add size 1	Connection_1	Int16	2	1	DO	1s	Cyclic on use	<undefined></undefined>	1s	Cyclic continul
batch add size 2										
batch add size 5										
batch add size 10										
batch add size 20										

Tag

If you want to create multiple tags at one time, you also click the 🖵 button in the upper right corner to select a batch operation.

Category	Name	Description	Description
	Name	Variable	Cannot be duplicate and null;
	Name	Variable	Limit: 128 characters
	Connection ID	Connection of the tag	Values: Internal tag, external tag
	connection ib	connection of the tag	Default: Internal tag
	Data type	Data type of the tag	Value: constrained by connection;
	2 4 4 4 9 9 2 4		Default: Int
General			Values: on demand, cyclic continuous, cyclic on use
		The acquisition mode of	On demand: The tag is updated by calling the system function UpdateTag;
	Acquisition mode	the specified tag	Cyclic continuous: The tag is updated all the time;
			Cyclic on use: The tag is updated only when the screen uses the tag;
	Acquisition cycle	How often the tag is acquired	The default is 1s
	Tag group	The tag group that the tag belongs to	It is read only for the recipe tag group
Settings	Array count	Arroy count	Only editable fo the recipe tag group
	Array count	Array count	Value range: 1 (default) to 2000.
	Length	Count of byte * array	It is read only
Address	Address	PLC Address	Not available for internal tags;
Address	Address	PLC Address	Restricted by the protocol;
	Data Record	Data log of the tag	Defaulted to null
			Values: on change, on demand and cyclic continuous. Default: cyclic continuous
	Log acquisition		On change: The tag is logged when its value changes;
Log	mode	Log acquisition mode	On demand: The tag is logged by executing the system function LogTag.
			Cyclic continuous: The tag is logged at fixed time intervals;
	Logging cycle	How often the tag is acquired	Effective only when 'Cyclic continuous' is selected;
		acquireu	Default is null

Right-click the header to show hidden fields and set their values as needed.

			Description	
	Lippor limit	Upper limit of the tag	Values: constant, tag	
	Upper limit	opper limit of the tag	Constant value range: data type range	
Lingt	Upper limit alarm	Upper limit alarm	A Rising edge analog alarm saying 'The value is higher than the upper limit'	
Limit			Values: constant, tag	
	Lower limit	Lower limit of the tag	Constant value range: data type range	
	Lower limit alarm	Lower limit alarm	A falling edge analog alarm saying 'The value is lower than the lower limit'	
			Only effective for external tags. Ineffective for arrays.	
	Linear scaling	Enables/disables linear scaling	Values: on and off. The default value is off.	
		scaling	You can also use InverseLinearScaling and LinearScaling	
Linear scaling	Upper PLC scaling value	Upper PLC scaling value	Default: 10	
0	PLC linear scaling	PLC lower scaling value	Default: 0	
	Lower limit			
	HMI linear scaling	Upper HMI scaling value	Default: 100	
	Upper limit	opper nim searing value		
	HMI linear scaling	HMI lower scaling value	Default: 0	
	Lower limit	This tower seating value		
Start value	Start value	The start/default value of the tag	Constant value range: data type range which is null by default	
Comment	Comment	Comment of the tag	Limit: 500 characters	
Index variable	Index variable	Associating an Index Tag	Default is null	

## 5.2.3 Properties View of the Tag

D0 (Tags)						
General						
⊟ Properties	General			Settings		
Addressing				-		
- Limits	Name	D0		Array count 1		*
- Linear Scaling						
- Logging	Connection	Connection_1	*	Length 2		- -
- Start value	Data type	Int16	-	Group T	aq group_2	Ŧ
- Comment						
- Tag Index	Acquisition mode	Cyclic on use	*			
. Events	Acquisition cycle	100ms	*			

The properties view of a tag consists of a tree view on the left and an editing area on the right. After you have edited the properties in the editing area, the modifications will be synchronized to the tag table editor. Similarly, modifications made in the tag table editor will also be synchronized to the Properties view.

Property	Property	Description	Description		
	Nama	Tag name	Cannot be duplicate and null;		
	Name	ragilallie	Limit: 128 characters		
	Constantion ID	Connection of the tag	Values: Internal tag, external tag		
	Connection ID	Connection of the tag	Default: Internal tag		
	Data type	Data tupo of the tag	Values: Constrained by connection;		
	Data type	Data type of the tag	Default: Int16		
General			Values: on demand, cyclic continuous, cyclic on use		
	Acquisition	The acquisition mode	On demand: The tag is updated by calling the system function UpdateTag;		
	mode	of the specified tag	Cyclic continuous: The tag is updated all the time;		
			Cyclic on use: The tag is updated only when the screen uses the tag;		
	Acquisition cycle	How often the tag is acquired	The default is 1s		
C attin an	Tag group	The tag group that the tag belongs to	It is read only		
Settings	Array count	Array count	Value range: 1 (default) to 2000.		
	Length	Count of byte * array	It is read only		
Adduces	Adducer	Adducer	In the case of an Internal tag, you can edit the internal address of the HMI;		
Address	Address	Address	In the case of an external tag, the address is restricted by the protocol;		
	Data log	Data log of the tag	Defaulted to null		
			Values: on change, on demand and cyclic continuous. Default: cyclic continuous		
			On change: The tag is logged when its value changes;		
Log	Log acquisition mode	Log acquisition mode	On demand: The tag is logged by executing the system function LogTag.		
			Cyclic continuous: The tag is logged at fixed time intervals;		
	Logging cycle	How often the tag is	Effective only when 'Cyclic continuous' is selected;		
	Logging cycle	acquired	Default is null		
	Upper limit	Upper limit of the tag	Values: constant, tag		
			Constant value range: data type range		
Limits	Upper limit alarm	Upper limit alarm	A Rising edge analog alarm saying 'The value is higher than the upper limit'		
LIIIIIIS	Lewer liit	Lower limit of the tag	Values: constant, tag		
	Lower limit	Lower limit of the tag	Constant value range: data type range		
	Lower limit alarm	Lower limit alarm	A falling edge analog alarm saying 'The value is lower than the lower limit'		

Property	Property	Description	Description		
			Only effective for external tags. Ineffective for arrays.		
	Linear scaling	Enables/disables linear	Values: on and off. The default value is off.		
	Linear Seating	scaling	You can also use InverseLinearScaling and		
			LinearScaling		
	Upper PLC scaling value	Upper PLC scaling value	Default: 10		
Linear	PLC linear				
scaling	scaling	PLC lower scaling value	Default: 0		
	Lower limit				
	HMI linear	Upper HMI scaling	Default: 100		
	scaling	value			
	Upper limit	Value			
	HMI linear				
	scaling	HMI lower scaling value	Default: 0		
	Lower limit				
Start value	Start value	The start/default value of the tag	Constant value range: data type range which is null by default		
Comment	Comment	Comment of the tag	Limit: 500 characters		
Index	Index variable	The associated Index	It is not associated by default, and needs to be		
variable		tag	configured in system tags		

In InoTouchPad, you can configure specific properties for each tag that determine the usage of the tag.

### 5.2.4 Label Tag

Label communication, as a special communication protocol, can import label tags and display them in a tree view. As shown in the following figure, after you create a label communication, a corresponding label tag group will be added under Label Tags. For property setting of the tag, see the contents of the above two sections. Note that some general properties cannot be modified due to restrictions.

	🛗 🖳 🕞 📥 🏠 📿 🥵 📥 🍰 📩 🖼 00001:Screen_1 🛛 🗙 😒 Tag		Connections	🗙 🤜 Label	Tags group_301	×
🖻 🔚 Screens(1/256)	✓ Name	Data type	Length	Array count	Address	Acquisition cyc
- 🕀 Add Screen	□ Application					
- 🖾 00001:Screen_1	⊟ GVL_PLC					
Popup Screens     Templates(0/64)      Gommunication      Connections	g_iETCAxisNum	Int16	2	1	g_iETCAxisNul	100ms
	g_iVirAxisNum	Int16	2	1	g_iVirAxisNum	100ms
	g_xECTStart	Bool	1	1	g_xECTStart	100ms
- 🛱 Cycles	g_xVirtual	Bool	1	1	g_xVirtual	100ms
🖻 📲 Tags(3/128)	gb_AxisIntDone	Bool	1	1	gb_AxisIntDone	1s
E Label Tags	gbDoor_is_Closed	Bool	1	1	gbDoor_is_CII	100ms
LabelTags group_301	gbHalt	Bool	1	1	gbHalt	100ms
🤕 Show All Tags 	gbin_out_WorkMode_flag	Bool	1	1	gbin_out_Worl	100ms
	gbInit_NC_Done	Bool	1	1	gblnit_NC_Dol	100ms

#### Tag tree view

You can collapse and expand the tree with one click. For example, you can right-click  $\Box$  Application as shown above and select Expand All and Collapse All.

<ul> <li>Name</li> </ul>	Data type	Length
🗆 Applicatio	Show Group Prop	ertv
⊟ G\	Expand All	0.19
9	Collapse All	

#### Alarm codes

If there is something wrong with the label tag, an alarm message will show. The alarm codes are shown in the following table:

Alarm Code	Description
0x10000100	Failed to initialize client communication
0x10000101	Communication not initialized
0x10000102	Number of connections exceeds the limit
0x10000103	Communication connection failed, which may be due to network disconnection
0x10000104	Communication is disconnected and needs to be reconnected
0x10000105	Gateway not connected or disconnected and needs to be reconnected
0x10000200	Timed out, communication may be disconnected
0x10000302	PLC manufacturer does not match
0x10000501	Registered tags do not match symbols in PLC
0x10000502	Invalid communication client, please reconnect
0x10000503	Invalid tag definition, please redefine the tag
0x10000504	Cannot write referenced type tag
0x10000505	Tag has no access
0x10000506	Too many symbol tags
0x10000507	The definition of symbol tag has changed and needs to be redefined
0x10000508	Too many values are written
0x10000400	Symbol profile is not XML
0x10000401	Symbol profile does not have symbol information start identification
0x10000402	Symbol profile does not have a header
0x10000403	Invalid label handle
0x10000410	Incorrect symbol configuration data type
0x12000000	Symbol profile line error. The last 24 bits indicate the line number

## 5.3 Usage

### 5.3.1 Using Tags in Communication

External tags, which are storage location images defined in the PLC, are used for data exchange between the HMI and PLC. In InoTouchPad, to create a tag connected to the PLC, you must specify the

connection, the tag data type, and the address so that the HMI and the PLC can access the same location.

An internal tag can also be used for communication when the HMI is used as a slave, provided that data are exchanged between HMIs. Internal tags are storage location images defined in the HMI. In InoTouchPad, if you want to create a tag connected to the HMI, you must create a slave protocol in Connections, and then set the HMI connected to it as the master. Use the standard Modbus protocol and specify the data type and address, then the master HMI can access the address area of the internal tag of the slave HMI. Since the slave device being read and written is an HMI, the correspondence is as follows:

Reading/Writing 0x/1x(0-12000)	Corresponds to reading/writing LB(0–11999)
Reading/Writing 3x/4x/5x(0–10000)	Corresponds to reading/writing LW(0-8999)
Reading/Writing 3x/4x/5x(10000–65535)	Corresponds to reading/writing RW(0–55535)

You can set an acquisition period to make the HMI read the value of an external tag in the specified period. As long as the tag is displayed or recorded in the screen, the value will be updated regularly. The time interval of regular update is determined by the acquisition period, which can be the default period or customized.

## 5.3.2 Changing Tag Configuration

Users can change the settings of tags as needed.

+.	Name 🔻	🔺 Number 🔻	Connection Id	Data type	Length	Array count	Address 🔹	Acquisition cycle Id	Acquisition mode	Data log Id
1	D0	1	Connection_1	Int16	2	1	D0	1s	Cyclic on use	<undefined></undefined>
2	D1	2	Connection_1	Int16	2	1	D1	1s	Cyclic on use	<undefined></undefined>
3	D2	3	Connection_1	Int16	2	1	D 2	1s	Cyclic on use	<undefined></undefined>
4	D3	4	Connection_1	Int16	2	1	D 3	1s	Cyclic on use	<undefined></undefined>
5	D4	5	Connection_1	Int16	2	1	D 4	1s	Cyclic on use	<undefined></undefined>
6	D5	6	Connection_1	Int16	2	1	D 5	1s	Cyclic on use	<undefined></undefined>
7	D6	7	Connection_1	Int16	2	1	D 6	1s	Cyclic on use	<undefined></undefined>
8	D7	8	Connection_1	Int16	2	1	D 7	1s	Cyclic on use	<undefined></undefined>
9	D8	9	Connection_1	Int16	2	1	D 8	1s	Cyclic on use	<undefined></undefined>
10	D9	10	Connection_1	Int16	2	1	D 9	1s	Cyclic on use	<undefined></undefined>
11	D10	11	Connection_1	Int16	2	1	D 10	1s	Cyclic on use	<undefined></undefined>
12	D11	12	Connection_1	Int16	2	1	D 11	1s	Cyclic on use	<undefined></undefined>

When you need to edit multiple tags, you can use the tag editor. In the tag editor, you can compare and adjust the properties of multiple tags, or sort by tag properties.

	▲ Id	Name	Info	Data type
1	<ul> <li>-1</li> </ul>	<undefined></undefined>	<no address=""></no>	Int16
2	◆ 1	D0	DO	Int16
3	◆ 2	D1	D1	Int16
4	◆ 3	D2	D 2	Int16
5	♦ 4	D3	D 3	Int16

To create a tag directly at the point of use, click the  $\pm$  button in the object list to open the tag properties edit window, as shown in the following figure.

Connection	<internal tag=""></internal>		•	Address			
Data Type	Int16		•	Area LV	V	•	
Tag Group	Tag group_2		+	Address 0		*	
Tag Name	Tag_15						
-						~ ×	
• Tex	dList						_
TextList	<undefined> -</undefined>	·					
D0		•					

Then edit and configure directly in the window.

+,	Data log Id	Logging	Logging ac	Upper limit	Lower limit	Linear scali	Upper PLC sc
1	<undefined></undefined>	1s	Cyclic conti	1	100	Off	10
2	<undefined></undefined>	1s	Cyclic conti	<no limit=""></no>	<no limit=""></no>	Off	10
3	<undefined></undefined>	1s	Cyclic conti	<no limit=""></no>	<no limit=""></no>	Off	10
4	<undefined></undefined>	1s	Cyclic conti	<no limit=""></no>	<no limit=""></no>	Off	10
5	<undefined></undefined>	1s	Cyclic conti	<no limit=""></no>	<no limit=""></no>	Off	10
6	<undefined></undefined>	1s	Cyclic conti	<no limit=""></no>	<no limit=""></no>	Off	10

During configuration, illegal items will be highlighted in red. For example, it is illegal to set the upper limit value less than the lower limit value.

#### 5.3.3 Limit Value

The tag limit value is only for tags of numeric type (except bool type). If the process value is above or below the limit range, this can be configured to trigger analog alarm messages or events. When an operator enters a value that exceeds the limit, the value is rejected and is not saved.

#### 5.3.4 Initial Value of a Tag

The initial value of a tag is the value that will be preset when the running system starts. An initial value can be preset for all data types. Setting the initial value can ensure that the tag is in a user-defined state when the project starts.

#### 5.3.5 Updating Tag Values at Run Time

At run time, tag values can usually be changed in the following ways:

- 1. The operator change the tag value directly in IO field.
- 2. Using system functions, such as "SetValue".

- 3. Assigning a value to the tag in the script, for example: SmartTags ("D 0") = 1;
- 4. Through communication. (When updating external tags, the updating mode depends on the acquisition mode. If you use the on demand mode, a command triggers a tag update; If you use the recycling mode, as long as the tag is displayed in the current screen, it will be updated after an acquisition period, which can be customized; If you use cyclic continuous mode, the tag will be updated once after an acquisition period, no matter whether the tag is displayed in the current screen. Because frequent reading operations will increase communication load, recycling mode is preferred. with this mode, only when the tag is displayed and used on the current screen, it will be updated periodically, and cyclic continuous mode is generally only used for some tags that must be updated continuously.)

# 5.3.6 Data Record

Configuration data records are tag values stored for data statistics, analysis and calculation. There are three data recording methods. With the value change mode, the tag value will be recorded once every time it changes; with the on demand mode, the tag value is recorded every time the command (LogTag) is triggered; with cyclic continuous mode, the value is recorded based on the recording period, which is customizable and determines the recording frequency.

The data records that can be configured by tags are created in Historical Data, see section Historical Data for details.

# 5.3.7 Linear Scaling of Tags

Linear scaling applies to numeric data. Linear scaling maps the values of external tags to a value range in an InoTouchPad project.

To perform linear scaling, you must first enable linear scaling of the tag in the tag editor, and then set the upper and lower limits of HMI linear scaling and PLC linear scaling. After that, the value ranges will be linearly mapped with each other.

+,	Name 🔻	▲ Number ▼	Connection Id	Address 🔻	Linear scaling	Upper PLC scaling	Lower PLC scaling	Upper HMI scalin	Lower HMI scalin
1	Var_1	1	Connection_1	D 0	On	10	0	100	0

For example, create an external tag "Tag\_1", set its connection to H3U monitor protocol, the address to D 0, enable linear scaling, set the upper and lower limits of PLC to 10 and 0 respectively, and set the upper and lower limits of HMI to 100 and 0 respectively. When the HMI communicates with H3U, if you set the value of Tag\_1 to 50 on the HMI, the value will be converted according to the linear relationship set before, and then written to the D 0 register in H3U (that is, the value written to the D 0 register is actually 5). Similarly, if the value read from the D 0 register is 8, the displayed value of Tag\_1 on the HMI after linear scaling is 80.

Through the above procedure, the range [0-10] on the PLC can be mapped to the range [0-100] on the HMI.

In addition, you can also use system functions LinearScaling() and InverseLinearScaling() to achieve linear scaling of tags, as detailed in *"12.3.2 Calculation" on page 251*.

# 5.3.8 Array Tag

An array tag is a tag whose element count is greater than 1. It takes the specified address as its first address, and the address space is continuous. Each array element has the same data type, that is, the data type specified by the tag.

Multiple array elements with the same attributes can be addressed by a single array tag name, and then, in configuration, each array element can be used individually. Array tags are not available everywhere in an InoTouchPad project:

1. Ingredient tags can be used in the recipe editor.

Element	ts Data record	s				
\$+.	Name 🔹	Display name	Tag	Default value	Decimal 🝷	Information text
1	Element_1	Element_1	D0	0	0	

2. In trend view, trend buffer tags can be used.

Trend View_1(TrendView)									ē
General								Tre	nd
Properties									
Appearance	+	Line type	Pen width	Samples	Trend type	Trend tag	Side	Foreground coll	
- Layout									
— Xaxis	1	Solid	1	100	Realtime cyclil	< Indefined > -	Left Y1 axis	#000000	
- Left Value Axis		oona		100	r to diamo by on	Condomicar	2011 11 0010		
- Right Value Axis						Trend tag D0	1 -		
- Axis									
Table						Pulse	, 		
- Trend							~ ×		
Misc							× ^		
E Animations									

# 5.3.9 Using Tags

- 1. Dragging tag group to the screen: Click the tag group to display the detailed view and drag the selected tag to the screen. A control is automatically generated.
- 2. Dragging a tag to the tag selection box:

Click on the control to be configured, take IO domain as an example.

Details V	ïew	a x			· · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			
🔺 ld	Name	Info							
2	Button_1	Button	Number IO Field_2(N	lumberIOField)				đ	r ×
3	Text Field	TextField	General					General	
5	Bar_2	Bar	<ul> <li>Properties</li> <li>Animations</li> </ul>	Туре		Format			
6	Trend Viel	Trend∨iew	€vents	Mode_Input/output Process Tag_ <undefined></undefined>	· · · ·	Format type Shift decimal point String field length	0	20	

Drag the tag to the tag selection box to finish configuration.

3. This is the most common way.

	· · · · · · · ·		▲ Id	Name	Info	Data type
		1	<ul> <li>-1</li> </ul>	<undefined></undefined>	<no address=""></no>	Int16
Number IO Field_2()	NumberIUFie	2	♦ 1	DO	D 0	Int16
<ul> <li>General</li> <li></li></ul>	Туре	3	◆ 2	D1	D1	Int16
Animations     Events     Events	Mode	4	♦ 3	D2	D 2	Int16
		5	♦ 4	D3	D 3	Int16
	Proces		bjects	• +		$\checkmark$
	Tag 📢	Jndefine	ed>	•		

4. Configuring by inputting name in the control's tag selection box.

Note: Some special tags may be configured differently. For example, the detailed view of tag communication is a tree structure, as shown in the following figure:

Label communication allows drag and drop of tags, but does not support name input and auto completion.

Details Vi	iew	₽×
▼ Na	ame 🔻	Data type
🗆 Арр	lication	
ΞC	WL_PLC	
Output	Properti	es

# 5.3.10 Associating an Index Tag

There are 128 16-bit and 32-bit index tags in the system tags of IT7000. You can access multiple address spaces with one control by associating an index tag. The index tag is used as follows:

- 1. Go to Communication->Tags->System tags to create a 16-bit \$INDEX\_0.
- 2. There are two ways to associate the index tag:
  - a. Select the index tag in the tag editor, as shown in the following figure.

+		Name	<ul> <li>Number •</li> </ul>	Connect	Data type	Length	Array c	Address 🔻	Acquisit	Acquisit	Data Io	Start val	Index Tag
1	\$IND	EX_0	1	<intern< td=""><td>Int16</td><td>2</td><td>1</td><td>LW 9600</td><td>1s</td><td>Cyclic o.</td><td><undef< td=""><td></td><td><undef< td=""></undef<></td></undef<></td></intern<>	Int16	2	1	LW 9600	1s	Cyclic o.	<undef< td=""><td></td><td><undef< td=""></undef<></td></undef<>		<undef< td=""></undef<>
1	LW 0	2	<intern ir<="" td=""><td>nt16 2</td><td>1</td><td>LW 0</td><td>100ms</td><td>Cyclic o <b><ur< b=""></ur<></b></td><td>ndef</td><td>lefined&gt; -</td><td>]</td><td></td><td></td></intern>	nt16 2	1	LW 0	100ms	Cyclic o <b><ur< b=""></ur<></b>	ndef	lefined> -	]		
											ld Name	Info	Data type
										1 🔹		<no ad<="" td=""><td></td></no>	
										2 🔹	1 \$INDEX	LW 9600	Int16
										T All Obj	ects -		

b. Drag a new control to manually enter the association in the format of "tag name+\$INDEX\_index tag number". For example, LW0+\$INDEX\_0. As shown in the following figure, press Enter after the association text.

· · · · · · · · · · · · · · · · · · ·				
NumberIOField)				ъ×
			Gene	ral
Туре	Format			
Mode Input/output	Format type	Dec		•
	Shift decimal point	0		
Process	String field length	16	\$	
		Leading zero		
Tag LW0+\$INDEX_0 +				

# 5.4 Importing and Exporting Tags

# 5.4.1 Overview

InoTouchPad allows exporting variables from one project and then importing them into another project, which can greatly reduce the workload of creating new projects.

# 5.4.2 Exporting Tags

Right click any tag group in the tree view on the left side of the project (system tags cannot be imported or exported), such as "Tag group 2", and click Export in the menu.

roject	8 × 🔁	0000	01:Screen_	1 🗙 🤜 Tag group	0_2 ×			
🖾 00001:Screen_1		+	Nam	e • • Number •	Connection Id	Data type	Length	Array count
- 🖾 00002:Screen_2		Τ.	Nam	e · · · Number ·	Connection id	Daia iype	Lengin	Anay count
🗉 🔳 Embed Screens		1	D0	1	Connection_1	Int16	2	1
🗉 🖃 Popup Screens		2	D1	2	Connection_1	Int16	2	1
🗄 📋 Templates(0/64)		3	D2	3	Connection_1	Int16	2	1
Communication		4	D3	4	Connection_1	Int16	2	1
- 🚽 Connections		5	D4	5	Connection_1	Int16	2	1
- 🟳 Cycles		6	D5	6	Connection_1	Int16	2	1
E <= Tags(4/128)		7	D6	7	Connection_1	Int16	2	1
🗈 🔚 Label Tags 🔄 🔄 Show All Tags		8	D7	8	Connection_1	Int16	2	1
Add Tag Group		9	D8	9	Connection_1	Int16	2	1
- ٵ System Tags		10	D9	10	Connection_1	Int16	2	1
	Open editor						-	
📲 Tag group_3	Rename							
🝙 Data Service	Duplicate	ine	ral					Gene
\rm Alarm Management	Export	Pepe		eneral		Settings		Gene
<u>I</u> Recipes(1/100)	Import	°° ren	its	Name D0		Array count	1	*

Then, specify the path and file name of the exported CSV file in the pop-up window and click Save. All tags in tag group 2 will be exported to the \*. CSV file as specified. You can view and edit the exported CSV file by Excel.

Export Tags						×
← → ~ ↑ 📙 > TI	his PC > Local Disk (D:) > Inovance	e Control		∽ Ō	Search Inovance Control	م ر
组织 ▼ 新建文件夹						?
- 已编写 ^	Name	Date modified	Туре	Size		
💻 This PC	0924	2021/9/24 14:35	File folder			
3D Objects	AutoShop	2021/12/15 10:37	File folder			
📲 视频	demo1	2021/7/6 11:39	File folder			
■ 图片	demo0924	2021/9/27 19:41	File folder			
■ 工作	Sample1	2021/7/6 11:47	File folder			
 ↓ 下载						
🎝 音乐						
三 桌面						
👝 Local Disk (C:)						
👝 Local Disk (D:)						
👝 Local Disk (E:)						
🛁 Network 👻						
File name: TagE	xport					~
Save as type: ANSI	CSV Files (*.csv)					~
<ul> <li>Hide Folders</li> </ul>					Save Can	cel

# 5.4.3 Importing Tags

Right click any tag group in the tree view on the left side of the project (system tags cannot be imported or exported), such as "Variable group 2", and click Import in the menu.

oject ar	× 🖾 00	001:Screen_	1 🗙 🥶 Tag grou	p_2 ×			
- 🖾 00001:Screen_1							
🖾 00002:Screen_2	+	• Nam	ne 🔹 🔺 Number 🕚	<ul> <li>Connection Id</li> </ul>	Data type	Length	Array count
🗉 🔳 Embed Screens	1	D0	1	Connection_1	Int16	2	1
🕀 📄 Popup Screens	2	D1	2	Connection_1	Int16	2	1
	3	D2	3	Connection_1	Int16	2	1
Communication	4	D3	4	Connection_1	Int16	2	1
- 🖉 Connections	5	D4	5	Connection_1	Int16	2	1
- 🛱 Cycles	6	D5	6	Connection 1	Int16	2	1
🖻 📲 Tags(4/128)	7	D6	7	Connection 1	Int16	2	1
🕀 🔚 Label Tags	8	 D7	8	Connection 1	Int16	2	1
- 🔄 Show All Tags	9	D8	9	Connection 1	Int16	2	1
				-			1
– 📹 System Tags	10	D9	10	Connection_1	Int16	2	1
- 📲 Tag group 📍 Open editor				· · ·		-	
- 📲 Tag group Rename	(Tags)						
Data Service Duplicate	Gen	eral					Ger
🔒 Alarm Managem 🛛 Export	Prop     Eve		eneral		Settings		
Recipes(1/100) Import	OE∧E	1115	Name D0		Array count	1	*

Then, a prompt will pop up, warning you that if a tag name has already existed in the project, it will be overwritten.

Click Yes to find the \*. csv file to be imported through the pop-up dialog.

Import Tags ← → ∨ ↑ → This PC > Loc	cal Disk (D:) > Program Files (x86) > Inova	nce Control > InoTouchPad	ٽ × <	Search InoTouchPad	× م
组织 ▼ 新建文件夹					
GE20-CAN-485	Name	Date modified	Туре	Size	^
GE20-RTC	crashes	2021/12/6 17:34	File folder		
	demo12.1	2021/12/3 15:01	File folder		
	driver	2021/12/6 17:25	File folder		
💻 This PC	examples	2021/7/8 17:15	File folder		
🧊 3D Objects	fonts	2021/12/6 17:25	File folder		
📑 视频	Graphics	2020/11/3 11:51	File folder		
──	logs	2021/12/6 17:59	File folder		
	plugins	2021/12/6 17:25	File folder		没有预览。
➡下载	sample11.23	2021/11/25 20:16	File folder		
• • • • • • • • • • • • • • • • • • • •	sample1125	2021/12/1 17:10	File folder		
▶ 音乐	SAMPLE1203	2021/12/3 15:16	File folder		
🔜 桌面	temp	2021/12/6 17:34	File folder		
👝 Local Disk (C:)	UnifiedDevices	2021/12/6 17:34	File folder		
Local Disk (D:)	usbdriver	2021/12/6 17:25	File folder		
🕳 Local Disk (E:)	큵 InoTouchPad	2021/12/6 17:26	Internet 快捷方式	1 KB	
~	tagImport.csv	2021/12/15 11:16	Microsoft Excel 逗.	2 KB	¥
File name: tagIm			~	CSV Files (*.csv)	$\sim$
				Open	Cancel

### 5.4.4 Tag Data File Format

The data file used for tag import and export must be a comma-separated CSV file.

During export, the tag information is written to a \*. csv file. The first 18 rows of the exported text are explanatory information and headers of the tag list, and the remaining rows are the exported data, which are in 13 columns: name, connection ID, data type, length, array count, address, acquisition cycle ID, acquisition mode, maximum, minimum, start value, comment and group Id. The fields are separated by ",". When a field is not empty, the contents are enclosed by double quotation marks. If the contents contain double quotation marks, the " will be escaped by another ", that is ""..."". (Note:

The "," used to separate fields and the double quotation marks enclosing the contents of fields are English characters).

During import, the first 18 lines of the import text are in a fixed format, and can not be added, deleted or changed. Only variable data can be edited. In the import file, each variable occupies an independent line, and each variable contains the following 13 fields which cannot be added or deleted:

Item	Function	Description
Name	The tag name	If the name is empty, the line of data will not be imported. If the name exists in the project database, the imported data will overwrite the data in the database, otherwise, new data is added.
Connection	Connection	It can be empty or the connection created in the current project (except for the connection with slave protocol including MODBUS Slave and MODBUS TCP/IP Slave). If the connection does not exist in the current project, the data will not be imported
		1. It cannot be null.
		2. When the connection is an internal tag, any data type that is not supported by an internal tag cannot be imported.
Data type	Data type of the tag	3. For an existing connection, any data type that is not supported by the connection protocol cannot be imported. (note: Strings are case sensitive and strictly match the type in the variable editor. Invalid strings will be filtered).
		1. It cannot be null.
		2. When it is of any type other than Wstring or String: The length must be consistent with the calculated value.
Length	The length of the tag, which is equal to array	3. When the data type is Wstring or String: The value must be within the specified range.
0	count * data type length,	Note: length of Bool type is in bit and that of other types is in byte: UInt16 (length is 2), Int16 (length is 2), UInt32 (length is 2), Int32 (length is 4), Float (length is 4), Double (length is 8), Bool (length is 1), String (length is 12–255), WString (length is 4–512), DataTime (length is 8), UIntUInt64 (length is 8), and Int64 (length is 8).
		1. It cannot be null.
Array count	the number of elements	2. When the data type is Wstring or String: The value must be 1.
Andy count	in the array	3. When the data type is of any type other than Wstring or String: The value must be an integer within 1–2000.
		1. It cannot be null.
Address	The address of the specified tag	2. The address is invalid and is not imported if not as specified by the protocol or the internal tag.
	specified tag	3. The address value should be formatted correctly, such as D 0 instead of D0, where the space cannot be omitted.
Acquisition	The acquisition cycle of	1. It cannot be null.
cycle	the specified tag	2. Any period that is not 1h, 1min, 10s, 5s, 2s, 1s, 500ms, or 100ms, or that is not added in InoTouchPad is invalid.
	The equivitit 1 of	1. It cannot be null.
Acquisition mode	The acquisition mode of the specified tag	2. The value must be 0, 1, or 2.
		(0-on demand, 1-cyclic on use, and 2-cyclic continuous)

ltem	Function	Description								
		1. When the import data is of UInt16, Int16, UInt32, Int32, Float, or Double type, any value beyond the limit is invalid (it can be void, meaning that there is no limit).								
Upporlimit	Restricts objects to	2. For Bool, WString, String and DataTime, the value must be null.								
Upper limit	numeric type	3. When the data is a numeric value, the upper limit must be greater than the lower limit.								
		4. Non-numeric strings, including valid tag names, are invalid. (The value is not exported if it is a tag).								
		1. When the import data is of UInt16, Int16, UInt32, Int32, Float, or Double type, any value beyond the limit is invalid (it can be void, meaning that there is no limit).								
	Restricts objects to	2. For Bool, WString, String and DataTime, the value must be null.								
Lower limit	numeric type	3. When the data is a numeric value, the upper limit must be greater than the lower limit.								
		4. Non-numeric strings, including valid tag names, are invalid. (The value is not exported if it is a tag).								
		1. When the import data is of UInt16, Int16, UInt32, Int32, Float, or Double type, any value beyond the limit is invalid (it can be void, meaning that there is no limit).								
Start value	The start value of the tag	2. For WString and String types, the value is invalid if the string size is greater than the tag length.								
		3. For the DataTime type, the time value must be correct and in the format of "yyyy-MM-dd hh:mm:ss" or "yyyy/MM/dd hh:mm:ss" (note: the hour, minute and second are not necessary, but the year, month and day must be provided)								
Comment	The comment of the tag	No restrictions								
Group ID	The tag group to which the tag belongs	Only valid for importing all tags								
Index Tag The name of the associated index tag		It can be null and <undefined>;</undefined>								

# 5.4.5 Tag Reference Lookup

In the selection box of project configuration, you can find the control and screen that uses the tag according to the tag. Right-click the corresponding control and select Back to definition or Cross-reference

러					
		▲ Id	Name	Info	Data type
	1	<ul> <li>-1</li> </ul>	<undefined></undefined>	<no address=""></no>	Int16
	2	<b>◆</b> 1	D0	ר ח Goto definition	Int16
	3	<b>&gt;</b> 2	D1	ross-References	;
Word Indicator_1(WordIndicator)	4	<b>•</b> 3	D2	D 2	Int16
General	5	<b>4</b>	D3	D 3	Int16
<ul> <li>Properties</li> <li>Animations</li> </ul>	T All Ob	jects	• +		~

1. Back to definition: You will go back to the tag group where the tag is located, as shown in the following figure.

	Name	* Number *	Connection Id	Data type	Length	Array count	Address *	Acquisition cycle Id	Acquisition m	Data log Id	Logging cycle ld	Logging acquisition mod
1	LW 1	7	<internal tag=""></internal>	Int16	2	1	LW 1	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continuous
2	LW 2	8	<internal tag=""></internal>	Int16	2	1	LW 2	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continuous
3	LW 3	9	<internal tag=""></internal>	Int16	2	1	LW 3	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continuous
4	LW 4	10	<internal tag=""></internal>	Int16	2	1	LW 4	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continuous
5	LW 5	11	<internal tag=""></internal>	Int16	2	1	LW 5	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continuous
6	LW 6	12	<internal tag=""></internal>	Int16	2	1	LW 6	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continuous
7	LW 10	13	<internal tag=""></internal>	Int16	2	1	LW 7	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continuous
8	LW 13	14	<internal tag=""></internal>	Int16	2	1	LW 8	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continuous
9	LW 12	15	<internal tag=""></internal>	Int16	2	1	LW 9	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continuous

2. Cross-reference: The Cross-reference page will show, listing all controls or system functions that refer to the tag.

Cross-References for LW 10													
	Name	Property	Path	Infotext	Comment								
1	Number IO	Process	Screens/00001: Screen_1	00001:Screen_1									
2	Button_2	Flashing	Screens/00001: Screen_1	00001:Screen_1									
3	Button_3	pressed:	Screens/Screen_1	Screen_1									

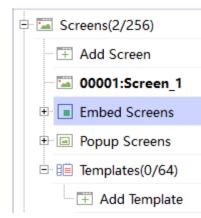
# 6 Creating a Popup Screen

# 6.1 Introduction

# 6.1.1 Overview

As the most basic element of configuration, the screen is used to present the contents of configuration. By creating pages, you can easily control and monitor the process and data of machinery and equipment. Screens include ordinary screens, embed screens, pop-up screens and template screens.

- Ordinary screen: a screen displayed on the display
- Pop-up screen: a screen pops up on the ordinary screen
- Template screen: a screen that can be referenced by the ordinary screen



An ordinary screen is added by double-clicking Add Screen

An embed screen is added by double-clicking Add Embed Screen

A pop-up screen is added by double-clicking Add Popup Screen

A template screen is added by double-clicking Add Template

A screen can contain static and dynamic elements:

- Static elements: They do not change their state at run time. Such as text or graphic objects.
- Dynamic elements: They change their state as needed. For example:
  - Display the output read from PLC memory
  - Display the process values output from the memory of the HMI in the form of letters and numbers, trend and bar charts



The input field on the HMI device can also be used as a dynamic element. You can switch the process value and operator input value between the controller and the HMI device through variables.

# 6.1.2 Screen Association

The type of the HMI device determines how the project is displayed in InoTouchPad and the functions of the editor.

When creating a project, you must select the corresponding HMI device type for the project. The " "14.4 *Project Settings*" on page 316" in the project view can be used to change the HMI device type.

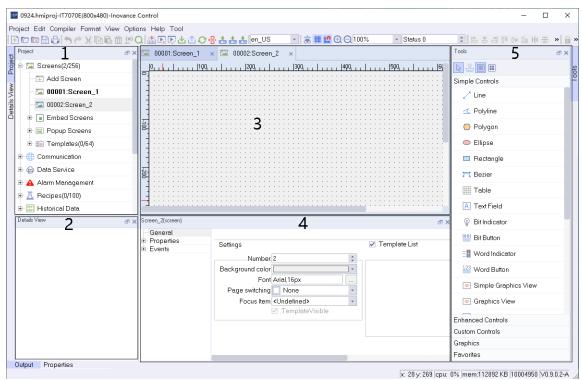
The following screen properties are determined by the type of HMI selected:

- Resolution
- Available objects

### 6.1.3 Screen Editor

When you create or open a project, the screen editor also opens You can also open the screen editor by double-clicking a screen or double-clicking Add Screen under Screens of the project view. The screen editor is as follows:





#### **Project view**

Displays the functional modules that can be used in the current project. You can open a module for editing by double-clicking an item.

#### Workspace

You can configure the screen in the workspace.

### **Tool window**

The tool window contains simple and complex controls that you can add to the screen, such as the string IO field control and the alarm view control. You can use the Graphics and Favorites to add items to the screen.

### **Properties view**

The content in the properties view depends on the object currently selected in the workspace.

- The properties of the selected object can be browsed and edited in the Properties dialog box.
- If you do not select an object in the active screen, the properties of this screen are displayed and can be edited in properties view.

### **Detail view**

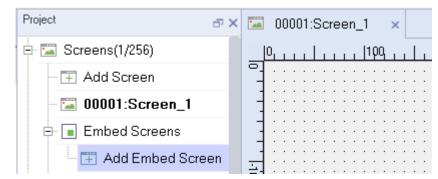
Displays the control information in the current screen

# 6.1.4 Using Templates and Popup Screens

### **Using a Template**

1. Creating a template

In the Project view, go to Screen→Templates, and double-click Add Template:



To facilitate the demonstration, first add a text field named Template Screen in the template screen:

Project	5 × [	-	(	00	00	11	:S	c	re	e	n.	_1	I		>	<	1	-		4	0	00	11:	Т	eı	n	pl	at	ie.	_1			>	¢										
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🖾 00001:Screen_1		-	:	:						:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:								
🕀 🔳 Embed Screens		-	:	:						:	:	:	:	:	:	:	:	:		:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:								:
🖭 🖃 Popup Screens			:	:					•	:	:	:	:	:	•			•	· E						-	- -						Ē	•	:	:	:								
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2. Using the template

In the Project view, expand Screens and double-click Screen\_1, select the template you created under Template List:

Screen_1(screen)			
General			
<ul> <li></li></ul>	Settings		🗹 Template List
	Number 1	÷	
	Background color	•	✓ Template_I
	Font roid Sans Fallback,	12px	
	Page switching 🔲 None	*	
	Focus Item <undefined></undefined>	-	
	✓ TemplateVisible	)	

Run the project and the template screen should be applied to Screen\_1:

Template Screen

# Using a popup screen

1. Creating a popup screen

In the Project view, go to Screens→Popup Screens, and double-click Add Popup Screen:

Project 🗗 🛪	🖾 00001:Screen_1 🛛 🗙
🕂 🖾 Screens(2/256)	<b>  0</b> , , , , , , , , , , , , , , , , , , ,
- 🕂 Add Screen	<b>-</b>
- 🖾 00001:Screen_1	
🕀 🔳 Embed Screens	
🖃 🖃 Popup Screens	<u>.</u>
- 🖅 Add Popup Screen	8

To facilitate the demonstration, first add a text field named Popup Screen in the popup screen:

Project	đ×		(	000	01	l:S	Cr	ee	n_	_1		×	ľ		I	00	00	3:8	Sc	re	e	n_:	3		×
🖻 🖾 Screens(2/256)			0,						1	1	pq						Ц	20	3	L					3
- Ŧ Add Screen		- -	:	:	 	:	:	 	:	:	 	:	 	:	:			:	:	•	 		:	:	 
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🖻 🔄 Popup Screens		-	:	:	 	:	:	 	:											:	 		:	:	 
- 🕂 Add Popup Scree	en	8		:	· ·	:	:	· ·	:	:	· ·	:		:	:			:	:		· ·		:	:	
📨 🖾 00003:Screen_3		-	:	:		:	:		:	:		:		:	:			:	:	•	• •		:	:	

Set the properties as follows:

General				General
	Settings		Popup	
E Events	Number 3	L.	🗹 Close Button 🔽 Modal	
	Background color		Transparent	
	Font Arial,16px		title	
			Alignment Left	-
			Auto Hide 0 s	*

#### Settings

- a. Number: The id number of the popup screen.
- b. Background color.

#### Popup

- a. Select Close Button to display a close button on the screen. Select Modal to display the popup window in a modal style. Select Transparent to display a transparent popup screen.
- b. You can also set the title and alignment of the popup screen.
- 2. Using the popup screen

In the Project view, expand Screens and double-click Screen\_1. Create a button named "Pop-up" on the screen.

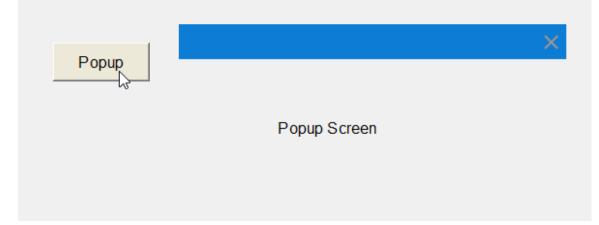
Designate the popup screen to the ShowPopup function:

Click the Popup button and select Events→Click→Screens→ShowPopup in the Properties view. Select the popup screen in the Screen name field.

		Popup			· · · · · · · · · · · · · · · · · · ·		
Button_2(Button)							a ×
	- 🛗 🕇 🖡 🗄 🗎						Function List
+ Animations	Calculation	⊡ 1	ShowPopup				
E Events	Edit bits Screens		Screen name		Scree	en_3	-
Press	ActivatePreviousSI		PosX	-			
Release	ActivateScreen		PosY			🔺 ld	Name
- Activate - Deactivl	ShowPopup		I		1	-1	<undefined></undefined>
Change	HidePopup HideAllPopups				2	• 3	Screen 3
	Jser administration				-	· ·	

Run the project and the popup screen should display when you click the Popup button:

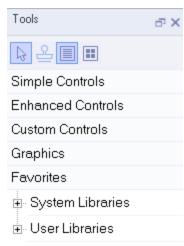




# 6.2 Using Screen Objects

## 6.2.1 Overview

The graphic elements used in project design are called "objects", which are presented in object groups in the Tools sidebar. As shown in the following figure.



### Simple controls

Contains graphic objects such as polyline, polygon, and ellipses, as well as standard controls such as number IO field or button.

### **Enhanced controls**

Contains control objects that provide enhancements. For example, the bar chart and progress bar can be used to display a process dynamically. The alarm view and data view can be used for data query.

### Graphics

You can use it to browse and preview the image objects in the local computer, and add them to a project.

### Favorites

Contains object templates, such as images of pipes, pumps, or default buttons. You can integrate multiple library object instances into a project without reconfiguration.

# 6.2.2 Editing Operations for Screen Objects

You can edit objects with the following operations:

• Cut, copy, insert, and delete objects. To perform these operations, you can execute commands through the Edit menu, right-click menu or shortcut keys:

Edit Compiler Format V	iew Options
👆 Undo Moving object(s	) Ctrl+Z
🥐 Redo	Ctrl+Y
💥 Cut	Ctrl+X
📄 Сору	Ctrl+C
🔒 Paste	Ctrl+V
前 Delete	Del
(x) Cross-References	
Q Find	Ctrl+F

# Caution

Because the system requires that the names of all objects in the screen or template must remain unique, if an object is copied to the screen, but the screen already includes an object with the same name, the name of the copied object will be automatically changed.

- Change the properties of an object, such as the size. Modify the properties in the property panel.
- Locate an object

Enter the screen editor and click an object item in the details view. The corresponding object on the screen will be selected.

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- Move an object in front of or behind another object.
   Right-click the object and choose an operation in the Arrange menu item. You can also use the arrangement buttons .
- Rotate an object

Click the 🕥 button on the tool bar to rotate the object.

• Stamp You can insert multiple objects of the same type by selecting the stamp in the Tool window.

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Simple Controls	
🦯 Line	
<table-cell-columns> Polyline</table-cell-columns>	

- Select multiple objects at the same time
   Hold down Shift and click on the objects; Or click and drag the mouse in the blank space of the screen, and select multiple objects by using the selection box.
- Relocate multiple objects After selecting multiple objects, you can adjust all objects through the Adjust menu in the menu bar.

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• Group

Several objects can be combined to a group. You can edit groups in the same way as you edit any other object. To group multiple objects, select and right-click them and then select Group $\rightarrow$ Group in the context menu or use the group function in the menu bar.

# 6.2.3 External Graphics

In InoTouchPad, you can use images created by an external graphic editor. To use these graphics, you must store them in the InoTouchPad project's image browser. You can use images in the following formats: \*. bmp, \*. dib, \*. ico, \*. emf, \*. wmf, \*. gif, \*. tif, \*. jpeg, or \*. jpg.

You can save images in the Image Browser as follows:

- Drag and drop a graphic object from Graphics in the tool window to the screen workspace, and the object will be automatically stored in the image browser.
- Go to Graphics List in Status List in project view to create a graphic list in the workspace first, then add a list entry on the right side of the workspace. Click Entry and the image browser will pop up. Click Open in the browser, and the system file browsing window will pop up. Select the graphic file to be added in the browsing window.

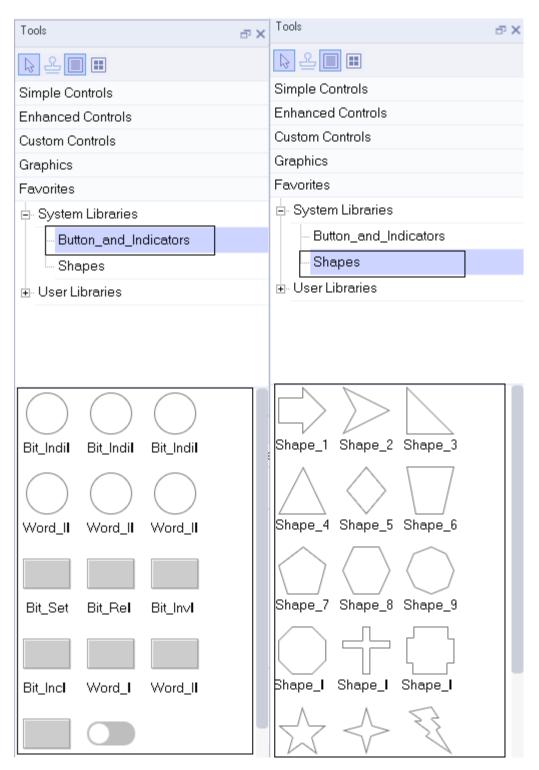
Project &	🖾 00001:Screen_1 × 1⊟ Gra	ohics Lists ×			
C Screens(2/256)	Graz	hics lists		List entries(Graph	pics list 1)
	+ Name - Numb	er • Selection Comment	+ Number	Value • Entry	
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		Name Graphics list_1			
🕀 🧾 Reports(0/100)		Select Range ()		*	
🖶 📄 Status Lists					
Details View 🗗 🛪					

# 6.2.4 Favorites

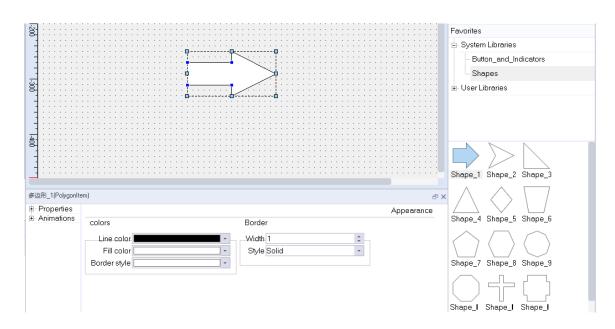
A library is a collection of screen object templates. Library objects can always be reused without reconfiguration, thus improving design efficiency. InoTouchPad includes system libraries and user libraries, and you can browse and view their contents through Favorites in the Tools window.

### **System libraries**

They are provided by InoTouchPad and cannot be modified.



The controls in the libraries are the same as ordinary controls. You can select them in the toolbar, then put them on the screen or drag them directly to the screen for configuration, as shown in the following figure:



# **User libraries**

The user library is a collection of user-defined controls, which allows users to customize the form of controls, and then collect them for the next project. The collected controls exist in the user library, as shown in the figure:

The following is a detailed explanation of the collection and use of a custom button control:

First, drag a button control from the toolbar into the screen.

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		<ul> <li>Click animate</li> <li>Auto Repeat</li> </ul>					Č	Timer	
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utton_8(Button)				C III Text Switch	
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	Click animate	Graph OFF 3-1.png	O Text Under Icon     O Text Beside Icon		
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	Hold Dela 0 *100r 🛟	Graph ON	·	Custom Controls	
				Graphics	
				Favorites	

Then the button mode to Grapic and select the button image.

After configuring the button, right-click the button and select Add Favorites in the context menu.

🖾 00001:Scre	en_1 ×		Tools 🗗 🗙
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	Auto Repeat		Enhanced Controls
	Hold Dela 0 *100r ≑	Graph ON -	Custom Controls
			Graphics
			Favorites

You can rename the button in the popup window.

TP Add Favorite	s		?	×
Name	ON(B	utton)		
User Libraries	Defau	lt		+
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After you click OK, the button is added in Favorites  $\rightarrow$  User Libraries.

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<u>▶</u> <b>2 ■ ■</b>	
Simple Controls	
Enhanced Controls	
Custom Controls	
Graphics	
Favorites	
🖃 System Libraries	
- Button_and_Indicators	
Shapes	
🖃 User Libraries	
Default	
ON(Buttl	

If you want to use this button in this project or other projects later, you only need to drag it from the user library to the screen without reconfiguration.

In addition, if a recipe, data record, alarm log, script, report, text list and/or graphic list is configured in a custom control, when you use the control in other projects, these associated data will be automatically created. If the control is associated with tags, these tags and corresponding connections are also automatically created.

# 7 Controls

# 7.1 Simple controls

# 7.1.1 Line

The line is an open object. The length and slope of a line are defined by the height and width of the bounding box.

There is a blue control point at each end of the line. You can drag them to move them.

 	<u> </u>	<u> </u>	<u> </u>	· ·					•						•
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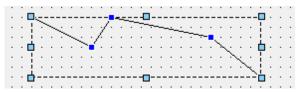
	Name		Description	Remarks				
		Line color	Color of the line					
	Color	Fill color	Fill color of the line	It only works when the blinking function is configured, blinking between Line Color and Fill Color				
		Width	Width of the line	Value range: 1 (default) to 30.				
		Style	Style of the line. There are five styles:	The default is solid				
Appear- ance			Solid, dash, dot, dash-dot and dash-dot-dot					
	Border	Line start	There are two types:	The default is standard				
			Standard and Arrow					
		Line end	There are two types:	The default is standard				
			Standard and Arrow					
		Line end	There are two types:	Default is square				
		shape	Square and Round					
	Chart Daint	x	Horizontal distance from the start point of the line to the left edge of the screen.	In pixels				
Layout	Start Point	Y	Vertical distance from the start point of the line to the top edge of the screen.	In pixels				
Layout		x	Horizontal distance from the end point of the line to the left edge of the screen.	In pixels				
	End Point	Y	Vertical distance from the end point of the line to the top edge of the screen.	In pixels				
Flashing	Runtime Appear- ance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.				
	Process	Тад	Process tag	Process tag, flashes when the value is 1				

	Name		Description	Remarks
		Layer The layer in which the object is currently located		The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

2. For animation properties, see "7.4.1 Animation" on page 189.

# 7.1.2 Polyline

A polyline consists of connected segments and can have indefinite number of control points (numbered in the order in which they were created). The control points are blue squares which can be directly dragged to change their position. The polylie is an open object. Although the start and end points may coincide in the same coordinate, the area enclosed by the segments cannot be filled.



	Name		Description	Remarks				
		Line color	Line color of the polyline					
Appearance	Color	Fill color	Border color	It only works when the blinking function is configured, blinking between Line Color and Fill Color				
		Width	Width of the border line					
	Border		There are five styles:					
	Dorder	Style	Solid, dash, dot, dash-dot and dash-dot-dot	The default is solid				
Layout	Corner points	Pos X	Horizontal distance from the control point to the left edge of the screen	In pixels				
Layout	comer points	Pos Y	Vertical distance from the control point to the top edge of the screen	In pixels				
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.				
	Process	Tag	Process tag	Process tag, flashes when the value is 1				

	Name				Description	Remarks						
		Layer			in which the object ly located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0						
Misc	Misc	z Valu	e	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.							
		Opaci	ty	Display cl	learance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque						
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		3	270		290							
		4	320		310							
		5	370		300							
		6	410		320							

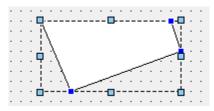
Polyline_11(PolylineItem	) Corner p	2 oints	5	r × Layout
Flashing Misc ⊕ Animations		PosX	Pos Y	
	1	170	270	
	2	230	320	
	3	270	290	
	4	320	310	
	5	370	300	
	6	410	320	

[Note] the five points in Properties-Layout-Corner points

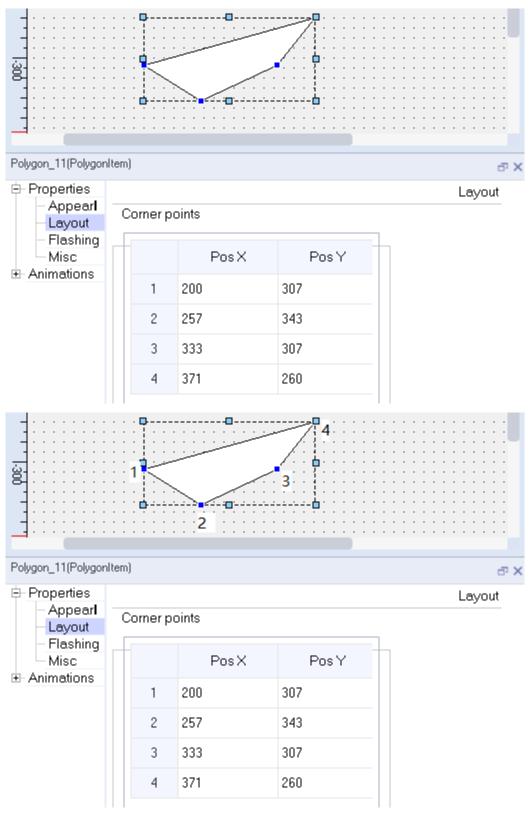
2. For animation properties, see "7.4.1 Animation" on page 189.

# 7.1.3 Polygon

The polygon is a closed object that can be filled with a background color. The control points of the polygon are numbered in the order in which they are created. To create a polygon, click the Polygon control under Simple Controls, click the screen to draw lines, and right-click to stop drawing. The control points are blue squares which you can drag to change their position.



	Name		Description	Remarks					
		Line color	Line color of the polygon						
	Color	Fill color	Fill color of the enclosed shape						
Appear-		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles					
ance		Width	Width of the border line						
	Border		There are five styles: styles:						
	Dorder	Style	Solid, dash, dot, dash-dot and dash-dot-dot	The default is solid					
	Corner points	X-axis position	Horizontal distance from the control point to the left edge of the screen	In pixels					
Layout	Comer points	Y-axis position	Vertical distance from the control point to the top edge of the screen	In pixels					
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.					
Tashing	Process	Тад	Process tag	Process tag, flashes when the value is 1					
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0					
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.					
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque					

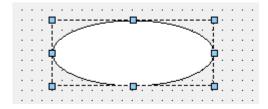


[Note] the four points in Properties-Layout-Corner points

2. For animation properties, see "7.4.1 Animation" on page 189.

# 7.1.4 Ellipse

The ellipse is a closed object that can be filled with a background color.



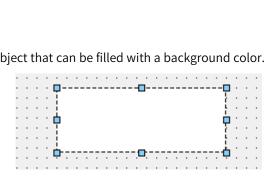
1. In the Properties dialog box in the Properties view, you can set the corresponding properties.

	Name		Description	Remarks
		Border color	Border color of the ellipse	
	Color	Fill color	Fill color of the ellipse	
Appear-	COIOI	Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
ance		Width	Width of the border line	
	Border		There are five styles:	
	Doruci	Style	Solid, dash, dot, dash-dot and dash-dot-dot	The default is solid
	Position	х	Horizontal distance from the center of the ellipse to the left edge of the screen	In pixels
Layout	POSITION	Y	Vertical distance from the center of the ellipse to the top edge of the screen	In pixels
	C'	Width	Width of the ellipse	In pixels
	Size	Height	Height of the ellipse	In pixels
		Shape	The shapes include the pie, arc and chord.	
Shape	Shape	Start	Starting at the rightmost point of the ellipse, offsets counterclockwise	
		Span	The circumference of the shape, which is an ellipse at 360 degrees.	
Flashing	Runtime Appear- ance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
	Process	Тад	Process tag	Process tag, flashes when the value is 1
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

2. For animation properties, see "7.4.1 Animation" on page 189.

#### Rectangle 7.1.5

The rectangle is a closed object that can be filled with a background color.



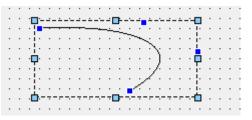
	Name		Description	Remarks					
		Border color	Border color of the rectangle						
	Color	Fill color	Fill color of the rectangle						
Appearance	COIO	Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles					
Appearance		Width	Width of the border line						
	Border		There are five styles:						
	border	Style	Solid, dash, dot, dash-dot and dash-dot-dot	The default is solid					
	D	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels					
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels					
	<i>c</i> :	Width	Width of the rectangle	In pixels					
	Size	Height	Height of the rectangle	In pixels					
	Shape	Shape	You can choose "rect" and "roundRect"						
		Horizontal	Relationship between radius of horizontal fillet and half length of horizontal side	In pixels					
Shape	Corner Radius	Vertical	Relationship between the radius of the vertical fillet and half the length of the vertical side	If you check Percent, the corner radius is the percentage of the half length of the corresponding side. If you do not, half of the input pixel value represents the corner radius					
Flashing	Runtime Appear- ance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.					
	Process	Tag	Process tag	Process tag, flashes when the value is 1					

	Name		Description	Remarks				
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0				
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.				
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque				

2. For animation properties, see "7.4.1 Animation" on page 189.

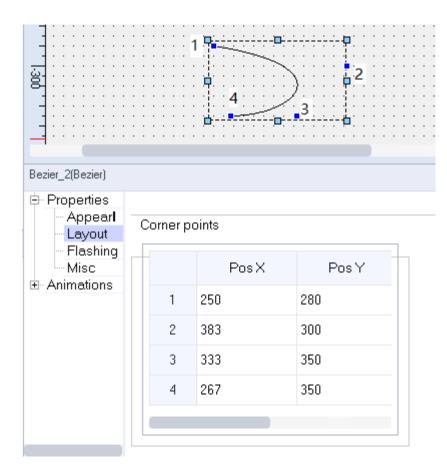
# 7.1.6 Bezier

Bezier displays a Bezier curve. The control points of the curve are numbered in the order in which they are created. The control points are blue squares which you can drag to change their position.



	Name		Description	Remarks				
		Border color	Border color of the rectangle					
Appearance	Color	Fill color	Fill color of the enclosed shape	It only works when the blinking function is configured, blinking between Line Color and Fill Color				
		Width	Width of the border line					
	Border		There are five styles: styles:					
	Dorder	Style	Solid, dash, dot, dash-dot and dash-dot-dot	The default is solid				
Layout	Corner points	Pos X	Horizontal distance from the point of the curve to the left edge of the screen	In pixels				
Layout	comer points	Pos Y	Vertical distance from the point of the curve to the top edge of the screen	In pixels				
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.				
	Process	Tag	Process tag	Process tag, flashes when the value is 1				

Layer The layer in which the object is object is located, the range is 0–31, and the value is 0	value
	euelault
Misc Misc z Value z Value z Value The position of the control were value covers a control lower one.	ith a larger/
Opacity     Display clearance     Value range: 0–100, d       Opacity     Display clearance     0 for transparent, 100       opaque	
Bezier_2(Bezier)	
Misc Pos X Pos Y	
Animations 1 250 280	
2 383 300	
3 333 350	
4 267 350	



[Note] the four points in Properties-Layout-Corner points

2. For animation properties, see "7.4.1 Animation" on page 189.

# 7.1.7 Table

The table control displays a table.

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1. In General of the properties view, you can set its properties.

	Name		Description	Remarks				
Conoral	Settings	Row count	The number of rows in the table	Ranges from 1 to 100, and the default value is 6				
General	Settings	Column count	The number of columns in the table	Ranges from 1 to 100, and the default value is 8				

	Name		Description	Remarks
		Border color	The color of table borders	
	Color	Fill color	The fill color of the table	
Appear-	Color	Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
ance		Width	The width of the table border	
	Border		There are five styles:	
	Dorder	Style	Solid, dash, dot, dash-dot and dash-dot-dot	The default is solid
	Desition	х	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	c:	Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
rtasning	Process	Тад	Process tag	Process tag, flashes when the value is 1
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

3. For animation properties, see "7.4.1 Animation" on page 189.

# 7.1.8 Text Field

The text field is a closed object in which you can enter multi-line styled text. You can use it to enter text in any configured language.

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1. 1. In General of the Properties view, you can enter the text of the text field. Although the length of the text can be up to 1024, it is restricted by the size of the object.

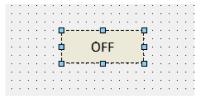
Text Field_7(TextFie	ld)	₽×
General ⊕ Properties ⊕ Animations	Text	
E. Animations	Text	

Name			Description	Remarks		
		Text color	Text color			
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color		
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles		
	Position	X	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels		
Layout		Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels		
	Size	Width	Width of the rectangle	In pixels		
		Height	Height of the rectangle	In pixels		
	Sizing	Auto-sizing	Check this to enable auto-sizing	Auto-resizing automatically resizes the text field according to its content so that the text is displayed completely		
	Font	Font	Text font	The font size is in pixels (px)		
Text	Alignment	Horizontal	The horizontal alignment of text: left, center, or right			
	Aughment	Vertical	The vertical alignment of text: top, middle, or bottom			
		Speed	The text scrolling speed	In pixels		
Whirl	Whirl	Direction	You can set 5 directions: no direction, left to right, right to left, top to bottom, or bottom to top			
		Тад	Tag to control a process	In pixels		
	Process	Value ON	The value of the tag that controls a process	Text scrolls when the tag value reaches the value of Value ON		

	Name		Description	Remarks
Flashing	Runtime Appear- ance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
	Process	Тад	Process tag	Process tag, flashes when the value is 1
Style	Style	Style	Sets the text display style	Three default styles are provided
Misc		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

#### 7.1.9 Bit Indicator

The bit indicator is used to display the bit status of a tag. Drag the control to the screen:



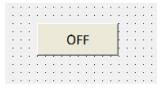
1. In General of the Properties view, you can set the tag by drag-and-drop. If you check Output Reverse, when the tag is 0, the status is 1, and when the tag is 1, the status is 0.

Bit Indicator_2(BitIndicator)						
• <k< td=""></k<>						

	Name		Description	Remarks
	Status		There are two statuses, status 0 indicates the status when the tag is 0. Status 1 indicates the status when the tag is 1.	If you check Output Reverse, the status is opposite to the tag value.
	Graphics		Different images can be displayed in different statuses	
Status	Text		Different text can be displayed in different statuses	
	Font		Text font	The font size is in pixels (px)
	Position		The text alignment of the control	
	Text color		Text color	
	Background	d color	Background color of the text	
	Flashing		Enable/disabling flashing for a status	
	Preview		Simple preview of the control	
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
	Position	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout		Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
		Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque
	Runtime Security	Authoriza- tion	Assigns users with permissions	
Security		Enabled	Enables the security	You must check Enabled to enable input Otherwise, input is disabled
	Operation	Visibility controlled by authoriza- tion	Check this to control visibility through authorization	If this is checked, only authorized users can see the control

### 7.1.10 Bit Button

You can use the bit button to perform bit operation on the bound tag.



1. In General of the properties view, you can set its properties.

	Name	5	Description	Remarks
		Read Tag	The tag to be read	
	Read	Output Reverse	Check this to reverse the read tag value.	
		Read/Write Tag Same	If it is checked, it means that the tag to be written is the same as the tag to be read. If not, you need to set the write tag.	
			Set	Set the tag to 1 when the button is released.
	Write	ite Mode	Reset	Set the tag to 0 when the button is released.
			Invert	Writes the inverted value.
General			MomentaryON	When the button is pressed, the tag is set to 1. When the button is released, the tag is set to 0.
			MomentaryOFF	When the button is pressed, the tag is set to 0. When the button is released, the tag is set to 1.
		Click animation	Check this to enable animation when you click the button	
	Press	Auto Repeat	When the button is pressed, the event can be repeatedly triggered	
		Hold Delay	The operation is triggered with delay	

	Name		Description	Remarks
	State		There are two statuses, status 0 indicates the status when the tag is 0. Status 1 indicates the status when the tag is 1.	If you check Output Reverse, the status is opposite to the tag value.
	Graphics		Different images can be displayed in different statuses	
State	Text		Different text can be displayed in different statuses	
	Font		Text font	The font size is in pixels (px)
	Position		The text alignment of the control	
	Text color		Text color	
	Background	color	Background color of the text	
	Flashing		Enables/disables flashing for a status	
	Preview		Simple preview of the control	
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
		х	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
		Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
Style	Style	Style	Sets the button display style.	Seven default styles are provided
Style		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque
	Runtime Security	Authoriza- tion	Assigns users with permissions	
Security		Enabled	Enables the security	You must check Enabled to enable input Otherwise, input is disabled
	Operation	Visibility controlled by authoriza- tion	Check this to control visibility through authorization	If this is checked, only authorized users can see the control

Name			Description	Remarks
Opera- tion Record	Record Tag		You can enable or disable the operation record here	The operation record is enabled if the tag value is not 0. It is also enabled if no tag is configured.

4. For the event property, see "7.4.2 Event" on page 203.

#### 7.1.11 Word Button

The word button is used to display the word status of a tag. Drag the control to the screen:

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1. In General of the Properties view, you can set the tags by drag-and-drop.

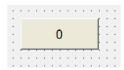
Word Indicator_1(W	ordIndicator)	
General Properties Animations	Read Read Tag <undefined></undefined>	•

	Nan	Name Description Remarks		
	Status		There is one default status, and you can add more. Each status is in a different range	
	Graphics		Different images can be displayed in different statuses	
	Text		Different text can be displayed in different statuses	
Status	Font		Text font	The font size is in pixels (px)
	Position		The text alignment of the control	
	Text color		Text color	
	Background	d color	Background color of the text	
	Flashing		Enable/disabling flashing for a status	
	Preview		Simple preview of the control	
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles

Name			Description	Remarks	
	Position	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels	
Layout	POSITION	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels	
	Size	Width	Width of the rectangle	In pixels	
	Size	Height	Height of the rectangle	In pixels	
	Misc	Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0	
Misc		z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.	
				Opacity	Display clearance
	Runtime Security	Authorization	Assigns users with permissions		
Security	Operation	Enabled	Enables the security	You must check Enabled to enable input Otherwise, input is disabled	
	operation	Visibility controlled by authorization	Check this to control visibility through authorization	If this is checked, only authorized users can see the control	

#### 7.1.12 Word Button

You can use the word button to perform word operation on the bound tag.



1. In General of the properties view, you can set its properties.

	Name		Description	Remarks
	Read	Read Tag	The tag to be read	
		Read/Write Tag Same	If it is checked, it means that the tag to be written is the same as the tag to be read. If not, you need to set the write tag.	
			Increase	Status-independent. The increment can be a constant value or tag value.
			Decrease	Status-independent. The decrement can be a constant value or tag value.
			Cycle Increase	Status-dependent. the current value is the minimum value of the next status, and the status value is reset to the minimum after reaching the maximum value. The default status is not involved in the cycle.
General	Write	Mode Vrite	Cycle Decrease	Status-dependent. the current value is the minimum value of the previous status, and the status value is reset to the maximum after reaching the minimum value. The default status is not involved in the cycle.
			Status Increase	Status-dependent. The current value is the minimum value of the next status. After reaching the maximum value, the status stops increasing.
			Status Decrease	Status-dependent. The current value is the minimum value of the previous status. After reaching the minimum value, the status stops decreasing.
			Constant value	It is only effective in the increase and decrease mode, and cannot be used with the tag at the same time.
		Тад	Tag value	It is only effective in the increase and decrease mode, and cannot be used with the constant at the same time.
		Click animation	Check this to enable animation when you click the button	
	Press	Auto Repeat	When the button is pressed, the event can be repeatedly triggered	
		Hold Delay	The operation is triggered with delay	

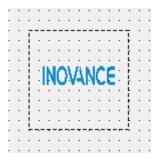
	Name		Description	Remarks
	State		There can be a variety of statuses, and one default status is provided. The value ranges of these statuses are different and you can set the status range.	
	Graphics		Different images can be displayed in different statuses	
State	Text		Different text can be displayed in different statuses	
	Font		Text font	The font size is in pixels (px)
	Position		The text alignment of the control	
	Text color		Text color	
	Background	color	Background color of the text	
	Flashing		Enables/disables flashing for a status	
	Preview		Simple preview of the control	
		Text color	Text color	
Appearance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
		x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Sizo	Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
Style	Style	Style	Sets the button display style.	Seven default styles are provided
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

	Name		Description	Remarks
	Runtime Security Authorizat		Assigns users with permissions	
		Enabled	Enables the security	You must check Enabled to enable input
				Otherwise, input is disabled
Security	Operation	Visibility controlled by authorization	Check this to control visibility through authorization	If this is checked, only authorized users can see the control
		Confirm Before Operation	Check this to pop up a confirm window before operation	When this is checked, you need to confirm the system security first
Operation Record	Record Tag		You can enable or disable the operation record here	The operation record is enabled if the tag value is not 0. It is also enabled if no tag is configured.

4. For the event property, see "7.4.2 Event" on page 203.

# 7.1.13 Simple Graphics View

The simple graphic view is used to display graphics.



1. In General of the properties view, you can set the image to be displayed.

Simple Graphics View	v_3(SimpleGraphics)				a x
General ⊕ Properties	Use original size of the picture				General
<u> </u>		Set	Clear	Transparent	
	default_II				

🗁 Open the file browser to import images

i Delete the selected image

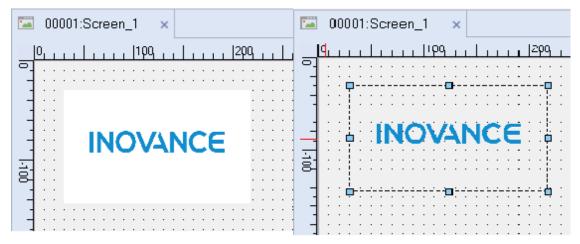
I Show the images in thumbnails

Show the images in a list

The Set button sets the image to be displayed

The Clear button clears the displayed image

The Transparent button sets the image background transparent. Take the default image as an example:



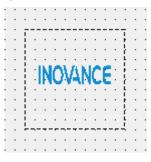
The button on the right of the Transparent button is used to set the image background color

	Name		Description	Remarks
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
Layout	Position	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels, can be a tag value.
		Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels, can be a tag value.
	Size	Width	Width of the rectangle	In pixels, can be a tag value.
		Height	Height of the rectangle	In pixels, can be a tag value.
	Rotate	Rotate	Rotates the image by a given angle	Rotates the image by an angle based on the tag value.
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
	Process	Тад	Process tag	Process tag, flashes when the value is 1

	Name		Description	Remarks
Misc	Misc	Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
		z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

# 7.1.14 Graphics View

The graphics view is used to display graphics.



1. In General of the properties view, you can set the image to be displayed.

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General	w_4(SimpleGraphics)	e picture			ਰਾ × General
General ⊕ Properties	Use original size of the	e picture			
General		picture	Set	Clear	
General ⊕ Properties	Use original size of the		Set	Clear	General
General ⊕ Properties	Use original size of the		Set	Clear	General
General ⊕ Properties	Use original size of the		Set	Clear	General
General ⊕ Properties	Use original size of the		Set	Clear	General
General ⊕ Properties	Use original size of the		Set	Clear Trans	General
General ⊕ Properties	Use original size of the				General
General ⊕ Properties	Use original size of the				General
General ⊕ Properties	Use original size of the				General
General ⊕ Properties	Use original size of the			Clear Trans	General
General ⊕ Properties	Use original size of the				General

C Open the file browser to import images

- in Delete the selected image
- E Show the images in thumbnails

Show the images in a list

The Set button sets the image to be displayed

The Clear button clears the displayed image

The Transparent button is used to remove the background color of the currently displayed image and make it transparent

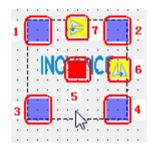
The **\_\_\_** button is used to set the background color of the image

2. In the Properties dialog box in the Properties view, you can set the corresponding properties.

	Name		Description	Remarks	
Appearance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color	
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles	
	Position	х	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels	
Layout		Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels	
	<i>c</i> :	Width	Width of the rectangle	In pixels	
	Size	Height	Height of the rectangle	In pixels	
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.	
	Process	Тад	Process tag	Process tag, flashes when the value is 1	
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0	
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.	
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque	

3. For animation properties, see "7.4.1 Animation" on page 189.

In addition, you can also set the graphics view by manipulating the 7 control points on the view:



Point 1: You can drag this point to resize or rotate the view. Hold down shift while dragging to only adjust the size and hold down ctrl while dragging to only rotate the view. Double-click the point to undo the rotation.

Points 2, 3 and 4 are the same as point 1.

Point 5: You can drag this point to rotate the view around the X or Y axis. Double-click the point to undo the rotation.

Point 6: Click this point to flip the view horizontally.

Point 7: Click this point to flip the view vertically.

### 7.1.15 Number IO field

The number IO field is used to enter and display process values.

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1. In General of the properties view, you can set its properties.

	Name		Description	Remarks
	Type Mode		There are three modes: input, input/output, and output	
	Process	Тад	The tag to display a process	
		Format type	Bin, dec, hex, and BCD	
General		Shift decimal point	The position of decimal point: 0– 16	The shift range is determined by the length of the string field
	Format	String field length	String length: 1–64	
		Leading zero	Check this to pad the number with leading zeros	

	Name	2	Description	Remarks
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
	Position	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout		Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Cine	Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
	Size	Auto-sizing	Check this to enable auto-sizing	Auto-resizing automatically resizes the control according to the text length
	Font	Font	Text font	The font size is in pixels (px)
Text	Align-	Horizontal	The horizontal alignment of text: left, center, or right	
	ment	Vertical	The vertical alignment of text: top, middle, or bottom	
Flashing	Runtime Appear- ance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
	Process	Тад	Process tag	Process tag, flashes when the value is 1
	Gain	Static	Gain between screen display value and PLC value	Value written to PLC = (Input value - Offset)/Gain;
Scaling		Static	Offset between screen display value and PLC value	Value displayed on HMI = (Output Value * Gain) + Offset
	Offset	Tag	Process tag	Process tag associated with gain and offset settings
Limits	Color	Color above upper limit	The color displayed when upper limit is exceeded	
LIIIIIIS	COLOT	Color below lower limit	The color displayed when lower limit is exceeded	
Style	Style	Style	Sets the display style.	Two default styles are provided
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

	Name		Description	Remarks
	Runtime Security	Authorization	Assigns users with permissions	
		Enabled	Enables the security	You must check Enabled to enable input
				Otherwise, input is disabled
Security		Visibility controlled by authorization	Check this to control visibility through authorization	If this is checked, only authorized users can see the control
	Operation	Confirm Before Operation	Check this to pop up a confirm window before operation	When this is checked, you need to confirm the system security first
		SoftwareInput Enable	Enables the on-screen keyboard	Check this to use the on-screen keyboard when inputing the password
		Password input	Password display	Check this to display the password with asterisks
Operation Record	Record Tag	5	You can enable or disable the operation record here	The operation record is enabled if the tag value is not 0. It is also enabled if no tag is configured.

4. For the event property, see "7.4.2 Event" on page 203.

### 7.1.16 String IO field

The string IO field is used to enter and display process values.

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				·					·					·					

1. In General of the properties view, you can set its properties.

Name			Description	Remarks
General	Туре	Mode	There are three modes: input, input/output, and output	
	Process	Tag	The tag to dispaly a process	

	Name		Description	Remarks
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
		X	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	<u>.</u>	Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
	Size	Auto-sizing	Check this to enable auto- sizing	Auto-resizing automatically resizes the control according to the text length
	Font	Font	Text font	The font size is in pixels (px)
Text		Horizontal	The horizontal alignment of text: left, center, or right	
	Alignment	Vertical	The vertical alignment of text: top, middle, or bottom	
		Speed	Sets the text scrolling speed	The speed unit is 1
Whirl	Whirl	Direction	Sets the text scrolling direction	You can set 5 directions: no direction, left to right, right to left, top to bottom, or bottom to top
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
	Process	Тад	Process tag	Process tag, flashes when the value is 1
Style	Style	Style	Sets the display style.	Two default styles are provided
Misc		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

	Name		Description	Remarks
	Runtime Security	Authorization	Assigns users with permissions	
		Enabled	Enables the security	You must check Enabled to enable input
				Otherwise, input is disabled
Security	Operation	Visibility controlled by authorization	Check this to control visibility through authorization	If this is checked, only authorized users can see the control
		SoftwareInput Enable	Enables the on-screen keyboard	Check this to use the on-screen keyboard when inputing the password
		Password input	Password display	Check this to display the password with asterisks

4. For the event property, see "7.4.2 Event" on page 203.

#### 7.1.17 Date-Time Field

The date-time field is used to enter and display time and date.

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•	¢2018-05-22 13:42:14 •	
·	¢2018-05-22 13:42:14	

1. In General of the properties view, you can set its properties.

	Name	2	Description	Remarks
	Туре	Mode	There are two modes: input/ output and output	
		Display system time	Check this to display system time	
	Process	Use tag Check this to display the time set in the tag		
General		Tag	The tag to be used	Only enabled when you check Use tag
		Display date	Check this to display date	Check at least one of the three.
	Format	Display time	Check this to display time	"Display weekday" is available
		Display weekday	Check this to display the day of the week	only when "Display system time" is checked.

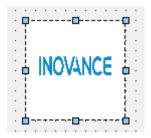
	Name		Description	Remarks
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
	Position	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout		Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
		Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
	Size	Auto-sizing	Check this to enable auto-sizing	Auto-resizing automatically resizes the control according to the text length
	Font Font		Text font	The font size is in pixels (px)
Text	Alignment	Horizontal	The horizontal alignment of text: left, center, or right	
	Augnment	Vertical	The vertical alignment of text: top, middle, or bottom	
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
Tashing	Process	Тад	Process tag	Process tag, flashes when the value is 1
Style	Style	Style	Sets the display style.	Two default styles are provided
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque
Operation Record	Record Tag		You can enable or disable the operation record here	The operation record is enabled if the tag value is not 0. It is also enabled if no tag is configured.

	Name		Description	Remarks
	Runtime Security	Authorization	Assigns users with permissions	
		Enabled	Enables the security	You must check Enabled to enable input
				Otherwise, input is disabled
Security	Operation	Visibility controlled by authorization	Check this to control visibility through authorization	If this is checked, only authorized users can see the control
		SoftwareInput Enable	Enables the on-screen keyboard	Check this to use the on-screen keyboard when inputing the password
		Password input	Password display	Check this to display the password with asterisks

4. For the event property, see "7.4.2 Event" on page 203.

### 7.1.18 Graphic IO Field

The graphic IO field object can be used to display many different states for multiple images in the graphic list.



1. In General of the properties view, you can set its properties.

	Name		Description	Remarks
	Settings	Mode	Mode	Values: output, input, input/output
	Settings	Mode	Mode	Default: input/output
		Tag	Process tag	Defaults to null, types: int16, UInt16, int32, UInt32, float, double, bool, Int64, and UInt64, array is not supported
General	Process	Ditawahan	Bit number of the	Only when you select "Bit (0, 1)" in Graphic list can it be edited;
		Bit number	process tag	Value range: Word: 0-15 DWord: 0-63
				Default: 0
		Graphic List	Graphic list	Default is null
	Display	Scroll bar	Scroll bar	Values: vertical and horizontal
		orientation	orientation	Default: vertical

	Name		Description	Remarks
Appear-	Fill	Background color	Background color	
ance		Fill style	Fill style	
	Position	х	X coordinate of the object	
Layout	Position	Υ	Y coordinate of the object	In pixels. Note: The object cannot
Layout	c:	Width	Object width	move out of the screen
	Size	Height	Object height	
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
T tashing	Process	Тад	Process tag	Process tag, flashes when the value is 1
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	Misc z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque
	Runtime			Default is null
	Security	Authoriza- tion	Runtime Security	Not configurable in output mode
	e county	tion		Only authorized users can operate
Security		Enabled	Enables the security	You must check Enabled to enable input
				Otherwise, input is disabled
	Operation	Visibility controlled by authoriza- tion	Check this to control visibility through authorization	If this is checked, only authorized users can see the control

# 7.1.19 Symbolic IO Field

The symbolic IO field is a dropdown list of input and output text.



1. In General of the properties view, you can set its properties.

	Name		Description	Remarks
	Settings Mode		There are three modes: input, input/output, and output	
	Process	Тад	Tag to control the displayed information	
General		Bit number	Bit number of the tag	
	Display	Text List	The text list to be linked to the object	
	Dispidy	Number of visible items	Number of visible items	

	Name		Description	Remarks
		Text color	Text color	
Appearance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
	Position	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Cine	Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
Text	Font	Font	Text font	The font size is in pixels (px)
Flashing	Runtime Appearance		You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
Tashing	Process	Тад	Process tag	Process tag, flashes when the value is 1
Limits	Colors	Color above upper limit	The color displayed when upper limit is exceeded	
LIIIIIIS	COLOTS	Color below lower limit	The color displayed when lower limit is exceeded	
StyleSheet	StyleSheet	StyleSheet	Sets the display style	Two default styles are provided
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

	Name		Description	Remarks
	Runtime			Default is null
	Security	Authorization	Runtime Security	Not configurable in output mode
	Security		Only authorized users can operate	
		Enabled	Enables the security	You must check Enabled to enable
Security				input
	Operation			Otherwise, input is disabled
		Visibility	Check this to control	If this is checked, only authorized
		controlled by	visibility through	users can see the control
		authorization	authorization	doels can see the control

4. For the event property, see "7.4.2 Event" on page 203.

#### 7.1.20 Button

The button is used to execute a command at run time.

The button can be displayed as text, a graphic or invisible:

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		<del></del>	

1. In General of the properties view, you can set its properties.

	Name		Description	Remarks
		Text	Text/Text List	When you select Text, you can edit and set Text OFF/ON. When you select Text List, you can control the display of the specified text in the text list through process tags.
General	General Button Mode	Graphic	Graphic/Graphic List	When you select Text, you can edit and set Graph OFF/ON. When you select Graphic List, you can control the display of the specified graphic in the graphic list through process tags. In addition, you can also set the icon text display style.
		Invisible	Check this to hide the button during operation	

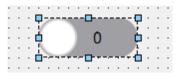
In the General page, you can also set Click Animation and Auto Repeat. If you check Click Animation, you can play an animation when clicking the button. If you check Auto Repeat, one button click can trigger the event repeatedly. If you tick Checkable, the button keeps pressed or released when you click it, just like a check box.

	Name	T	Description	Remarks
		Text color	Text color	
Appearance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
		x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Ci	Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
	Size	Auto-sizing	Check this to enable auto- sizing	Auto-resizing automatically resizes the control according to the text length
Text	Font	ont Font Text font		The font size is in pixels (px)
Flashing	Runtime Appearance		You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
	Process	Тад	Process tag	Process tag, flashes when the value is 1
Style	Style	Style	Sets the button display style.	Seven default styles are provided
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque
	Runtime Security	Authorization	Assigns users with permissions	
Security		Enabled	Enables the security	You must check Enabled to enable input Otherwise, input is disabled
	Operation	Visibility controlled by authorization	Check this to control visibility through authorization	If this is checked, only authorized users can see the control
		Confirm Before Operation	Check this to pop up a confirm window before operation	When this is checked, you need to confirm the system security first

4. For the event property, see "7.4.2 Event" on page 203.

### 7.1.21 Text Switch

The text switch is a switch which changes state at runtime. You can visualize the current state of the switch through text.



1. In General of the properties view, you can set its properties.

	Name		Description	Remarks
		Text ON	The text displayed when the status is ON	
		Text OFF	The text displayed when the status is OFF	
General	Text	Text Switch	Check this to use the control with dynamic effects. When it is not checked, the switch becomes a button.	
	Click animation	Click animation	Enables animation when you click the switch	
		Тад	Tag to control a process	
	Process	Value ON	The state is ON when the tag reaches the set value	The default is 1, which cannot be changed

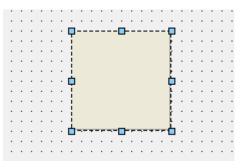
	Name		Description	Remarks
Appear-	Fill	Text color	Text color	
ance		Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
Layout	Position	X	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
		Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Size	Width	Width of the rectangle	In pixels
		Height	Height of the rectangle	In pixels
	Size	Auto-sizing	Check this to enable auto-sizing	Auto-resizing automatically resizes the control according to the text length
Text	Font	Font	Text font	The font size is in pixels (px)

	Name		Description	Remarks
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
	Process	Тад	Process tag	Process tag, flashes when the value is 1
Limits	Color	Color above upper limit	The color displayed when upper limit is exceeded	
		Color below lower limit	The color displayed when lower limit is exceeded	
Misc	Misc	Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
		z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque
Security	Runtime Security	Authorization	Assigns users with permissions	
	Operation	Enabled	Enables the security	You must check Enabled to enable input
				Otherwise, input is disabled
		Visibility controlled by authorization	Check this to control visibility through authorization	If this is checked, only authorized users can see the control

4. For the event property, see "7.4.2 Event" on page 203.

#### 7.1.22 Graphic Switch

The graphic switch is a switch which changes state at runtime. You can visualize the current state of the switch through graphics.



1. In General of the properties view, you can set its properties.

	Name			Description	Remarks
			Graphic ON	The image displayed when the status is ON	
		Graphics	Graphic OFF	The image displayed when the status is OFF	
Gene	General		Click animation	Enable animation when you click the switch	
		Tag	Tag to control a process		
	Process		Value ON	The state is ON when the tag reaches the set value	The default is 1, which cannot be changed

2. In the Properties dialog box in the Properties view, you can set the corresponding properties.

	Name		Description	Remarks
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
		x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout		Υ	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
		Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque
	Runtime Security	Authorization	Assigns users with permissions	
Security		Enabled	Enables the security	You must check Enabled to enable input
Security	Operation			Otherwise, input is disabled
	operation	Visibility controlled by authorization	Check this to control visibility through authorization	If this is checked, only authorized users can see the control

3. For animation properties, see "7.4.1 Animation" on page 189.

4. For the event property, see "7.4.2 Event" on page 203.

#### 7.1.23 Timer

The timer is used to trigger events at intervals. Events can be triggered once or in a loop. The configured timer only takes effect in the configuration screen, and only when the configuration screen

displays, the event can be triggered. If you need to trigger event globally, you can set a timing job in

1. In General of the properties view, you can set its properties.

the scheduler.

	Name		Description	Remarks
	Settings	Interval	Time interval of the timer, ranging from 1–600, in 100 ms	
General	Single shot	Single shot	Check this to enable one-time triggering.	
		Tag	Tag to control a process	
	Process	Value ON	Starts timing when the tag reaches the set value	The default is 1, which cannot be changed

2. In the Properties dialog box in the Properties view, you can set the corresponding properties.

	Name		Description	Remarks
			Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
		x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Υ	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Size	Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

3. For animation properties, see "7.4.1 Animation" on page 189.

4. For the event property, see "7.4.2 Event" on page 203.

### 7.1.24 GIF Display View

The GIF display view is used to display GIF images.



1. In General of the properties view, you can set its properties:

Select the GIF file in the GIF selection box, and click the Set button to display the selected GIF image on the control. For details, see related instructions on the graphics view.

	Name		Description	Remarks
		Tag	Tag to control a process	
General	Process	Value ON	Display the image when the tag reaches the set value	The default is 1, which cannot be changed
		Picture File	Sets the associated string tag to dynamically switch the images	

2. In the Properties dialog box in the Properties view, you can set the corresponding properties.

	Name		Description	Remarks
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
	Position	х	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	POSICION	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Ci	Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

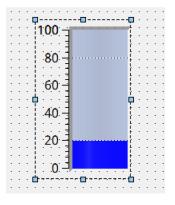
3. For animation properties, see "7.4.1 Animation" on page 189.

4. For the event property, see "7.4.2 Event" on page 203.

# 7.2 Enhanced controls

# 7.2.1 Bar

The bar control is used to monitor process values in a predefined range.



1. In General of the properties view, you can set its properties:

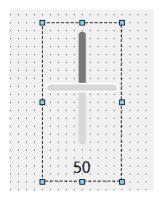
	Name		Description	Remarks
	Scale	Мах	The maximum value of the scale	The value can be static or a tag. If you use the tag, the static setting will be disabled
	Scale	Min	The Minimal value of the scale	The value can be static or a tag. If you use the tag, the static setting will be disabled
	Process	Tag	The process tag to be displayed	
		BarBack color	The background color of the bar	
		Normal color	The color of normal process values	
General		Scale pos	The position of tick marks: none, left, right, top and bottom	
		Major Scale Count	Number of divisions of the large scale	This item cannot be edited when Scale pos is set to No
	Scale Colors & pos	Minor Scale Count	Number of divisions in a large scale division	
		Decimal Digits	The decimal places of the scale values	
		Divisions	Number of divisions of the large scale	This item cannot be edited when Scale pos is set to No
		Inverted	Check this to reverse the direction of the scale	This item cannot be edited when Scale pos is set to No
		Display mark labels	Check this to display the scale text	This item cannot be edited when Scale pos is set to No

	Name		Description	Remarks		
		Text color	Text color			
Appearance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color		
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles		
	Position	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels		
Layout		Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels		
	Size	Width	Width of the rectangle	In pixels		
	3120	Height	Height of the rectangle	In pixels		
Text	Font	Font	Text font	The font size is in pixels (px)		
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.		
	Process	Тад	Process tag	Process tag, flashes when the value is 1		
	Color	Color above upper limit	The color displayed when upper limit is exceeded			
Limits	Color	Color below lower limit	The color displayed when lower limit is exceeded			
Linits	Settings	Display limit lines	Check this to display limit lines			
		Display limit markers	Check this to display limit markers			
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0		
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.		
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque		

4. For the event property, see "7.4.2 Event" on page 203.

#### 7.2.2 Slider

The slider is used to monitor and adjust a process value within a defined range.



1. In General of the properties view, you can set its properties:

	Name		Description	Remarks
	Casha	Мах	The maximum value of the slider	The value can be static or a tag. If you use the tag, the static setting will be disabled
		Min	The minimal value of the slider	The value can be static or a tag. If you use the tag, the static setting will be disabled
General	Process	Tag	The process tag to be displayed	
		Orientation	Direction of the progress bar: vertical or horizontal	
	Ticks pos	Ticks pos	Position of the tick marks: NoTicks, TicksLeft, TicksRight, and TicksBothSides	

	Name		Description	Remarks
		Text color	Text color	
	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
Appear-		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
ance		Slider color	The color of the slider thumb	
		SliderFrame	The border color of the slider	
	Slider	color	thumb	
		BarBack color	Background color of the slider	
		Bar color	Color of the slider	
	Desition	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Cine	Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
Text	Font	Font	Text font	The font size is in pixels (px)

	Name		Description	Remarks
Limits	Color	Color above upper limit	The color displayed when upper limit is exceeded	
LITIILS	COIOI	Color below lower limit	The color displayed when lower limit is exceeded	
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque
	Runtime Security	Authorization	Assigns users with permissions	
Security		Enabled	Enables the security	You must check Enabled to enable input
Security	Operation			Otherwise, input is disabled
		Visibility controlled by authorization	Check this to control visibility through authorization	If this is checked, only authorized users can see the control

3. For animation properties, see *"7.4.1 Animation" on page 189.*4. For the event property, see *"7.4.2 Event" on page 203.* 

### 7.2.3 Progress Bar

The progress bar is used to display the proportional value of a process.

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1. In General of the properties view, you can set its properties:

	Name		Description	Remarks
	Scale	Мах	The maximum value of the progress bar	The value can be static or a tag. If you use the tag, the static setting will be disabled
	Scale	Min	The minimum value value of the progress bar	The value can be static or a tag. If you use the tag, the static setting will be disabled
General	Process	Тад	The process tag to be displayed	
		Orientation	Direction of the progress bar: vertical or horizontal	
	Ticks pos	Text visible	Check this to show the percentage text	
		Inverted	Check this to reverse the direction of the progress bar	

	Name		Description	Remarks
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
	Position	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Size	Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
Style- Sheet	Style- Sheet	StyleSheet	Sets the display style.	Five default styles are provided
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

## 7.2.4 Round Progress Bar

The round progress bar is used to display the proportional value of a process

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1. In General of the properties view, you can set its properties:

	Name		Description	Remarks
	Scale	Мах	The maximum value of the progress bar	The value can be static or a tag. If you use the tag, the static setting will be disabled
	Scale	Min	The minimum value value of the progress bar	The value can be static or a tag. If you use the tag, the static setting will be disabled
	Process	Tag	The process tag to be displayed	
		Text visible	Check this to show the percentage text	
General		Clockwise	Check this to reverse the direction of the progress bar	
	Ticks pos	Outline pen width	The width of the bar	
		Data pen width	The width of the indicator	
		Decimal point	The number of decimal places of the percentage text	
		Style	The style of the percentage text	

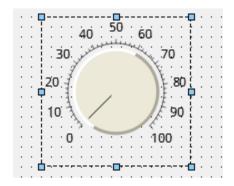
2. In the Properties dialog box in the Properties view, you can set the corresponding properties.

	Nam	e	Description	Remarks
Appear-		Text color	Text color	
ance	Color	Background color	Fill color of the bar	
	Desition	x	Horizontal distance from the upper left corner of the bounding box to the left edge of the screen	In pixels
Layout	Position Layout	Υ	Vertical distance from the upper left corner of the bounding box to the top edge of the screen	In pixels
	<b>C</b> :	Width	Width of the bounding box	In pixels
	Size	Height	Height of the bounding box	In pixels
Text	Font	Font style	Font style	
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

3. For animation properties, see "7.4.1 Animation" on page 189.

### 7.2.5 Knob

The knob is used to set a process value.



1. In General of the properties view, you can set its properties:

Name			Description	Remarks
General	Scale	Мах	The maximum value of the scale	-
		Min	The minimal value of the scale	-
	Process	Тад	The process tag to be displayed	-
	Color	Needle color	The color of the pointer	-
		Arc Left Color	The color of the left arc of the knob	-
		Arc Right Color	The color of the right arc of the knob	-

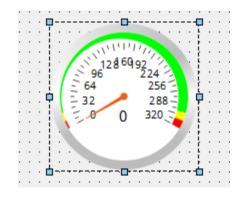
2. In the Properties dialog box in the Properties	view, you can set the corresponding properties.

Name			Description	Remarks
Appear- ance	Fill	Text color	Text color	
		Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
Layout	Position	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
		Υ	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Size	Width	Width of the rectangle	In pixels
		Height	Height of the rectangle	In pixels
Text	Font	Font	Text font	
Misc	Misc	Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
		z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

3. For animation properties, see "7.4.1 Animation" on page 189.

# 7.2.6 Gage

The gage. displays the analog value of a process tag.



1. In General of the properties view, you can set its properties:

	Name		Description	Remarks
		Label	The text displayed under the dial	
	General	Unit	The text displayed on the control to indicate the unit	
		Needle color	The color of the pointer	
General		Scale color	The Color of the scale marks and the scale text	
	Fonts	Title	The font of the title	The title Includes the label, unit, and measured value
		Digit	The font of the scale text	
	Process	Тад	The process tag to be displayed	

	Name		Description	Remarks
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
	Desition	х	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Υ	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Size	Width	Width of the rectangle	In pixels
		Height	Height of the rectangle	In pixels
		MinValue	Min. value of the scale	
		lowError	The error lower limit	
	Davasa	lowWarning	The warning lower limit	
	Range	highWarning	The warning upper limit	
		highError	The error upper limit	
Scale		Мах	Max. value of the scale	
		Color	The color of normal values	
	Color	warningColor	The color of warning values	
		errorColor	The color of error values	
	Display	Display mark labels	Check this to display the scale text	

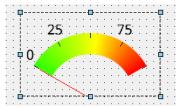
	Name		Description	Remarks
	Misc	Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc		z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

3. For animation properties, see "7.4.1 Animation" on page 189.

4. For the event property, see "7.4.2 Event" on page 203.

## 7.2.7 Meter

The meter displays the analog value of a process tag.



1. In General of the properties view, you can set its properties:

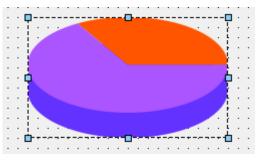
	Name		Description	Remarks
	Scale	Мах	The maximum value of the scale	The value can be static or a tag. If you use the tag, the static setting will be disabled
		Min	The minimal value of the scale	The value can be static or a tag. If you use the tag, the static setting will be disabled
		Scale font	The font of the scale text	
General		Display mark labels	Check this to display the scale text	
	Process	Тад	The process tag to be displayed	
	Color	Needle color	The color of the pointer	
		Scale color	The color of the scale text	
		Text	The text displayed at the center of the meter	

	Name		Description	Remarks
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
	Desition	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
		Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
Text	Font	Font	Text font	
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

3. For animation properties, see "7.4.1 Animation" on page 189.

### 7.2.8 3D-Pie

The 3D-PIe is used to display the proportion of multiple process tags.



1. In General of the properties view, you can set its properties:

Name			Description	Remarks
General	Data Display	Style	Sets the text to be displayed on the pie chart. Options: none, numeric value, percent	
		Channel number	Sets the number of slices of the pie chart	Ranges from 2 to 8

The Process property is used to set tags bound to the pie chart and channels;

F	rocess			
	+	Tag	Color	

You can click the + button to add channels. After adding a channel, you can set the channel name, the bound tag and the color.

2. In the Properties dialog box in the Properties view, you can set the corresponding properties.

	Name		Description	Remarks
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
	Position	х	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Size	Width	Width of the rectangle	In pixels
		Height	Height of the rectangle	In pixels
	Misc	Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc		z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

3. For animation properties, see "7.4.1 Animation" on page 189.

## 7.2.9 QR Code

The QR code represents a string.



1. In General of the properties view, you can set its properties:

	Name			Description	Remarks
	General	Settings	Level	Sets the calibration level to L, M, Q or H	The higher the level, the higher the tolerance
		Process	Tag	The process tag to be displayed	

2. In the Properties dialog box in the Properties view, you can set the corresponding properties.

	Name		Description	Remarks
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
	Position	х	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Υ	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Size	Width	Width of the rectangle	In pixels
		Height	Height of the rectangle	In pixels
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

3. For animation properties, see *"7.4.1 Animation" on page 189*.

### 7.2.10 Bar Code

The bar code represents a number.



1. In General of the properties view, you can set its properties:

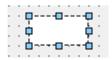
Name			Description	Remarks
	Settings	Code system	Bar code symbology	Code 128 is supported
General		Hide text	Check this to hide the number text	
	Process	Tag	The process tag to be displayed	

	Name		Description	Remarks
		Text color	Text color	
Appear- ance	Color	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
	Desition	х	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the left corner of the rectangle to the top edge of the screen	In pixels
	Size	Width	Width of the rectangle	In pixels
		Height	Height of the rectangle	In pixels
		Layer	The layer in which the line is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance of the line	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

3. For animation properties, see "7.4.1 Animation" on page 189.

### 7.2.11 Canvas

Canvas is used to display graphics drawn with scripts.



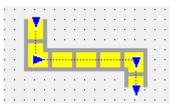
	Name		Description	Remarks
		Border color	Sets the border color of the bounding rectangle	
	Color	Fill color	Fill color of the rectangle	
Appear- ance		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
anec		Width	Width of the border line	
	Border	Style	There are five styles:	
	Border		Solid, dash, dot, dash-dot and dash-dot-dot	The default is solid
	Position	x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Cine	Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels

	Name		Description	Remarks
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

2. For the event property, see "7.4.2 Event" on page 203.

## 7.2.12 Flow Block

The flow block is used to dynamically display the flow of fluid. The blue arrows indicate the direction of flow:



1. In General of the properties view, you can set its properties:

	Name		Description	Remarks
		Reverse	Check this to reverse the flow direction	
General	Flow General	Dynamic Speed	Check this to enable dynamic speed. When it is not checked, You can set static speed	
	Process	Тад	The process tag for flow velocity	This setting is visible when Dynamic Speed is checked

	Na	me		Description	Remarks
		Backgrou	nd	Check this to show the background	
		Width		The width of the conduit	
	Conduit	Color		The background color	This setting is visible when Background is checked
Appear-	Conduit	Border		Check this to show the border	When Border is checked, Background will be also checked
ance		Border	Width	Width of the border	
		Dorder	Color	Color of the border	
		Width		The width of the flow block	
		Length		The length of the flow block	
	Slider	Interval		The interval of between two flow blocks	
		Color		The color of the flow block	
		Layer		The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value		z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity		Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

3. For animation properties, see "7.4.1 Animation" on page 189.

## 7.2.13 Alarm Bar

The alarm bar is used to display the active alarm.

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1. In General of the properties view, you can set its properties:

	Name		Description	Remarks
		Move Speed	The speed at which the alarm text moves, in pixels	
	Display	Move Direction	The scrolling direction of the alarm text: from right to left and from left to right	
		Alarm Order	The alarm display order: time sequence and time reversal	
		Time	Check this to show the time in the alarm text	
General		Date	Check this to show the date in the alarm text	
		Message	Check this to show message in the alarm text	
		Auto hide	Check this to display the alarm bar only when there is alarm information	
		Errors	Check this to display error type alarm text	
		Warnings	Check this to display warning type alarm text	
		System	Check this to display system type alarm text	

	Name		Description	Remarks
		Text color	Text color	
Appear- ance	Fill	Background color	Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		Fill style	Provides a variety of fill styles	Click the drop-down list to browse the styles
	Position	х	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Υ	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Size	Width	Width of the rectangle	In pixels
		Height	Height of the rectangle	In pixels
Flashing	Runtime Appearance	Flashing	You can choose "standard" or "none".	This setting is only effective when no process tag is selected.
rtasning	Process	Tag	Process tag	Process tag, flashes when the value is 1
Misc		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

3. For animation properties, see "7.4.1 Animation" on page 189.

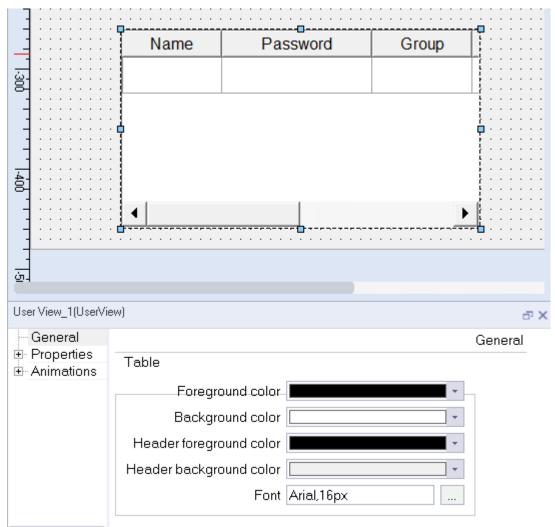
### 7.2.14 User View

The User view is used to manage users on the runtime.

#### Configuring the user view

1. Adding a User view to the screen

As shown in the following figure, click "Enhanced Controls-> User View" in the toolbox on the right and drag it to the screen.



#### 2. Property setting

The properties of the User view include general, properties and animations. For animation setting, see *"*7.4.1 *Animation" on page 189*.

#### **General setting**

Property	Description	
Foreground color	or The foreground color of the user view table	
Background color	Background color of the user view table	

Property	Description
Header foreground color	The foreground color of the user view table header
Header background color	The background color of the user view table header
Font	The style and size of table user view table text

### **Properties setting**

	Name		Description	Remarks
Position Layout	Desitien	х	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
	Position	Y	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
		Width	Width of the rectangle	In pixels
	Size	Height	Height of the rectangle	In pixels
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

### 7.2.15 Trend View

The trend view is a curve management control that displays the data collected in the current process or recorded in the data record in a curve graph.

### Configuring a trend view

1. Add a trend view to the screen.

As shown in the following figure, click Enhanced Controls→Trend View in the toolbox on the right and drag it to the screen.

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Trend View_1(Trend	View)			đ ×	Canvasitem	
General ⊕ Properties				1	🔓 FlowBlock	
In Animations	Settings	Elements	Process		👾 Alarm Bar	
	Number of lines 1 Font Arial,16px	<ul> <li>Display value table</li> <li>Display ruler</li> </ul>	Tag <undefined></undefined>	•	User View	
	Button bar style None	<ul> <li>Display table grid</li> </ul>	Hint:the process tag 0-15 bit contro	ol the 1-16		
	Rotate 0	<ul> <li>Display mark labels</li> <li>Trend background tra</li> </ul>	trend visible, bit is 1 trend is visible	bitio 0 trand	💑 XY Curve	
				[	A Recipe View	
				[	! Alarm View	
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2. Set its properties.

The properties of the trend view include general, properties and animations. For animation setting, see *"7.4.1 Animation" on page 189.* 

### **General setting**

Property	Description
Number of lines	The number of rows of the value table, which is only effective when Display value table is selected.
Font	style and size of the scale text.
Button bar style	Displays or hides buttons. For details, see <u>Description of buttons</u> in the following section.
Rotate	Rotates the trend view control for a certain angle. The control is rotated after you download the project to the target device. When you have selected Display value table, this setting is unavailable.
Display value table	Check this to display a value table.
Display ruler	The ruler is a vertical line in the trend view. When the ruler shows, the value of the point where the trend curve intersects with the ruler is displayed in the value table, and when the ruler does not show, the current value is displayed instead.
Ruler movement	You can use system functions or the ruler moving button or click a point on the trend view to move the ruler.
Display table grid	Check this to display the grid lines of the value table.
Display mark labels	Check this to show the scale value text.
Trend background transparent	Check this to make the background of the graph transparent.
Process tag	Visibility of curves 1–16 is controlled by bits 0-15 of the process tag. The curve is visible when its corresponding bit is 1 and invisible when the bit is 0.
Ruler Tag	You can use the tag to control the position and width of the ruler and enables/disables movement of the ruler.

### **Description of buttons**

Button	Function				
	Pause trend update				
•	Start trend update				
144	Show current trend				
*	Start trend update				
••					
Ð	width				
Q	Zoom out the trend curve				
<b>+</b>	Move the ruler to the left				
•	Move the ruler to the right				

## **Properties setting**

In Properties, you can set appearance, layout, X axis, left value axis, right value axis, axis, table, trend and misc settings. The layout and misc settings are general for all controls and you can refer to the settings of the user view. For the other settings, see the following tables:

#### Appearance

Attribute	Description
Background color	Background color of the view
Ruler color	Ruler color
Axis color	Axis color

#### X axis color

Property	Description
	Modes include:
Mode	Time: The time interval between every two sampling points. When selecting the time mode, you need to set the time interval.
моде	Points: With this mode, the configured points are used as coordinates.
	Tag/constant: the range scale value of the axis. When selecting this mode, you need to set "Axis begin", "Axis end" and "Number of points".
New values from	Sets where the data is from
Time Display Format         Sets how time is displayed on the view. Available only for the time mode.	
Start Time	Sets the time for the sampling start point. Available only for the time mode.

Property	Description
Oscillograph display	When the control tags of oscilloscope display are not configured, check this to display the trend according to oscilloscope display mode. Available only for the time mode. The source of the new value is fixed to the right. When the first page is displayed, the time axis remains unchanged, and the new value is drawn from left to right in turn. After drawing a full screen, the whole curve moves to the left
Axis begin	Start value of the X axis. Only for the tag/constant mode.
Axis end	End value of the X axis. Only for the tag/constant mode.
Time Interval (Sec.)	Available only for the time mode
Number of points	Only for the points and tag/constant modes. The number of points on the X axis.
Тад	The control tag for oscilloscope display. The trend is displayed by oscilloscope if the tag value is 1.

## Left Value Axis

Property Description					
Axis begin	Beginning of the left axis (Y1, Y3), which can be a tag or constant. If the tag value is greater than the setpoint of axis end, the axis end value will be changed to tag value + 1.				
Axis end	End of the left axis (Y1, Y3), which can be a tag or constant. If the tag value is less than setpoint of axis begin, the axis begin value will be changed to tag value - 1.				

# **Right Value Axis**

Property Description						
Axis begin	Beginning of the right axis (Y2, Y4), which can be a tag or constant. If the tag value is greater than the setpoint of axis end, the axis end value will be changed to tag value + 1.					
Axis end	End of the right axis (Y2, Y4), which can be a tag or constant. If the tag value is less than setpoint of axis begin, the axis begin value will be changed to tag value - 1.					

### Axis

Property	Description					
Axis label	Check this to display the corresponding axis					
Increments	The interval between scale marks					
Marks	The number of marks on the axis					
Mark line	Check this to add mark lines on the axis					
Lines count	The number of mark lines on the axis. Only available when "Mark line" is checked.					

### Table

Property	Description
Foreground color	The foreground color of the table
Background color	The background color of the table
Header foreground color	The foreground color of the table header
Header background color	The background color of the table header
Font	Style and size of table text

#### Trend

Property	Description
Name	The name of the trend curve.
Display	The display style of the curve. Options include Bars, Steps, Point, Lines and X Area
Line Type	Available only for a line curve.
Pen Width	Available only for line and bar curves.
Samples	Maximum number of trend curve sampling points.
Trend Type	The trend types include real-time cyclic trigger, real-time bit trigger, buffer bit trigger, and log.
Trend Tag	The tag associated with the trend. The function of the tag depends on the trend type.
Side	Sets which scale prevails
Foreground color	The color of the curve

#### **Description of trend types**

#### 1. Real-time cyclic triggered

+	Name	Display	Line type	Pen width	Samples	Trend type	Trend tag	Side
1	trend_1	Lines	Solid	1	100	Realtime cyclil	<undefined> -</undefined>	Left Y1 :
_							Trend tag D4 Pulse 1.0	

The trend collects the values of the specified tag in a fixed period and displays them in real time.

Specified tag: refers to the tag set in the Trend Tag column.

Period: It is determined by the pulse of the trend tag, and the minimum unit is 0.1s. The shorter the period, the higher the occupancy rate of the CPU. It is not recommended to use a large number of real-time sampling with short periods in a project.

2. Real-time bit triggered

+	Name	Display	Line type	Pen width	Samples	Trend type	Trend tag	Side
1	trend_1	Lines	Solid	1	100	Realtime bit tril	<undefined></undefined>	Left Y1 ;
						Trend tag D4 Bit 4	Trend request Trend trans	
								$\checkmark$

It is for the point-type X axis.

The trend samples the values of the specified tag according to the change of the trend send tag bit and displays them in real time.

Trend send tag: refers to the tag specified in trend send area 1. Trend sampling occurs only when the highest bit and trigger bit of the trend send tag are both 1. After sampling, the highest bit and trigger bit are set to zero.

Trend request: auxiliary tag, enters the screen containing this trend, and sets the trigger bit; Leaves the screen and resets the trigger bit.

Trigger bit: The trigger bit of the trend send tag and the trigger bit of the trend request are both specified by the "bit" in the trend tag.

3. Buffer bit triggered

+	Name	Display	Line type	Pen width	Samples	Trend type	Trend tag	Side
1	trend_1	Lines	Solid	1	100	Buffer bit triggel	<undefined> -</undefined>	Left Y1 :
					Trend buffe Switch buffer Bit	D7 - 🗸	Trend request Trend transfer1 Trend transfer2	D5 -

It is for the point-type X axis.

The trend samples the values of the specified array according to the change of the trend send tag bit and displays them in a trend curve.

Trend send tag: refers to the tag specified in trend send area 1. Trend sampling occurs only when the highest bit and trigger bit of the trend send tag are both 1. After sampling, the highest bit and trigger bit are set to zero.

Trend request: auxiliary tag, enters the screen containing this trend, and sets the trigger bit; Leaves the screen and resets the trigger bit.

Trigger bit: The trigger bit of the trend send tag and the trigger bit of the trend request are both specified by the "bit" in the trend tag.

Switch buffer: If you check this, the trend array corresponds to the array specified in the switch buffer, and the trend send tag corresponds to the tag specified in trend send area 2.

4. Log

+	Name	Display	Line type	Pen width	Samples	Trend type	Trend tag	Side
1	trend_1	Lines	Solid	1	100	Log	<undefined> -</undefined>	Left Y1 :
							記錄條目 \$II Log entry D0	

It is for the time-type X axis.

The trend is used to display the logged values of the specified tag in a data record for a certain period of time.

Data log: selected from the logs in the trend tag.

Specified tag: selected from the log entries in the trend tag. As shown in the above figure, you can only select the tag that logs data in data log\_1.

For details, see the example project "Trend View".

#### Controls

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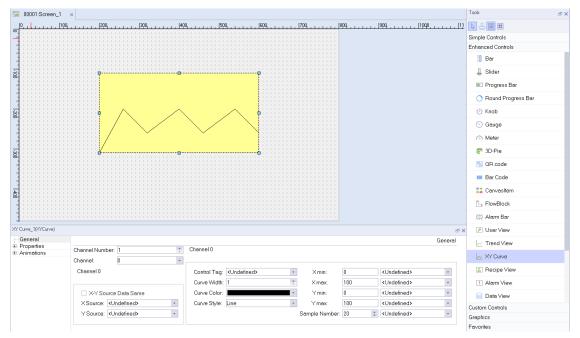
#### 7.2.16 XY Curve

If you take the data in two groups or a group of continuous registers as coordinates on X and Y axes respectively, the points/figure formed by these coordinates generate an XY curve which cannot be edited or zoomed.

#### Configuring an XY curve

1. Add an XY curve to the screen.

As shown in the following figure, click Enhanced Controls→XY Curve in the toolbox on the right and drag it to the screen.



#### 2. Property setting.

The properties of the XY Curve include General, Properties and Animations. For animation setting, see *"7.4.1 Animation" on page 189*.

#### **General setting**

Channel Number: the number of curves contained in the control, which can be 1–15.

**Channel:** Displays the current curve number, which can be switched.

**X-Y Source Source Data Same**: If you check this, you only need to configure the data source address for the X axis.

**X Source:** the X axis data source address of the points on the curve. It can only be an array tag, with address types: Int16, UInt16, Int32, UInt32, Float, and Double.

**Y Source:** the Y axis data source address of the points on the curve. It can only be an array tag, with address types: Int16, UInt16, Int32, UInt32, Float, and Double.

**Control Tag:** The curve display control address. When the address value changes to 1, the curve is generated, and when it changes to 2, the curve is cleared. Address types: Int16, UInt16, Int32, UInt32.

Curve Width: The line width of the curve.

**Curve Color:** The line color of the curve.

**Curve Style:** The style of the curve, including Points, Line (default), Projection on to X axis and Projection on to Y axis.

**X min:** The lower limit of the X axis. Can be a constant or tag. The tag address types are Int16, UInt16, Int32, UInt32, Float, Double.

**X max:** The upper limit of the X axis. Can be a constant or tag. The tag address types are Int16, UInt16, Int32, UInt32, Float, Double.

**X min:** The lower limit of the Y axis. Can be a constant or tag. The tag address types are Int16, UInt16, Int32, UInt32, Float, Double.

**X max:** The upper limit of the Y axis. Can be a constant or tag. The tag address types are Int16, UInt16, Int32, UInt32, Float, Double.

**Sample Number:** The points of the curve (0–1000), and the default is 20. Can be a constant or tag. The tag address types are Int16, UInt16, Int32, and UInt32.

Properties setting: This setting includes Appearance, Guides, Layout and Misc. For Layout and Misc, see the related description for the user view. For the other settings, see the following tables:

#### Appearance

Attribute	Description
Text color	Text color
Background color	Background color of the curve
Fill style	Fill style of the curve background

#### **Guides:**

Attribute	Description
X Guides	The number of vertical guides, which defaults to 0 and ranges from 0 to 99
Y Guides	The number of horizontal guides, which defaults to 0 and ranges from 0 to 99
Guides Color	Guides Color

3. For details, see the example project "XY Curve ".

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	textlist	Time	Timer
	textlist application example	The interval computation application example	Timing to switch the screen
	Trend	Trend	Wread and Read Array
	Trend application example	User view application example	Wread and Read Array application e xample
ĺ	XYcurve		
	XY Curve application example		

### 7.2.17 Alarm View

The alarm window is used to dynamically display the specified information in the runtime. It is always the topmost object on the screen and you can close it any time.

Text	Name	Number
▲ 🗶 🕄 🖶	$\checkmark$	¥ 🕨

#### Description of buttons

Button	Function		
	Move the table to the left. You can use this button to scroll the table to view information when the display is out of the view port		
	Page up		
?	Click this button to display help information and other configured text		
<b>e</b>	Printing alarm		
~	Alarm acknowledgment		
¥	Page up		
	Move the table to the right		

1. In General of the properties view, you can set its properties:

You can set the display properties in General. Display properties are used to define the categories and display mode of all displayed alarms in the Alarm view.

The alarms categories include "Error", "Warning" and "System".

Errors	
🔽 Warnings	
🗹 System	
-	

The following table describes how the alarm view displays the alarm with different display modes and alarm categories:

1	Name	Description
Alarm	Pending alarms	Displays an activated but not deactivated and acknowledged alarm. Displays activated alarms in all categories, and activated and acknowledged (at the same time) alarms in the error category
	Unacknowl- edged alarms	Displays activated alarms, and activated and deactivated alarms in the error category
Alarms events		Displays the message events Displays each alarm. There are "activated", "(activated) acknowledged" (deactivated after activated), "activated and acknowledged" (simultaneously), "(activated and acknowledged) deactivated" (deactivated after activated and acknowledged) and "(activated and deactivated) acknowledged".
Alarms log		You must only select an alarm log among configured alarm logs
Show grid		Check this to display grid lines in the view
Display by da	te	This option is available when you check "Alarm log". Check this to display the alarm information by date
Auto Display		Only available if you do not check Alarm Log. If you check this option, t will be automatically displayed in the template
Background transparent		Check this to make the background transparent
Default Style		Check this to apply the default style to the selected row

	Name		Description	Remarks
Appear- ance	Fill		Fill color of the rectangle	It only works when the blinking function is configured, blinking between Line Color and Fill Color
		x	Horizontal distance from the upper left corner of the rectangle to the left edge of the screen	In pixels
Layout	Position	Vertical distance from the upper	Vertical distance from the upper left corner of the rectangle to the top edge of the screen	In pixels
	Size	Width	Width of the rectangle	In pixels
		Height	Height of the rectangle	In pixels
Text	Fonts	Fonts	Text font	

Name			Description	Remarks
		Name	Check this to display the alarm category	
		Number	Check this to display the alarm number	
	Visible	Date Time	Check this to display time	
	columns	Date	Check this to display date	
		Status	Check this to display the state	
		GR	Check this to display the ack group	
		PLC	Check this to use a PLC	
		Headings	Check this to display the headings	
Columns		Column ordering	Check this to enable column ordering	
	Column properties	Check this to sort by date/time	Check this to sort by date/time	
		Text across columns	Check this to display text across columns	
		Time in milliseconds	Check this to display time in milliseconds	
	Sort	Oldest alarm first	Displays the oldest alarm first	
		Newest alarm first	Displays the newest alarm first	
		Layer	The layer in which the object is currently located	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Misc	Misc	z Value	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Display clearance	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque
	Runtime Security	Authoriza- tion	Assigns users with permissions	
		Enabled	Enables the security	You must check Enabled to enable input
Security				Otherwise, input is disabled
	Operation	Visibility controlled by authoriza- tion	Check this to control visibility through authorization	If this is checked, only authorized users can see the control

3. For animation properties, see "7.4.1 Animation" on page 189.

## 7.2.18 Recipe view

The Recipe view is a general-purpose enhanced screen object for displaying, editing and managing recipe data records. It presents data records in tables. In the recipe view, the values displayed and entered can be stored in data records, which exchange data with the PLC through system functions.

The recipe view mainly consists of five modules, namely:

- 1. Recipe list
- 2. Data record list
- 3. Component table
- 4. Button
- 5. Operation prompt box

Recipe name: N				
Porridge		▼	1	
Data record name:			Nun	nber:
Mung Bean Porridge		▼	1	
Entry name	Value			
Water	70			
Mung Bean	20			
Sugar	10			
		1	C	
The data record is read				

## **Configuration of Recipe View**

Select Recipe View in the screen to configure the recipe view in the Recipe View Properties window.

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					•		🔡 QR code	
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- 	Recipe View_1(Re	cipeView)				×	🝌 XY Curve	
		Recipe		Data record		General	🖾 Recipe Vi	iew
	Er Animations	Recipe name <undefi< td=""><td></td><td>Tag for number <uno< td=""><td></td><td>•</td><td>! Alarm Vie</td><td>w</td></uno<></td></undefi<>		Tag for number <uno< td=""><td></td><td>•</td><td>! Alarm Vie</td><td>w</td></uno<>		•	! Alarm Vie	w
.  -600		Tag for number <undefi< td=""><td>ned&gt; •</td><td><ul> <li>Enable edit mode</li> <li>Display table</li> </ul></td><td>9</td><td></td><td>📄 Data View</td><td>1</td></undefi<>	ned> •	<ul> <li>Enable edit mode</li> <li>Display table</li> </ul>	9		📄 Data View	1
				AlternatingRowCo	olors		📑 Report Vie	ew
-							Embed S	creen View
· 1-700							🕁 Operation	Record Vie
-							E FileBrows	er View

#### **General setting**

1. Displays a recipe by the name.

The user can specify the recipe name to be displayed in the runtime through Recipe name in the general setting column. After setting the recipe name, the tag option for numbering will be disabled, and only one way can be specified.

General			General
Properties Animations	Recipe	Data record	
	Recipe name Recipe_3 Tag for number <undefined></undefined>	<ul> <li>Tag for number <undefined></undefined></li> <li>✓ Enable edit mode</li> <li>✓ Display table</li> <li>△ AlternatingRowColors</li> </ul>	•

2. Displays a recipe by the number.

The user can also set specific tags in the tags used for numbering the recipe, and display the recipe corresponding to the numbered recipe through the tag value. When the tag value is a nonexistent recipe number, the recipe view is displayed as empty.

Recipe View_1(Re	ecipeView)		x
General			General
Properties     Animations     ■	Recipe	Data record	
	Recipe name <undefined></undefined>	Tag for number <undefined></undefined>	•
	Tag for number Var_1	Enable edit mode	
		🗹 Display table	
		AlternatingRowColors	

3. Displays recipe data record by the number.

The specified tag is set in the tag for numbering of the data record, and the recipe data record corresponding to the number is displayed by the tag value. When the tag value is a nonexistent recipe data record number, the data record and the ingredient table of the recipe view are displayed as empty.

Recipe View_1(Re	ecipeView)	×
General		General
	Recipe	Data record
	Recipe name <undefined></undefined>	Tag for number Var_2 ✓ Enable edit mode ✓ Display table ✓ AlternatingRowColors

4. Enable edit mode.

"Enable edit mode" is checked by default and therefore you can modify data records. If you only wants to view recipe records but does not want to modify them, do not check this option.

Recipe View_1(Re	ecipeView)		x			
General						
Properties	Recipe	Data record				
	Recipe name Recipe_1	Tag for number <undefined></undefined>	-			
	Tag for number <undefined></undefined>	<ul> <li>Enable edit mode</li> </ul>				
		Display table				
		AlternatingRowColors				

Recipe name:			Nur	nber:	
Porridge		•	· 1		
Data record name:			Nur	nber:	
Mung Bean Porridge		•	1		
Entry name		Value			
Water	65				
Mung Bean	20				
Sugar	10				
				1	
			1		
The data record is read	d				
w)					
					0

Recipe View_1(Recipe	/iew]		ප ×
General			General
<ul> <li>Properties</li> <li>Animations</li> </ul>	Recipe	Data record	
	Recipe name Recipe_1	Tag for number <undefined>     Enable edit mode</undefined>	-
	Tag for number <undefined></undefined>	✓ Display table	
		AlternatingRowColors	
	Recipe name:	Num	ber:
	Porridge	▼ 1	
	Data record name:	Num	ber:
	Mung Bean Porridge	▼ 1	
	Entry name	Value	
	Water	70	

20

10

Ŷ.

∎**Y**∎

5. Display table.

Mung Bean

₿

×

The data record is read

Sugar

Recipe View_1(RecipeView)			₽×
General			General
Properties			General
Animations	Recipe	Data record	
	Recipe name Recipe_1	<ul> <li>Tag for number <undefined></undefined></li> </ul>	
	Tag for number <undefined></undefined>	<ul> <li>Enable edit mode</li> </ul>	
	ag for number <ondenned></ondenned>	✓ Linable earlinode           ✓ Display table	
		AlternatingRowColors	
			_
Desire Mary 1(Desire Mary)			
Recipe View_1(RecipeView)			- ×
General			General
Properties	Recipe	Data record	
	Recipe name Recipe_1	<ul> <li>Tag for number Var_2</li> </ul>	
	Tag for number <undefined></undefined>	<ul> <li>Enable edit mode</li> </ul>	
		Display table	
		AlternatingRowColors	
Recipe View_1(RecipeView)			a ×
General			General
Properties	Recipe	Data record	
Animations	Recipe	Dala lecolu	
	Recipe name Recipe_1	<ul> <li>Tag for number <undefined></undefined></li> </ul>	_
	Tag for number <undefined></undefined>	<ul> <li>Enable edit mode</li> </ul>	
	·	🔲 Display table 🗍	
		AlternatingRowColors	
<b></b>		0	
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<b>P</b>		P.	
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<u> </u>		} 	

If you check this option, the recipe view will be displayed as a table, otherwise, it will be displayed as a simple view.

During operation, the simple view directly displays all data records of the recipe selected by the user, and the user can directly select it for operation.

6. Alternating row colors.

If you check this, the rows of the table will be displayed alternately with the background color, as shown in the following figure.

Entry name	Value
Water	0
Mung Bean	0
Sugar	0

# **Property setting**

Name			Description		
		Text color	The fill color of the text, excluding the data table area		
Appearance	Fill	Background color	The background color, excluding the data table area		
		x	Horizontal distance, in pixels, from the origin of recipe view to the left edge		
Layout	Position	Y	Horizontal distance, in pixels, from the origin of recipe view to the upper edge		
	e:	Width	The width of the recipe view, in pixels		
	Size	Height	The height of the recipe view, in pixels		
Text	Font	1	Defines the style and size of the recipe view text font, default is Droid Sans Fallback, font size 12.		
Buttons	Buttons General commands/menu entries		You can select the buttons to display		
	Table	Foreground color	The color of table text		
		Background color	The background color of the table		
Table		Header foreground color	The color of the table header text		
		Header background color	Header background color		
	Runtime Security	Authorization	In the recipe view, the authorization of the operator control		
			Is the recipe view can be used in the runtime		
Converter		Enabled	Checked: Yes		
Security	Operation		Unchecked: No		
	operation	Visibility	Is the recipe view visible under the current user permission		
		controlled by	Checked: only visible under current permission		
		authorization	Unchecked: always visible		
		Layer	The screen layer in which the object is located, the value range is 0–31, and the default value is 0		
Miscellane- ous	Miscellaneous	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.		
		Opacity	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque		

For animation properties, see "7.4.1 Animation" on page 189.

### 2 Features of runtime recipe view

### Initial display

In the runtime, the recipe view appears in the following initial displays:

1. When the user does not configure any recipes for the recipe view, the initial display is empty, but the ingredient data that the user needs to view and modify can be displayed by selecting the recipe name and recipe record.

Recipe name:		Number:			
		<b>-</b>			
Data record name:		Number:			
Entry name	Value	e 🗌			
		1			
		<u> </u>			
Recipe name:		Number:			
Recipe_1		▼ 1			
Recipe_1	N	Number:			
Recipe_2	7				
Recipe_3					
Entry name	Value				
Element_1	0				
Element_2	0				
		<b>1</b>			
Recipe name:		Number:			
Recipe_1		▼ 1			
Data record name:		Number:			
DataRecord_1		▼ 1			
DataRecord_1					
DataRecord 2	2				
Element_1	0				
Element_2	0				
		<b>1</b>			
The data record is read					

The user configures the recipe through the recipe name to the recipe view. Without the configuration data record, the configuration recipe and the default score ratio of the recipe are initially displayed. At this time, the recipe view can also display the ingredient data that the user needs to view and modify by selecting the recipe name and recipe record.

Recipe name:			Nur	nber:
Recipe_1			▼  1	
Data record name:			Nur	nber:
			•	
Entry name		Value		
Element_1	0			
Element_2	0			
			•	
			≣ <sup>u</sup> e	

3. The user configures a recipe for the recipe view through the tag used for numbering. Without the configuration data record, the recipe of the number corresponding to the tag value is initially displayed and the default score ratio of the recipe. At this time, you cannot select any other recipe to display on the recipe view, but can only display the recipe by changing the tag value.

Recipe name:		Number:
Recipe_1		• 1
Data record name:		Number:
		•
Entry name	Value	
Element_1	0	
Element_2	0	
		<b>1</b>

4. The user configures a recipe for the recipe view through the tag for numbering, and configures data record through the tag for numbering, and the ratio of the recipe with the number corresponding to the tag value and the data record ingredient value corresponding to the number corresponding to the recipe is initially displayed. At this time, other recipes can only be displayed by changing the tag value, while the data record can be specified by the number or directly selected.

#### Controls

Recipe name:		Number:		
Drinks Data record name: DataRecord_1	<u>•</u>	Number:	Decine	Data record
Entry name Element_1 Element_2	Value 0 0		Recipe name <undefined>  Tag for number 1</undefined>	Iag for number 1     •       ✓ Enable edit mode
The data record is read	ŝ			

#### Operations available on the recipe view

Depending on the configuration, users can make the following operations on the recipe view:

- 1. Create, copy, modify, delete, rename and print recipe record
- 2. Read the recipe data record from the PLC or create the value of the recipe record to the PLC
- 3. Import and export the recipe

Button	Function
New	Create a recipe data record
Delete	Delete the currently displayed data record
Save As	Save the selected data record with a different name for replication.
Rename	Rename the currently displayed data record.
Save	Save the modifications made on the currently displayed data record.
Print	Print the currently displayed data record
To PLC	Transferring the value of the selected data record from the HMI device to the PLC
From PLC	Display the recipe value in PLC on HMI
Synchronize tag	Synchronize the tag values corresponding to the recipe ingredients to the recipe record. Note: This feature is active only if the synchronization tag is enabled in the recipe configuration.
Info text	Displays information text for recipe view configuration

#### 7.2.19 Data View

The data view is a general-purpose enhanced screen object for displaying, editing and managing data records. It presents data records in tables. In the view, you can search for values of historical data.

The data view mainly consists of five areas:

- 1. Data log list
- 2. Time editing area
- 3. Button
- 4. Data log table
- 5. Operation prompt box

	Select dataLog         Start Time:         1-10-14 17:05:43 ()           DataLog_1         Image: End Time:         1-10-14 17:06:02 ()						
	$ \boxed{\begin{tabular}{lllllllllllllllllllllllllllllllllll$						
Ā		TagNa	me	Value	Validity		DateTin 🔺
	1	Var_1		0	1	2021-	-10-14 17:
	2	Var_2	4	0	1	2021-	-10-14 17:
	3 Var 3 0 1 2021-10-14 17 ▼						
	Operation succeed!Current Page is 1! (5)						

# Configuring a data view

Select the data view in the screen and configure it through the Properties window.

	Select dataLog Start Time: 1-10-08 18:46:53 ■ End Time: 1-10-08 18:46:53 ■ C Go ← Prev → Next ■ Print Data View
Data View_1(DataView)	₽×
General	Data View Property editing General
Properties     Animations	Setting
	Data.log_DataLog_1
	Rows per page 100

## **General setting**

1. Displays a specific data log.

You can specify the name of the data log to be displayed when the runtime starts.

Data View_1(DataView)		₽×
← General ⊕ Properties ⊕ Animations	Setting	General
	Data log DataLog_1	
	Rows per page 100	

2. The maximum number of rows per page of the data log table. The table displays 100 rows by default.

-176-

## **Property setting**

Name			Description		
		Text color	The color of the text in the view, excluding the data table		
Appearance	Fill	Background color	The background color of the view, excluding the data table		
	Desition	x	Horizontal distance, in pixels, from the origin of the data view to the left edge		
Layout	Position	Y	Vertical distance, in pixels, from the origin of the data view to the top edge		
	C:	Width	The width of the data view,, in pixels		
	Size	Height	The height of the data view, in pixels		
Text	Font	+	Defines the style and size of the data view text font, default is Droid Sans Fallback, font size 12		
Buttons	General commands/menu entries		Includes Search, Update, Print, Last Page, and Next Page		
		Foreground color	The color of table text		
	Table	Background color	The background color of the table		
Table Tal		Header foreground color	The color of the table header text		
			Header background color	Header background color	
	N4: 11	Layer	The screen layer in which the object is located, the value range is 0–31, and the default value is 0		
Miscellane- ous	Miscellane- ous	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.		
		Opacity	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque		

## Animation

See "7.4.1 Animation" on page 189.

# Using the data view

In the runtime, you can view data log information through the data log table.

Sele	ct dataLog-	Sta	urt Time: 1	-10-14	17:05:43 🖲
Dat	aLog_1 🔻	En	d Time: 🛛	-10-14	17:06:02 🖲
	aLog_1 aLog_2	Prev	$\rightarrow$	Next	🔒 Print
	TagName	Value	Validity		DateTin 🔺
1	Var_1	0	1	2021-	10-14 17:
2	Var_2	0	1	2021-	10-14 17:
3 Var 3 0 1 2021-10-14 17: ▲					
Operation succeed!Current Page is 1!					

For example, select data record \_ 1, This is to display all the data recorded in Data Record 1 to the table (and the query start time and end time are divided into the time of the first data recorded and the time of the last data recorded, respectively, and the start and end time will be reloaded every time the data is switched). The historical data of the record (showing the variable name, value, active, and date and time of the record) will be displayed:

Select dataLog-	Sta	rt Time: 1	-10-14	17:05:43 🖲	
DataLog_1  End Time: 1-10-14 17:06:02					
Q Go $\leftarrow$ Prev $\rightarrow$ Next $\bigcirc$ Print					
TagName	Value	Validity		DateTin 🔺	
1 Var_1 (	0	1	2021-1	0-14 17:	
2 Var_2 (	0	1	2021-1	0-14 17:	
3 Var 3 (	0	1	2021-1	10-14 17	
Operation succeed!Current Page is 1!					

At this time, the user can edit the record data of the period to be searched in the query time editing area, for example, the record data in the interval from 2019-01-26 09:30:23 to 2019-01-26 09:31: 55 needs to be searched, enter these two time points at the start time and end time of the data view, and then click Find to find the records of the required interval:

	ct dataLog-	Sta	Int Time:	-10-14	4 17:05:43 🖲	
Dat	aLog_1 _▼	End	d Time: (1	-10-14	17:06:02 🖲	
٩	$\fbox{\ Q \ Go \ } \leftarrow \operatorname{Prev} \ \rightarrow \operatorname{Next} \ \fbox{\ Print}$					
	TagName	Value	Validity		DateTin 🔺	
1	Var_1	0	1	2021-	10-14 17:	
2	Var_2	0	1	2021-	10-14 17:	
3	Var 3	0	1	2021-	10-14 17	
Oper	Operation succeed!Current Page is 1!					

Note: "valid" refers to whether the data value of the recorded row is valid. 1 means valid and 0 mean invalid. For example, when an external tag is logged and the connection is disconnected, the logged value is actually valid, while the validness of the logged value is 0.

You can set the number of rows displayed on each page of the data log. When there are a lot of data, you can click the Pre and Next buttons to navigate the pages. The message bar will also show the current page number.

Select dataLog Start Time: 1-10-14 17:05:43 5							
Dat	DataLog_1  End Time: 1-10-14 17:06:02						
٩	$\bigcirc \bigcirc $						
	TagName	Value	Validity	DateTin 📥			
1	Var_1	0	1	2021-10-14 17:			
2	Var_2	0	1	2021-10-14 17:			
3     Var 3     0     1     2021-10-14 17 ⋅       ▲							
Opera	Operation succeed!Current Page is 1!						

### Printing

If you need to print the data log information, you can select the data log and click the Print button.

Select dataLog         Start Time:         1-10-14 17:05:43 (•)           DataLog_1         End Time:         1-10-14 17:06:02 (•)											
٩											
	TagName	Value	Validity	DateTin 📥							
1	Var_1	0	1	2021-10-14 17:							
2	Var_2	0	1	2021-10-14 17:							
4	Var 3	0	1	2021-10-14 17· ▶							
Opera	ation succe	ed!Curre	ent Page i	s 1!							

In the screen, you can use related system functions to manipulate the data logs.

## **Exporting data logs**

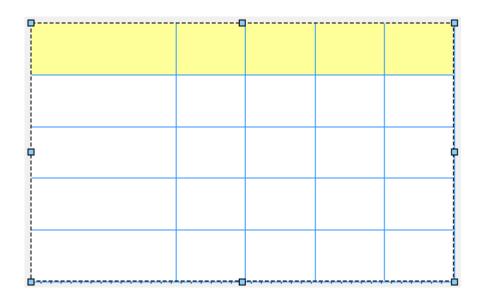
You can export the data logs to a USB drive or SD card in the Download page of the control panel.

Download					Back
Mount device: USI	В	- Export C	Code Selection	n: GBK 🔹	
Name		Size	Туре	Date Mo	dified
PLC Update Port:	COM1			d vice Type:	AM600 Series -
Update:	PLC Pro.	нмі	Pro.	Download	Upload
Export:	Record	Syster	mLog	Recipe Data	LocalSreenshots
Import:	Recipe Data	Log	go		

During export, all the data logs in the project will be exported to the specified path and saved to a \*. CSV file (each data log is saved as a file separately).

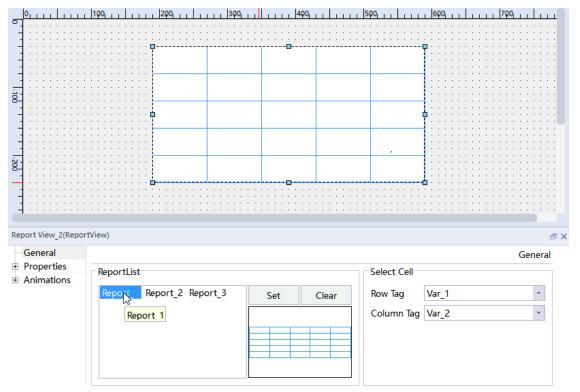
## 7.2.20 Report View

The report view is a general-purpose enhanced screen object for displaying and managing reports. It presents report data in a table. In the report view, you can edit and view report data. The following is a report view in the screen:



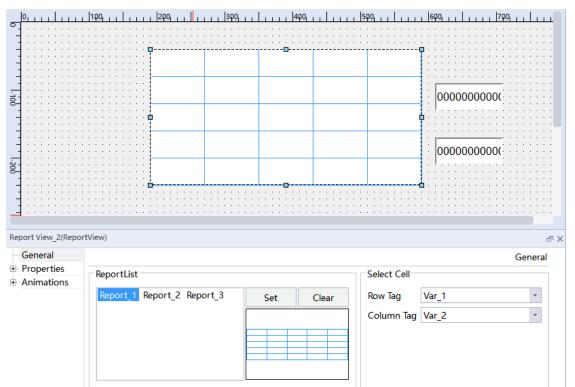
## **General setting**

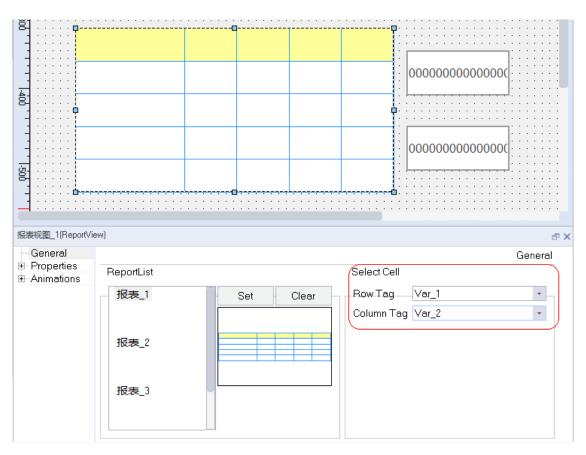
1. Report List: Lists all reports created by the user, where you can specify which report to display.



	0, , , ,   , , , ,	100	200	300,	400	500	<b>6</b> ρ	7, , , , , , , , , , , , , , , , , , ,
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_							<b>Q</b> · ·	
-								
_								
-								
-100							111	
8-								
-							1	
		· · · · · · · · · · · ·					<b>P</b> ::	
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-								
20								
0-								
				0				
-		<del>.</del> .		<del>.</del>			· · · · <del>·</del> · ·	
-								
1								
Rep	port View_2(Repo	tView)						<del>م</del> >
ļ	General							General
+	Properties	6						
		ReportList				Select	Cell	
+	Animations							
+	Animations		ort 2 Peport 3			Dow T	Var	1
(±)	Animations		ort_2 Report_3	Set	Clear	Row T		
±	Animations	Reporter Rep		Set	Clear			
( <b>+</b> )	Animations	Report Rep		Set	Clear		ag Var	
( <b>+</b> )	Animations	Reporter Rep		Set	Clear			
(±)	Animations	Reporter Rep		Set	Clear			
±	Animations	Reporter Rep		Set	Clear			
( <b>t</b> )	Animations	Reporter Rep		Set	Clear			
±	Animations	Reporter Rep		Set	Clear			

#### 2. Select Cell: row tag, column tag





The row tag and column tag can be used to display the index of the selected cell in the report view. In addition, you can control the selected cell by changing the values of row and column tags.

### **Property setting**

	Name		Description			
	Position	х	Horizontal distance, in pixels, from the origin of the report view to the left edge			
Layout		Y	Vertical distance, in pixels, from the origin of the report view to the top edge			
<i>c</i> :		Width	The width of the report view, in pixels			
	Size	Height	The Height of the report view, in pixels			
Buttons	Size, Oper	ation	Set the buttons on the report view. See <i>"15.3.3 Property Settings of Report History Cells " on page 335</i>			
		Layer	The screen layer in which the object is located, the value range is 0–31, and the default value is 0			
Miscella- neous	Miscella- neous	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.			
		Opacity	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque			

For animation properties, see "7.4.1 Animation" on page 189.

## 7.2.21 Picture-in-picture View

The picture-in-picture view shows an additional screen in the current screen. The screen can be shown and hidden through tag configuration.

1. Drag the picture-in-picture view.

Embed Scree	N View	   	· · · ·		  		· · · ·	:		:	:	:	:	:		:		  
•																		· ·
																	:	
•																		· ·
•																		· ·
																		· ·
	· · · · · ·	 · ·	· ·	:	· ·	:		:	:	:	:	:	:	:	:	:	:	
000000000000000000000000000000000000000		 · ·	· ·	:	· ·		· · ·			:	:	:	:	:	:	:		

2. Configure the picture-in-picture screen.

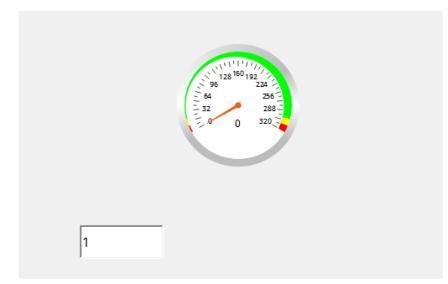


#### Property setting:

General		Genera
Properties Animations	Screen List	Process
Ammudons	Screen_2	Tag Var_1 🔹
		Value ON 1
		HorizontalScrollBar AsNeeded
		VerticalScrollBar AsNeeded

General setting:

- Screen list: You can configure the picture-in-picture view.
- Process tags: You can control the display of the picture-in-picture screen through tags.



By manipulating process tags, you can display the picture-in-picture screen.

## 7.2.22 OperationRecord View

The OperationRecord view is a general enhanced screen object used to display operation records in a table. To use this view, you need to check Enable Operation Record in HMI Settings→Project Settings. In the Operation Record view, you can search and view the operation records of operators in a certain period of time. The following is the Operation Record view interface:

Start Time: -10-08 19:18:09 💿 End Time: -10-08 19:18:09 💿 Search										
UserName	⊃omponentNam	Date	Time	√ctionDescriptio						
		·								

## **General setting**

1. Visible columns: There are five columns: user name, component name, date, time and action description. Check a column to display it in the view, and all columns are checked by default, as shown in the following figure:

OperationRecord View_2(Opera	ationRecol				a x
General				Ge	eneral
Properties     Animations	Visible columns		Sort	Hide and Transparent	
	✓ UserName	100	<ul> <li>Time order</li> </ul>	Hide title	
	ComponentName	200 100 100 200	◯ Time reverse order	Background Transparent	
OperationRecord View_2(OperationRecord View_2)	ationRecol			Ge	ा × eneral
Properties     Animations	Visible columns		Sort	Hide and Transparent	
		100	• Time order	Hide title	
	ComponentName	200 100	⊖ Time reverse order	Background Transparent	
	ActionDescription	100 200			

2. Sort: You can sort operation records by time in chronological (default) or reverse chronological order.

# **Property setting**

	Name		Description
	Position	х	Horizontal distance, in pixels, from the origin of the Operation Record view to the left edge
Layout	Position	Υ	Vertical distance, in pixels, from the origin of the Operation Record view to the top edge
	Ci	Width	The width of the view, in pixels
	Size	Height	The height of the view, in pixels
	Table	Foreground color	The color of table text
		Background color	The background color of the table
Table		Header foreground color	The color of the table header text
		Header background color	Header background color
		Font	style and size of table text
		Layer	The screen layer in which the object is located, the value range is 0–31, and the default value is 0
Miscellane- ous	Miscellaneous	z Value	The position of the control in the z axis. A control with a larger value covers a control with a lower one.
		Opacity	Value range: 0–100, default: 100, 0 for transparent, 100 for opaque

	Name		Description
	Runtime Security	Authorization	Assigns users with permissions
Security		Enabled	Enables the security
	Operation	Visibility controlled by authorization	Check this to control visibility through authorization

For animation properties, see "7.4.1 Animation" on page 189.

## 7.2.23 File Browser View

The file browser view is a general enhanced screen object, which is used for displaying files in devices such as a USB drive.

: <mark>-</mark> -	Update   Mount device: Local 💽 FileName
	<i>G</i>
:	
. i . 📥 -	

- 1. Update: refreshes the list.
- 2. Mount device: the device whose files you want to browse.
- 3. File name: displays the file name.

General setting:

Setting and configuration items are absolute path and absolute file path, and you can also configure whether the file name is displayed.

Absolute path: the absolute path of the file after the tag is configured.

Absolute file path: the path of the file after the tag is configured.

FileBrowser View_1(FileBrows	serView)	a X
General		General
	Setting	
	AbsolutePath <undefined></undefined>	
	AbsoluteFilePath	
	✓ Show fileName	

# 7.3 Plug-ins

#### Menu bar/toolbar

The menu bar 'format' is produced and managed inside the screen module, and the main frame only provides docking function.

	Property		Description	Restrictions
		Тор	Align the object with the top edge of the reference object	
	Horizontal	Center	Aligns the centers of all selected objects horizontally	
	HOHZOHLAL	Center	Objects are centered along the common horizontal center axis	
Align-		Bottom	Aligns the object with the bottom of the reference object	At least 2 objects should be
ment		Left	Aligns the object with the left edge of the reference object	selected
	Vertical	Middle	Aligns the centers of all selected objects vertically	
		Middle	Objects are aligned along the common vertical center axis	
		Right	Aligns the object with the right edge of the reference object	
Distribu-	Horizontal dis	stribute	Makes the horizontal spacing between controls equal	At least 3 objects should be
tion	Vertical distril	bute	Makes the vertical spacing between controls equal	selected
	Equal width		Adjusts the width of the object according to the reference object	At least 2 objects should be
Size	Equal height		Adjusts the Height of the object according to the reference object	selected. The last selected object is the reference
	Equal size		Adjusts the width and height of the object according to the reference object	
Lock	Lock		Lock the object so that it cannot be moved	Lock and Unlock are mutually exclusive: Unlock is enabled after
LUCK	Unlock		The object can be moved after unlocking	Lock is executed and Lock is enabled after Unlock is executed

	Property	Description	Restrictions	
	Bring to front	Move an object to the top position	The Z value changes	
	Bring forward	Move the object forward by one object	Stack is different from a layer	
Arrange- ment	Bring backward	Move the object backward by one object		
ment	Send to back	Move an object to the bottom position		
	Same Z value	Place the selected objects on the same position	At least 2 objects should be selected	
Group	Group	Groups the selected objects	At least 2 objects should be	
Gloup	Ungroup	Ungroup the grouped objects	selected	
	Select All	Select all controls on the current screen	Press shift + left mouse button to	
Selection	Select None	Deselects all selected controls	select multiple objects	
	Invert Selection	Inverts selection		
Rotate		Rotate the selected object	You must only select one object at a time	

The alignment functions in the toolbar are the same as the commands in the Format menu;



The arrangement functions in the toolbar are the same as the commands in the Format menu;



Toolbar: Zoom in and out. Zooms in or out the screen. Show Grid and Snap to Grid are the same as the settings in Options→Settings→Screen options. You can select Show Grid to show gridlines on the screen, and Snap to Grid to snap an object to the gridlines when you move it.

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You can click Address Table to show all the used addresses.

# 7.4 Animation and Event Properties

## 7.4.1 Animation

Animation is used to control whether an object is visible in runtime, can be operated, whether it can be moved, how to move, etc.; Different objects have different animation attributes, and there are nine basic animation attributes:

Animation	Description
Appearance Change	Defines the foreground color, background color and flashing of dynamic control objects in runtime.
Object Enable	Defines whether objects are enabled in runtime.
Diagonal Movement	Defines movement path of a dynamic object.
Horizontal Movement	Defines movement path of a dynamic object.

Animation	Description
Vertical Movement	Defines movement path of a dynamic object.
Direct Movement	The object moves a number of pixels along the X and Y coordinates.
Visibility	Enables the object in the scope of a tag.
Custom Movement	The object moves along custom coordinates.
Dynamic Movement	Configures the values of tags X1, X2, Y1 and Y2 to control the dynamic position change of a line object.

You can only configure one of the six movement modes at the same time.

#### **Appearance Change**

You can dynamically control the appearance of objects, including foreground color, background color and flashing, by changing the value of the tag, If you configure a tag for object appearance, when the tag value is within the configured range, the object is displayed as configured, otherwise the settings in Appearance take effect.

The following is the Appearance Change setting page of an object:

Enabled		Appearance
Tag Var_2 •	+ Value Foreground Col Background Cl Flashing	
Type Integer Binary Bit 0		

As shown in the above figure, the configuration consists of:

"Enable": Check this to enable the appearance change setting.

"Tag": The tag to control the appearance of the object.

"Type": The type of the tag value. See the following table.

Туре	Description
Integer	The appearance of the object is controlled by the value or range of the tag. You can define any number of values or ranges, and each definition represents an appearance.
	You cannot define duplicate values or ranges.
Binary	Different bits of the tag correspond to different appearances. You can define the number of appearances according to the tag type. For example, a BYTE type tag has 8 bits, which can define 8 appearances. You cannot define duplicate bits.
Bit	The appearance of the object is controlled by a bit in the tag or a bit tag. There are only two appearances.

"Value": the value of the tag.

"Foreground Color": the foreground color of the object displayed on the runtime.

"Background Color": the background color of the object displayed on the runtime.

In the following example, the appearance change of a rectangle object is configured:

- 1. Select the rectangle object, then expand the Animation property in its properties view, and select Appearance Change.
- 2. Check Enabled.

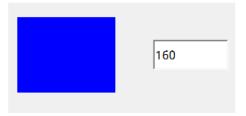
- 3. Configure the tag. Click the drop-down list box under Tag to open the tag list and select a tag. Select the data type of the tag (in this example, Tag\_1 is of Int16 type).
- 4. Configure the type. Choose one of the three types as needed. "Integer" is selected in this example.
- 5. Configure the appearance in the table. Click the + button on the upper left corner of the table to add appearances and you can set the foreground color, background color and flashing as needed.
  - 400 00000000000 Rectangle\_1(Rectitem) Properties
     Animations 🗹 Enabled Appear Tag Appearance Change Diagonal Movement Horizontal Movement +Flashina Value Foreground Co Background Cl Var\_1 -1 0 - 100 ##0000 #111100 Yes Vertical Movement Direct Movement Туре 2 101 - 201 #0000ff #00ff00 No Custom Movement Integer Visibility O Binarv 🔿 Bit 0
- 6. The configuration is as follows:

The simulation is as follows:

In the IO Field, when you enter "10", which is between 0 and 100, the rectangle becomes red and flashes.



In the IO Field, when you enter "160", which is between 101 and 201, the rectangle becomes blue and stops flashing.



### 2 Enable object

The "enable object" configuration can dynamically control the availability of an object.

In the runtime, the object becomes enabled/disabled according to the tag value.

The following is the "enable object" setting page of an object:

🗹 Enabled	
Tag	Object state
Var_1	Hidden Visible
Туре	
<ul> <li>Interger</li> </ul>	Range from 0 🛟 to 0 🛟
⊖ Bit	0 ‡

As shown in the above figure, the configuration consists of:

"Enable": When you tick the check box, the object is enabled when the tag value is within the configured range.

"Tag": The tag to control the availability of the object. The object availability changes according to the value or value range of the tag.

"Type": The type of the tag value. See the following table.

Туре	Description
Integer	If the object state is Enabled, the object is enabled when the tag value is within the range, and disabled otherwise. The opposite is true when the object state is Disabled.
Bit	If the object state is Enabled, the object is enabled as long as the bit value is 1, and disabled as long as the bit value is 0. The opposite is true when the object state is Disabled.

"Object state": Determines the availability of the object.

States: "Enabled" and "Disabled". See the following table.

Operation	Description
Enabled	The object is enabled when the value of the tag is within the range.
Disabled	The object is disable when the value of the tag is within the range.

In the following example, the Enable Object of a button object is configured:

- 1. Select the button object, then expand the Animation property in its properties view, and select Enable Object.
- 2. Check Enabled.
- 3. Configure the tag. Click the drop-down list box under Tag to open the tag list and select a tag. Select the data type of the tag (in this example, Tag\_1 is of Int16 type).
- 4. Configure the type. Choose one type as needed. "Bit" is selected in this example.
- 5. Select a bit in the spin box (such as bit '0').
- 6. Select Enabled in Object State.

The configuration is as follows:

		Button	0000000000	
Button_3(Button)				a×
General	🗹 Enabled			Enable Object
Properties Animations	Tag	(	)bject state	
<ul> <li>Appearance Change</li> <li>Enable Object</li> <li>Visibility</li> </ul>	Var_1	•	Disabled 💿 Enal	bled
± Events	Туре			
	Interger     Bit	Range from [	) ‡ to 0 ‡	

The simulation is as follows:

When you enter "1" in the IO field, the button is enabled.

Button 1
----------

When you enter "0" in the IO field, the button is disabled.

Button	0
--------	---

#### **3 Diagonal Movement**

The object can be configured to move along a particular path or to move a particular number of pixels relative to the current position. Movement is controlled by a tag. You can move a proportional distance diagonally according to the value range of the tag.

The following is the Diagonal Movement setting page of an object:

Rectangle_2(Rectitem)			e ×
Properties     Animations     Appearance Change     Diagonal Movement     Horizontal Movement	<ul> <li>✓ Enabled</li> <li>Tag</li> <li>✓ar_4</li> </ul>	Range from 0 ↓ to 2 ↓	Diagonal Movement
<ul> <li>Vertical Movement</li> <li>Direct Movement</li> <li>Custom Movement</li> <li>Visibility</li> </ul>	Start Position X position 150 ‡ Y position 250 ‡	End Position X position 480 Toosition 480	· · · · · · · · · · · · · · · · · · ·

As shown in the above figure, the configuration consists of:

"Enable": Tick this check box to enable the Diagonal Movement setting. The object is enabled when the value is within the range.

"Tag": The tag determines the position of an object on the path.

"Range": The range of the tag.

Start Position: X, the start coordinates of the path.

End Position: the end coordinates of the path.

In the following example, the Diagonal Movement of an ellipse object is configured:

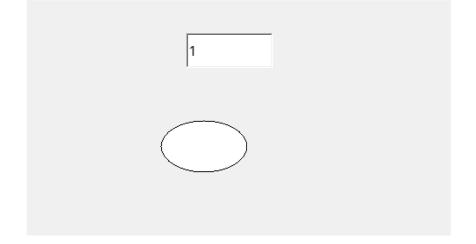
- 1. Select the ellipse object, then expand the Animation property in its properties view, and select Diagonal Movement.
- 2. Configure the tag. Click the drop-down list box under Tag to open the tag list and select a tag. Select the data type of the tag (in this example, Tag\_1 is of Int16 type).
- 3. Configure the Range, Start Position, and End Position.

The configuration is as follows:

400		
Ellipse_1(Ellipseltem)		a ×
Properties     Appearance Change     Diagonal Movement     Horizontal Movement     Vertical Movement     Direct Movement     Custom Movement     Visibility	Tag	Diagonal Movement

The simulation is as follows:

When you enter "1" in the IO field, the ellipse moves to 1/2 of the diagonal path.



### **4 Horizontal Movement**

The object can be configured to move along a particular path or to move a particular number of pixels relative to the current position. Movement is controlled by a tag.

The object can move a distance horizontally proportional to the value range of the tag.

The following is the Horizontal Movement setting page of an object:

Ellipse_2(Ellipseltem)		⊡ ×
Properties	Enabled(only one movement possible)	Horizontal
Animations     Appearance Chl     Diagonal Movel     Horizontal Mol     Vertical Moveml	Tag Var_1   Range from 0  to 2	
─ Direct Movement ─ Custom MovemI ─ Visibility	Start Position     End Position       × position     280        Y position     300        Y position     300	•

As shown in the above figure, the configuration consists of:

"Enable": Tick this check box to enable the Diagonal Movement setting. The object is enabled when the value is within the range.

"Tag": The tag determines the position of an object on the path.

"Range": The range of the tag.

"Start Position": The start coordinates of the object, which is not editable.

"End Position": The end coordinates of the object. The Y coordinate is not editable.

If the end X position is greater than the start X position, the object moves to the right, and if the end X position is less than the start X position, the object moves to the left.

X offset for every 1 change of the tag within the range = (X end - X start)/(max. range value - min. range value). If the tag value is greater than the max. range value, the object moves directly to the end position. The object will never move outside the screen. If the tag value is less than the min. range value, the object moves directly to the start position. The object cannot move outside the screen.

In the following example, the horizontal movement of an ellipse object is configured:

- 1. Select the ellipse object, then expand the Animation property in its properties view, and select Horizontal Movement.
- 2. Configure the tag. Click the drop-down list box under Tag to open the tag list and select a tag. Select the data type of the tag (in this example, Tag\_1 is of Int16 type).
- 3. Configure the Range, Start Position, and End Position.

The configuration is as follows:

1300	
Ellipse_2(Ellipseltem)	ه× ت
Properties     Animations     Appearance Chl     Diagonal Movel     Horizontal Mol     Orect Movement     Custom Moveml     Visibility	✓ Enabled(only one movement possible)       Horizont         Tag       ✓ar_1       ▼ Range from 0 to 2 to 2         Start Position       End Position         × position 280 to × position       × position         ✓ position 300 to × position       ✓ position

The simulation is as follows:

When you enter "1" in the IO field, the ellipse moves to 1/2 of the path.

1	

### **5 Vertical Movement**

The object can be configured to move along a particular path or to move a particular number of pixels relative to the current position. Movement is controlled by a tag.

The object can move a distance vertically proportional to the value range of the tag.

The following is the Vertical Movement setting page of an object:

Enabled				Vertical
Tag				
Var_1	▼ Ra	nge from 0	to 2 🗘	
Start Position	End Position			
Xposition 260 ‡	X position_28	0	*	
Yposition 260 ‡	Y position 48	0	*	•

As shown in the above figure, the configuration consists of:

"Enable": Tick this check box to enable the Diagonal Movement setting. The object is enabled when the value is within the range.

"Tag": The tag determines the position of an object on the path.

"Range": The range of the tag.

"Start Position": The start coordinates of the object, which is not editable.

"End Position": The end coordinates of the object. The X coordinate is not editable.

If the end Y position is greater than the start Y position, the object moves downwards, and if the end Y position is less than the start Y position, the object moves upwards.

X offset for every 1 change of the tag within the range = (Y end - Y start)/(max. range value - min. range value). If the tag value is greater than the max. range value, the object moves directly to the end position. The object will never move outside the screen. If the tag value is less than the min. range value, the object moves directly to the start position. The object cannot move outside the screen.

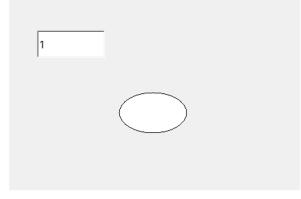
In the following example, the vertical movement of an ellipse object is configured:

- 1. Select the ellipse object, then expand the Animation property in its properties view, and select Vertical Movement.
- 2. Configure the tag. Click the drop-down list box under Tag to open the tag list and select a tag. Select the data type of the tag (in this example, Tag\_1 is of Int16 type).
- 3. Configure the Range, Start Position, and End Position.
  - The configuration is as follows:

Ellipse_3(Ellipseltem)		-т-х
Properties     Animations     Appearance Chl     Diagonal Movel     Horizontal Movel     Orrect Movement     Custom Moveml     Visibility	✓ Enabled Tag       Var_1     ▼ Range from 0 to 2 to 2       Start Position     End Position       × position 260 to 260 to 200 to	

The simulation is as follows:

When you enter "1" in the IO field, the ellipse moves to 1/2 of the path.



#### **6 Direct Movement**

The object moves a number of pixels along the X and Y coordinates. The amount of movement is defined by the absolute values of two tags.

The following is Direct Movement setting page of an object:

🗹 Enabled		Direct Movement
XPosition		
Start×position 270	Offset Var_2	]
YPosition		
Start Y position 280	≎ Offset Var_2 ▼	]

See the following table:

Pro	perty Name	Description
Enabled		Enables the Vertical Movement setting.
	Start X position	The start position of the control, which cannot be edited.
X position	Offset	The tag that configures the offset of the object on the X axis. If the value increases, the object moves to the right, and if the value decreases, the object moves to the left.
	Start Y position	The start position of the control, which cannot be edited.
Y position	Offset	The tag that configures the offset of the object on the Y axis. If the value increases, the object moves downwards, and if the value decreases, the object moves upwards.

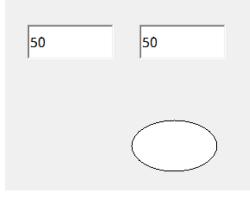
In the following example, the direct movement of an ellipse object is configured:

- 1. Select the object, then expand the Animation property in its properties view, and select Direct Movement.
- 2. Check Enabled.
- 3. Configure the X offset. Click the drop-down list to select a tag to control the offset.
- 4. Configure the Y offset. Click the drop-down list to select a tag to control the offset. The configuration is as follows:

B 		
Properties     Animations     Appearance ChI     Diagonal Movel     Horizontal Movel     Vertical MovemI     Direct MovemI     Visibility	✓ Enabled ×Position       Start×position     270     Offset     Var_2       Y Position     280     Offset     Var_2	Direct Movement

The simulation is as follows:

When you enter "50" and "50" In the IO fields, the ellipse moves to the specified position.



#### 7 Custom Movement

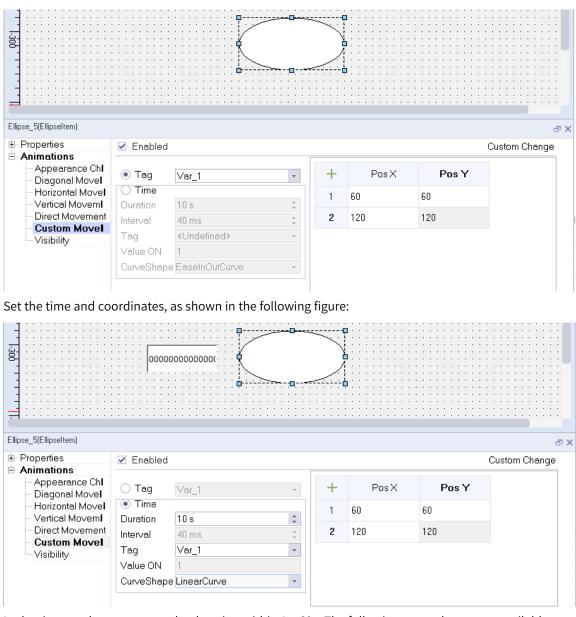
Custom movement refers to the movement of an object along custom coordinates. It can be controlled by a tag or time. In the tag mode, the object moves according to X and Y coordinates corresponding to the tag values. In the time mode, the object moves for a duration or at intervals. When the object moves for a duration, you can select the shape of its movement curve.

Up to 32 positions can be configured.

In the following example, the custom movement of an ellipse object is configured:

Select the ellipse object, then expand the Animation property in its properties view, and select Custom Movement.

Set the tag and coordinates, as shown in the following figure:



In the time mode, you can set the duration within 1s–60s. The following curve shapes are available:

Curve Shape	Description
Ease in curve	The object accelerates along the defined coordinates.
Ease out curve	The object decelerates along the defined coordinates.
Ease-in-out curve	The object accelerates and then decelerates along the defined coordinates.
Linear curve	The object moves at a uniform speed along the defined coordinates.
Sin curve	The object moves with a sine curve along the defined coordinates.
Cos curve	The object moves with a cosine curve along the defined coordinates.

In the time mode, set the tag type to bool to start and stop the movement. When the tag value is 1, the object moves along the defined coordinates, and when the tag value is 0, the object stops.

#### **8 Dynamic Movement**

The object moves according to the values of tags X1, X2, Y1 and Y2. (The movement only applies to the line object).

In the following example, the dynamic movement of a line object is configured:

Select the object, then expand the Animation property in its properties view, and double-click Dynamic Movement.

Ξ. -400 Line\_1(Line) Properties 🗹 Enabled Dynamic Animations Point1 Appearance Chl Diagonal Movel X1 Var\_1 Y1 Var\_2 + + Horizontal Movel Vertical MovemI Point2 Direct Movement Custom MovemI X2 Var\_3 Y2 Var\_4 Dynamic Movl -÷ Visibility

Configure the tags X1, X2, Y1 and Y2, as shown in the following figure:

Note: (X1, Y1) is not necessarily the starting point of the line, but may be the end point.

#### 9 Visibility

You can dynamically control the visibility of objects by changing the value of the tag, Whether an object is displayed depends on its state and the tag value. The object shows if the tag reaches a specific value or is in a specific range.

The following is Visibility setting page of an object:

🗹 Enabled		Visibilit
Tag	Object state	
Var_1	Hidden      Visible	
Туре		)
<ul> <li>Interger</li> </ul>	Range from 0 🛟 to 0 🛟	
O Bit	0 \$	

As shown in the above figure, the configuration consists of:

"Enable": Check this to enable the Visibility setting.

"Tag": The tag to control the visibility of the object.

"Object state": the visibility state of the object. If you select "Visible", the object is visible when the tag value is in the configured range. If you select "Hidden", the object is hidden when the tag value is in the configured range.

"Type": the type of the tag value. See the following table.

Property Name	Description
Integer	The visibility of the object is controlled by the value or range of the tag. If the object state is Visible, the object is visible when the tag value is in the configured range, and otherwise is hidden. The opposite is true when the object state is Hidden.
Bit	The visibility of the object is controlled by the bits of the tag. If the object state is Visible, the object is visible as long as the bit value is 1, and hidden as long as the bit value is 0. The opposite is true when the object state is Hidden.

In the following example, the visibility of an ellipse object is configured:

- 1. Select the ellipse object, then expand the Animation property in its properties view, and select Visibility.
- 2. Check Enabled.
- 3. Under "Object state", select Hidden or Visible as needed.
- 4. Configure the type. Choose one type as needed. "Bit" is selected in this example.
- 5. Select a bit in the spin box (such as bit '1').

The configuration is as follows:

Ellipse_G(Ellipseltem)	000000000000	
Properties     Animations     Appearance ChI     Diagonal Movel     Horizontal Movel     Vertical Movem     Direct Movement     Custom MovemI     Visibility	Tag Object state	₽ × ibility

The simulation is as follows:

When you enter "1" in the IO field, the ellipse shows.



When you enter "0" in the IO field, the ellipse is hidden.



Note: If "visibility controlled by authorization" is checked in the Security property of the object, the visibility set in the Animation property is ineffective and non-editable.

General		Security
Properties	Runtime Security	Operation
Appearance	r annine Security	Operation
Layout	Authorization Administration	<ul> <li>Enabled</li> </ul>
Text		Visibility controled by authorization
Flashing		
Scaling		SoftwareInput Enable
Limits		Password input
StyleSheet		Confirm Before Operation
Misc		· ·
Security		
Operation Recorl		
General		Security
Properties	Runtime Security	Operation
Appearance	r annine Security	Operation
Layout	Authorization Administration	<ul> <li>Enabled</li> </ul>
Text		Visibility controled by authorization
Flashing		
Scaling		SoftwareInput Enable
Limits		Password input
StyleSheet		Confirm Before Operation
Misc		
Security		
Operation Record		

## 7.4.2 Event

An event is a condition that triggers the execution of a related task, such as the click of a button that triggers the execution of a task (system function or script) assigned to the event. A list of events and related functions, as well as user-created scripts, can be configured in the Properties dialog box. Which events can actually be used depends on the object type.

For example, a button has three events: click, press and release, as shown in the following figure:

Button_2(Button)		on b	
General  Properties  Animations  Click Click Press Release Activate Change	+ - in ↑ ↓ Fe E     Calculation     Edit bits     Screens     User administration     HMI DateTime     Settings     Data Service     Print     Alarms     Logs     Decines		Function List

When the user configures the system function, the help information of the function will be displayed when the mouse hovers on the function name, as shown in the figure:

+ - 曲 ↑ ↓ 厝 目
È- Calculation
- DecreaseVąlue
-IncreaseValue
InverseLinea Subtracts the given value from the tag values
- LinearScaling
- SetValue
Random
Ē. Edit bits
⊕-Screens
🗄 User administration

For information about system functions associated with the events, see section System Functions and Running Scripts.

The events are described as follows:

Name	Description	Object
Loaded	Triggered when a screen or canvas is loaded.	Screen
Cleared	Triggered when a screen or canvas is cleared.	Canvas
Activate	Triggered when an analog or discrete alarm is triggered.	– Analog Alarm
Deactivate	Triggered when an alarm is cleared.	Discrete alarm
Acknowledge	Triggered when you acknowledge an alarm.	Discrete alarm
		Number IO field
ReturnPressed	Triggered when you finish typing in a control.	String IO field
		Date-Time Field
	Triggered when a screen or canvas is cleared.         Triggered when an analog or discrete alarm is triggered.         e       Triggered when an alarm is cleared.         dge       Triggered when you acknowledge an alarm.         ssed       Triggered when you finish typing in a control.         riggered when the state of an object changes.         Triggered when you set a switch in the OFF position.         Triggered when you set a switch in the ON position.         Triggered when a button is clicked (the cursor must on the but when you press and release the button).         Triggered when a button is pressed.         Triggered when a button is released.         Triggered when the upper limit of a tag is exceeded.	Symbolic IO field
Change		Graphic switch
	Triggered when the state of an object changes.	Text switch
		Slider
		Gage
Switch off	Triggered when you set a switch in the OFF position.	Text switch
Switch on	Triggered when you set a switch in the ON position.	Graphic switch
Click	Triggered when a button is clicked (the cursor must on the button	
CIICK	when you press and release the button).	Buttons
Press	Triggered when a button is pressed.	Duttons
Release	Triggered when a button is released.	
Upper limit	Triggered when the upper limit of a tag is exceeded.	Non Rool tag
Lower limit	Triggered when the low limit of a tag is exceeded.	– Non-Bool tag
Change value	Triggered by a PLC or the user when the value of a tag changes	Tag
True	Triggered when a Bool tag is true.	– Bool tags
False	Triggered when a Bool tag is true.	- Door lags
Timeout	Triggered when the time set by a timer is reached.	Timer

Name	Description	Object			
Once	Triggered once when the system time reaches a certain time set by the user. When no timer is selected, the event is triggered when the time set by the user is reached. When there is a timer, the event is triggered when the system time reaches the time set in the timer.				
X seconds	Triggered every 0.1-60 seconds				
1 min	Triggered every minute				
1 h	Triggered once at the nth minute in every hour. The value of n ranges from 0 to 59. For example, if the time is set to 10, the event is triggered once in the 10th minute of every hour.				
Daily	Triggered once at a specific time (HH:mm) in every day. For example, if you set the time to 10:22, the event is triggered at 10:22 every day. If you have set a timer, the event is triggered when the time set by the timer is reached.	-			
Every week	Triggered once at a specific time (dddd HH:mm) in every day. For example,, if you set the time to Tuesday 10:22, the event is triggered at 10:22 on Tuesday every week.	Scheduler			
Monthly	Triggered once at a specific time (d HH:mm) in every day. For example, if you set the time to 2 10:22, the event is triggered at 10:22 on the second day of the month.				
Yearly	Triggered once at a specific time (MM-dd HH:mm) in every day. For example, if you set the time to 02-02 10:22, the event is triggered at 10:22 on February 2 every year. If you have set a timer, the event is triggered when the time set by the timer is reached.				
Screen switching	Triggered once at screen switching				
User switching	Triggered once when the user logs out.				
Login	Triggered once when the user logs in.				
Alarm buffer overflow	Triggered once when the alarm buffer overflows. The alarm buffer is limited to a specified size (512) and is not involved in configuration.				
Start	Triggered once when the runtime starts.				
Screensaver	Triggered once after screensaver is activated				

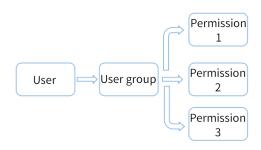
# 8 User Management

# 8.1 Overview

To prevent misopeation, different permission levels must be set. In configuration software, user management focuses on the protection of data and functions.

After creating users and user groups and assigning permissions, you can configure permissions for objects in the screen. After they are transferred to the HMI, all screen objects configured with permissions will be protected, and users will only be able to access them if they log in successfully and are authorized.

# 8.2 Description



In user management, permissions are not assigned directly to users, but to user groups. For example, a user named Tom is assigned to the "Commissioning Engineer" user group and granted corresponding permissions. You need not to assign permissions to each user individually.

# 8.3 Basic Setting

## 8.3.1 Group Management

The group editor displays a list of user groups and their permissions. You can manage user groups and assign them permissions.

### **Opening the group editor**

As shown in the following figure, expand Runtime User Administration and double-click Groups to open the user group editor.

ΠP	Sam	ple1.hmiproj-IT7070E(800x480)-I	Inovance C	Control											-		$\times$
		Edit Compiler View Options															
+		◙₽₽₽₩₽₽₽			38444	en_US 🔹											
t	Projec	t an	× 😤 Gr	oups ×													
Proj	Projec	Screens(1/256)				Group				Group a	uthor	izations(Op	erat	ors)	٦		
Ň		Add Screen															
S (e		🖾 00001:Screen_1	+	• Name	Display nam	e 🔺 Number 🔻	Comment	+.		Name	*	Number	•	Comment			
etails	E	Embed Screens	1	Operators	Operator gro	ир 1		1		Administration	1						
õ	œ	Popup Screens	2	Administrators	Admin group	2		2		Monitor	2						
	Ð	Hillia Templates(1/64)				Tal	ble Editing Area	3	~	Operate	3						
	Ė	- 🔁 00001:folder_3															
		🖃 Add Screen															
		Communication Project															
	• 6	Data Service View Area															
	• 4	Alarm Management															
	<b>⊕ _</b>	Recipes(3/100)															
	• []	Historical Data															
	• </td <td>&gt; Scripts(1/400)</td> <td>Propertie</td> <td>s</td> <td></td> <td>ۍ ×</td>	> Scripts(1/400)	Propertie	s													ۍ ×
	• 🖸	Reports(0/100)	Gen													6	ieneral
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	<b>•</b> @	Runtime User Administration								Propertie	s Vi	.ew Area					
		😤 Groups				Name 0	perators										
		- A Users				Display Name											
	• -{	> Resource				Number 1			0								
	÷ 🔅	HMI Settings															
Ċ	)utpu	t Properties															
												cpu: 0%	me	m:161568 KB 1	000495	0  1/0.9.	J.Z-A 🏑

### **Editor** area

In the editor area, you can display and edit user groups and their permissions. For details on editing, see "*Use of the editors*" on page 219.

#### **Properties view**

The properties view provides the same property setting function as the editor area.

#### Configuration

- Groups and group permissions displayed in gray in the group editor view are automatically generated by the system and cannot be edited by users.
- The system provides two default groups: administrators and operators. An administrator has all permissions by default, and operator permissions can be set as needed.
- If you check a permission in Group Authorizations, this permission is added to that group. As shown in the following figure. The Commissioning Engineer\_A group is assigned with administration, monitor and operate permissions.

			gineer_A)							
+.	Name	Display name	🔺 Number 🝷	Comment		+.		Name	🔺 Number 🔻	Comment
1	Operators	Operator group	1			1		Administration	1	
2	Administrators	Admin group	2			2		Monitor	2	
3	Engineer_A	Engineer_A	3			3	~	Operate	3	
4	Engineer_B	Engineer_B	4			4		Security level_I	4	

### 8.3.2 User Management

Users and user groups are listed in a table in the user administration editor. You can manage users and assign them to user groups here.

### Opening the user administration editor

As shown in the following figure, expand Runtime User Administration and double-click Users to open the editor.

	Sample1.hmiproj-IT7070E(800x480)-I	novance C	ontrol									-		×
	oject Edit Compiler View Options													
H					en_US 🔹									
g	Project &	< 😤 Gr	oups × 占 U	sers ×										
Project	Screens(1/256)				User					Use	r group(admin)			
N	Add Screen				<b>D</b> : 1				<u>.</u>					
Details View	2 00001:Screen_1	+	- Number -	Name	Display name	Password •	Logoff Time(m		Groups	Name	<ul> <li>Number</li> </ul>			
etail	Embed Screens	1	1	admin	admin	AAAAAAAAAA	5	1		Operators	1			
	Popup Screens							2	0	Administrators	2			
	Templates(1/64)							3		Engineer_A	3			
	🖻 🚾 00001:folder_3							4		Engineer_B	4			
	- 🕀 Add Screen									-				
	# (   Communication Project													
	🖲 🕞 Data Service 🛛 View Area					Т	able EDiting	Area						
	🗄 🛕 Alarm Management													
	⊕ <u>I</u> Recipes(3/100)     ☐													
	🗄 🔛 Historical Data													
	Scripts(1/400)													
	E 🔲 Reports(0/100)													
	🖶 📄 Status Lists													
	🗄 🛞 Runtime User Administration	admin (U												ъ×
	- 😤 Groups	en Gen											Ge	neral
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	🗉 🔶 Resource													
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	,				Display Name ac									
					Logout Time 5n	nin 🗘								
	Output Properties													
	and a second										cpu: 0% mem:	61828 KB 10004950	V0.9.0.	2-A

#### **Editor** area

In editor area, you can display and edit users and their groups. For details on editing, see "*Use of the editors*" on page 219.

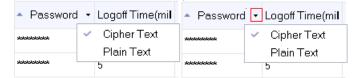
#### **Properties view**

The properties view provides the same property setting function as the editor area.

### Configuration

By default, the system has created an "admin" user which is in the administrator group (the grayed users and user groups are created by the system and cannot be edited).

Password: The login password on the HMI. The password can be displayed as plain text or cipher text, as shown in the following figure.



Logoff Time (min): If the the user does not perform any operation after this time, the user will be automatically logged out (the defalut is 5 min). If you set it to 0, automatic logout is disabled.

# 8.4 Application of User View in User Management

## 8.4.1 Creating a User View

The User View is an edit window that manages users in HMI. Users with Manage permission can man-

age all users in User View, while other restricted users can only manage themselves. As shown in the following figure, click "Enhanced Controls-> User View" in the toolbox on the right and drag it to the screen.

🖾 00001:Screen	_1 ×				Tools	ъ×	
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	· · · · · · · · · · · ·	· · · · · ·	Simple Controls		F		
				•	Enhanced Controls		
	Name	Password	Group		IIII Bar Code		
					🃫 Canvasltem		
				• • • • • • • • • • • •	💪 FlowBlock		
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					🔎 User View		
- · · · · · · · · · · · · · · · · · · ·			•		🔄 Trend View		
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User View_1(UserView)	1				🔺 Recipe View		
General	I		(	a•× General	I Alarm View		
Properties     Animations	Table				📄 Data View		
		reground color		-	🖶 Report View		
	Ba	] -	🕂 Embed Screen View				
		ekground color		Custom Controls			
	neaderba	ckground color		Graphics			
		Font roid San	Favorites				

# 8.4.2 Configuring System Function for User Login and Logout

As shown in the following figure, select the Login button, and click Events->Click->User administration in the Properties view. Double-click the ShowLogonDialog function to add it to the button's click event. Then, you can click the Login button to execute the system function and display the login dialog box; In the same way, you can associate the Logoff function with the Logoff button so that you can click the button to log out.

	Login	Logout	
Button_1(Button)			a ×
General  Properties Animations Click Press Release Activate Change	+ - iii ↑ ↓ iii iii     Calculation     Edit bits     Screens     User administration     GetAuthorization     GetGroupNumber     GetPassword     GetUserName     Logoff     Logon     RemoveUser     ChangePassword     ShowLogonDialog      HMI DateTime	1 ShowLogonDialog	Fu

Name	Password		Group	Logoff Time(min)
User logo	n	×		
User Password	admin			
	OK Car	icel		•
	Login	Logou	ut	

# 8.4.3 Using User View in HMI

- 1. After configuring user management, download it to HMI. There is no data when the user view is initialized. Click the Login button, and select the designated user to log in in the pop-up User Login dialog box. After logging in, you can see your own information in the user view. After a user with administrative rights logs in, all user information will be displayed.
- 2. See the following figure.

+	Name	Password		Group	Logoff Tim
1	admin	******		Admin group	5
2	Alen	******		Operator group	5
3	Bob	******		Operator group	5
•					Þ
	Login	Lo	gout		

Double-click the + button in the upper left corner (there is no such button if you logged in as a non-administrator) to create a new user, such as "user4".

÷	Name	ame Password Group		Group	Logoff Tim	
1	admin	******		Admin group	5	
2	Alen	******		Operator group	5	
3	Bob	******		Operator group	5	
4	user_4	******		Operator group	5	
•	Login	Lo	ogout		Þ	

You can double-click any non-gray cell to pop up an editing window, as shown in the following figure.

	+	Name	Passwo	ord		Group		Logoff Tim
	1	admin	******			Admin group	5	
	2	Alen	******			Operator group	5	
	3	Bob	******			Operator group	5	
	4	user_4	******			Operator group	5	
	•	User edi	tor			×		Þ
Name user_4								
			Password	•••	•••	•		
		Confirm	Password	•••	•••	•		
			Group	Ope	erat	or grou		
		Log	gout time	5				
				C	K	Cancel		

	Name	Password		Group	Logoff Tim
1	admin	*****		Admin group	5
2	Alen	*****		Operator group	5
3	Bob	*****		Operator group	5
					Þ
					<u>·</u>
	Log	gin	Logoi	ut	

You can select a non-administrator user and double-click the <u>button</u> button in the upper left corner to delete this user.

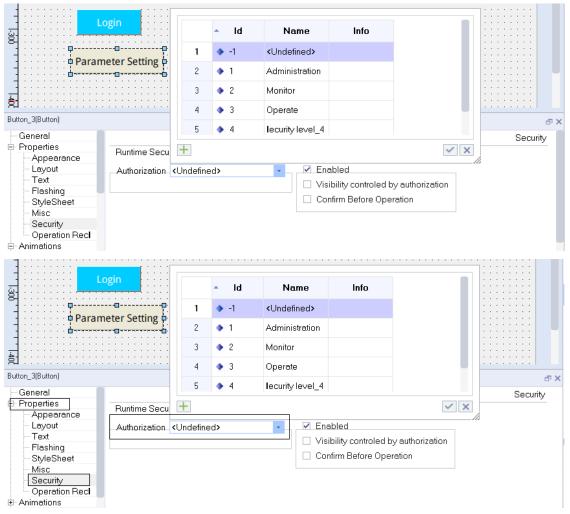
# 8.5 Application

1. ON Screen \_ 1, add a Parameter Setting button, Temperature Setting text field and Number IO Field control, as shown in the following figure.

<b>i</b> 00	0001:Screen_1	×		
	<u>    199</u>	<u></u> 200_ <u></u> 1	<u>, , ,  3pq, , ,   ,  </u> ,	<u> </u>
	Name	Password	Group	Logoff Time(min)
				· · · · · · · · · · · · · · · · · · ·
	•			► :::
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
		Login	Log	out
		neter Setting	Temperature Se	tting 0000000000000
		·····		

2. Setting permission for the Parameter Setting button and the Number IO Field control.

Select the Parameter Setting button. In the property view, go to Properties→Security, and set the authorization to Administration under Runtime Security (see "" on page ); Similarly, set the authorization of the Digital IO Field control to Operate;



#### 3. Turn to the HMI.

After the project is downloaded to the HMI, when the user clicks on the controls without logging in or authorization, a login dialog box will pop up.

For the Parameter Setting button and the Temperature Setting IO field, if you log in as an authorized user, the login dialog box will not pop up.

Click the Logout button, and then log in as another user. If this user is only assigned the Operate permission, you are allowed to modify the temperature value. However, when you click the Parameter Setting button, the login dialog box will pop up again.

# 9 Alarm System

# 9.1 Overview

## 9.1.1 Visualization of Process and System Alarm

- User-defined Alarm
  - The alarm is configured to display process status on the HMI device or to measure and report process data received from the PLC.
- System alarm

System alarms are predefined on these devices to show specific system statuses in the HMI device.

User-defined alarms and system alarms can be triggered by a HMI device or PLC, and can be displayed on the HMI device.

## 9.1.2 User-defined Alarm

#### Available alarm process

- Analog Alarm If the value of a tag exceeds the limit value, the HMI device triggers an alarm.
- Discrete alarm If the specified bit of a tag is set, the HMI device triggers an alarm.

#### Alarm acknowledgment

For discrete and analog alarms indicating critical or dangerous operation and process states, the equipment operator may be required to acknowledge the alarms.

### Acknowledging methods

- Using the Acknowledge button, the 🗸 button in the alarm view.
- Configuring the system function in the event of the screen control, as shown in the following figure:

- General	十一前11 福目				Function Lis
Properties Animations	⊕ Calculation ⊕ Edit bits	⊡ 1	AlarmViewAcknowled	geAlarm	
Events Click	⊕ Screens		Screen object	Alarm View_1	
Press Release Activate Deactivate Change	User administration     HMI DateTime     Settings     Data Service     Print     Alarms     Logs     Recipes     Operation for screen objects     AlarmViewShowOperatorNotes				

• For discrete alarms, you can also acknowledge them by setting the specific bit in the tag.

## Alarm category

Alarm category mainly determines the display mode and acknowledgment behavior of alarms on the HMI.

## Predefined alarm categories

- "Error": used for discrete and analog alarms to indicate emergency or dangerous operation and process status. This kind of alarms must be acknowledged.
- "Warning": used for discrete and analog alarms, indicating general operation status, process status and process sequence. This kind of alarms needs not to be acknowledged.
- "System" : used for system alarms, prompting you about the the operating status of the HMI and PLC. This alarm category cannot be used for user-defined alarms.

## 9.1.3 System alarm

System alarm prompts about the operating status of the HMI and PLC. System alarm consists of an alarm number and alarm text. The alarm text accurately describes the cause.

The following table lists all the predefined system alarms:

	Text	Alarm classes	<ul> <li>Event n</li> </ul>	Enabled
1	Log %1 is full.	System	100001	<ul> <li>Image: A start of the start of</li></ul>
2	Log %1 is %2 percent full.	System	100002	
3	Connection failure: %1, station %2.	System	100003	
4	Connection successful: %1, station %2.	System	100004	
5	Invalid input of date/time.	System	100005	
6	Overflow range, the valid range is [%	System	100006	
7	The Medium of Log is full .	System	100007	
8	Tag %1 can not write to PLC.	System	100008	
9	Invalid PLC job number: %1.	System	100009	
10	No other screens can be selected. No	System	100010	
11	SIM status: %1.	System	100011	
12	IOT status: %1.	System	100012	
13	Connection off line: %1, station %2.	System	100013	
14	%1 read error: %2.	System	100014	
15	%1 write error: %2.	System	100015	
16	SD card not been detected.	System	100016	
17	SD card has been detected.	System	100017	
18	SD card has been eject.	System	100018	
19	USB not been detected.	System	100019	
20	USB card has been detected.	System	100020	
21	USB has been eject.	System	100021	

### 9.1.4 Displaying Alarm

#### **Displaying alarm on HMI**

• Alarm view

Depending on the configuration size of the alarm view, multiple alarms can be displayed at the same time. You can select the alarm category to display in the alert view, and you can configure multiple alarm views for different alarm categories.

- Alarm bar The alarm bar can display all error alarms.
- System alarm window The system alarm window is an alarm window provided by the runtime to display system events.

#### Logging alarms

After alarm logging is configured for an alarm category, all alarms of this alarm category will be recorded in the specified alarm log.

### System functions for editing alarms

AlarmViewAcknowledgeAlarm	Acknowledge the alarm selected in the specified alarm
	view
AlarmViewShowOperatorNotes	Display the info text of the alarm selected in the specified alarm view
ClearAlarmBuffer	Delete alarms from the HMI alarm buffer
ClearActionedAlarmBuffer	Delete alarms that have been dealt with from HMI alarm buffer
ShowAlarmView	Show\Hide the specified alarm view control
Веер	Play a buzzer

## 9.2 Properties and Basic Settings

### 9.2.1 Alarm Properties

### **Alarm Properties**

• Alarm text

Alarm text is the description of the alarm. You can configure a tag in the text through the dropdown box or drag-and-drop of a tag.

Number

The alarm number is used to identify an alarm, and is unique in the following alarm types.

- Analog Alarm
- Discrete alarm
- System alarm
- Alarm class

The alarm class determines whether the alarm requires acknowledgment. It also determines the display mode of alarms on the HMI.

It can also determines whether to log the alarm or not.

- Trigger tag
  - For analog alarm: triggers an alarm when the tag value reaches the limit value
  - For discrete alarm: triggers an alarm when a bit in the tag is set

### **Optional alarm properties**

• Alarm group

Handled altogether. That is, if the alarm belongs to a alarm group, all the alarms in the group can be acknowledged when you acknowledge it.

• Info text

Additional information about the alarm. The text will not be displayed automatically. You must select the alarm and press the 👔 button in the alarm view to display it.

#### **Analog Alarm**

#### • Limits

The value used to trigger the tag is compared with this value to determine whether to trigger the alarm

• Trigger mode

The trigger modes include >, <, ==, =, and <=, which are used as the condition for comparing the value of the trigger tag with the limit value

Hysteresis

Hysteresis value, ranging from 0 to 100, used with percentage.

• Hysteresis in percent

When it is on, the hysteresis value becomes percentage, which is equal to limit value x hysteresis%

When it is off, the hysteresis value = the value in the Hysteresis field

• Use

On "activated": value for triggering alarm = limit value + hysteresis value

On "deactivated": value for triggering alarm = limit value – hysteresis value

The sign of the hysteresis value is determined by the trigger mode:

When the trigger mode is >, =, and ==, the hysteresis value is positive.

When the trigger mode is< and ==, the hysteresis value is positive.

• Delay

When the trigger condition is met, the analog alarm is triggered after the specified time (in 100 ms). For example, if you set the delay to 10, the delay time =  $10 \times 100$  ms.

#### **Discrete alarm**

• Trigger bit

The state of a bit of a trigger tag is used as the trigger condition. The trigger bit can be the same regardless of the trigger mode for the trigger tag.

• Trigger mode

The trigger modes include 1->0, 0->1, ==0 and ==1

• Ack PLC tag and Ack PLC bit

The PLC bit number designates the n-th bit of the PLC tag as the acknowledgment bit. You can reset a bit of the PLC tag to acknowledge the corresponding alarm. The Ack PLC tag can only be the same as the trigger tag of the corresponding alarm, with different bit numbers.

• Ack HMI tag and Ack HMI bit

The HMI bit number designates the n-th bit of the HMI tag as the acknowledgment bit. When the alarm is triggered, the specified bit of the HMI tag is reset. When the corresponding discrete alarm is acknowledged, the specified bit of the HMI tag is set.

**Note:** The Ack PLC tag and Ack HMI tag can only be used when the discrete alarm triggers the external tag configured by the trigger tag.

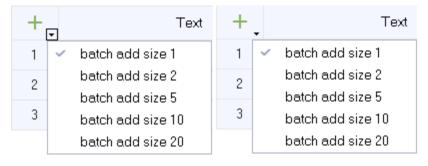
## 9.2.2 Alarm Configuration Editor

### **Editor types**

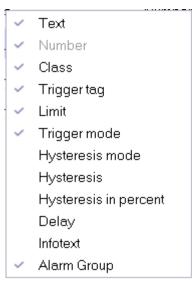
- Discrete alarm editor for creating and modifying discrete alarms
- Analog alarm editor for creating and modifying analog alarms
- System alarm editor for modifying the alarm text of system alarms
- Alarm class editor for creating and changing alarm categories
- Alarm group editor for creating and modifying alarm groups

### Use of the editors

- Creating an object: Click + in the upper left corner of the table;
- Batch creating: Click the triangle under the Add button and select an operation in the drop-down menu. Then click the Add button;



- Deleting an object: Click the row number of the alarm row to be deleted, and the Add button becomes the Delete button —. Click the button to delete the row;
- Hiding and displaying column fields: Right-click the column header, and select the fields to be hidden or displayed in the drop-down menu.



• Column sort: Click the column header

### 9.2.3 Analog Alarm Editor

You can create analog alarms and specify their properties in the analog alarm editor. For property setting, see *"9.2.1 Alarm Properties" on page 217*.

#### Opening the analog alarm editor

Click Alarm Management in the project view as shown below, and then double-click Analog Alarms to open the editor.

		. 6	Edit Compiler View Op 🛛 🕒 👆 🤭 📈 🕞 🕯					ᠵᢘ᠋᠊᠊᠊	📥 en_US	*					
5	Proj	ect				01:Screen_1									
	Proj		3 00001:Screen_1 3 00002:Screen_2		Æ.	Text	•	1	lumber	•	Class	Trigger tag	Trigger mode	Limit	Alarm Group
Details View		÷	Embed Screens		1	analog_1	1				Errors	Var_1	>	<no limit=""></no>	<undefined></undefined>
tails		÷	Popup Screens		2	analog_2	2				Errors	Var_2	>	<no limit=""></no>	<undefined></undefined>
a		•	📄 Templates(1/64)		3	analog_3	3				Errors	Var_3	>	<no limit=""></no>	<undefined></undefined>
		<b>.</b>	🔚 00001:folder_3		4	analog_4	4				Errors	Var_4	>	<no limit=""></no>	<undefined></undefined>
	<b>+</b>	₽	Communication												
	÷	Ð	Data Service							Table Ec	lit Area				
	۵.	A	Alarm Management												)
		·····	🔀 Analog Alarms		$\overline{\ }$										
			😽 Discrete Alarms												
			🚰 System Alarms	an	alon 1 (	Analog alarms)									ۍ x
		÷	🔅 Settings Project		Gene										~
	÷.,	π	View Area Recipes(3/100)	16	Prop	erties		Settings							General
	•	0101 0101	Historical Data	÷	Even	ts		-	analoq_1						
	•		Scripts(1/400)					Number	-						
	•	1	Reports(0/100)					Classes				*			
	<b>.</b>		Status Lists						<undefined></undefined>			•			
		8	Runtime User Administrl												
		·····	😤 Groups							Prope	erty View Ar	ea			J
			A Users		_										
	÷	¢	Resource												
N	Ð	Ø	HMI Settings	/											
(	~ Dutp	ut	Properties												

Figure 9-1 Analog alarm editor

#### **Editor area**

The editor area displays all created analog alarms and their property settings in a table. For table editing, see "*Use of the editors*" on page 219.

#### **Properties view**

The properties view provides the same property setting function as the editor area. In addition, It also provides event editing.

#### **Description of event**

Activate: When the alarm occurs, the script function configured in the 'Activate' event will be called.

Deactivate: When the alarm is deactivated, the script function configured in the 'Deactivate' event will be called.

Acknowledge: When the alarm is acknowledged, the script function configured in the 'Acknowledge' event will be called.

### 9.2.4 Discrete Alarm Editor

You can create discrete alarms and specify their properties in the discrete editor. For property setting, see *"9.2.1 Alarm Properties" on page 217.* 

#### Opening the discrete alarm editor

Click Alarm Management in the project view as shown below, and then double-click Discrete Alarms to open the editor.

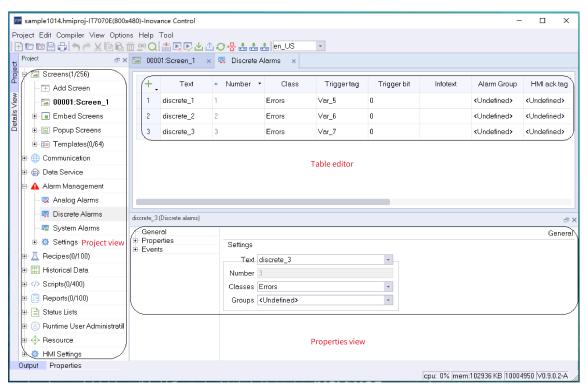


Figure 9-2 Discrete alarm editor

#### **Editor area**

The editor area displays all created discrete alarms and their property settings in a table. For table editing, see "*Use of the editors*" on page 219.

#### **Properties view**

The properties view provides the same property setting function as the editor area. In addition, It also provides event editing.

#### **Description of event**

Activate: When the alarm occurs, the script function configured in the 'Activate' event will be called.

Deactivate: When the alarm is deactivated, the script function configured in the 'Deactivate' event will be called.

Acknowledge: When the alarm is acknowledged, the script function configured in the 'Acknowledge' event will be called.

### 9.2.5 System Alarm Editor

In the system alarm editor, you can only view all defined system alarm information.

#### Opening the system alarm editor

Click Alarm Management in the project view as shown below, and then double-click System Alarms to open the system alarm editor.

		<sup>()</sup> Q	Tool			
	× 🖾	000€	11:Screen_1 × 🕾 System Alarms ×			
<ul> <li>Embed Screens</li> <li>Popup Screens</li> </ul>	17	/	Text	Alarm classes	▲Event number	Enabled
		1	Log %1 is full.	System	100001	
Communication	1 -	2	Log %1 is %2 percent full.	System	100002	
Connections		3	Connection failure: %1. station %2.	System	100003	
🗖 Cycles		4	Connection successful: %1, station %2.	System	100004	
🖻 📲 Tags(3/128)		5	Invalid input of date/time.	System	100005	
- 🔚 Label Tags		6	Overflow range, the valid range is [%1-%2].	System	100006	
– \sub Show All Tags		7	The Medium of Log is full .	System	100007	
- 🖽 Add Tag Group		8	Tag %1 can not write to PLC.	System	100008	
- 📲 System Tags - 📲 Tag group_2		9	Invalid PLC job number: %1.	System	100009	
		10	No other screens can be selected. No other screens are store!	System	100010	
Alarm Management		11	SIM status: %1. Table editor	System	100011	
— 🔀 Analog Alarms		12	IOT status: %1.	System	100012	
🛛 😽 Discrete Alarms		13	Connection off line: %1, station %2.	System	100013	
– 🚰 System Alarms		14	%1 read error: %2.	System	100014	
🗄 🤨 Settings		15	%1 write error: %2.	System	100015	
<u>⊼</u> Recipes(0/100) Historical Data		16	SD card not been detected.	System	100016	
- Instorical Data -  - Scripts(0/400)		17	SD card has been detected.	System	100017	
- (7) Schpts(0/400)		18	SD card has been eject.	System	100018	
E Status Lists		19	USB not been detected.	System	100019	
	$\left[ \right]$	20	USB card has been detected.	System	100020	
- 🔶 Resource		21	USB has been eject.	System	100021	

Figure 9-3 System alarm editor

#### **Editor** area

All defined system alarm information is displayed in the editor area. You cannot modify the system alarm attribute, but you can decide whether to enable this alarm by ticking the check box in the Enabled column.

### 9.2.6 Alarm Classes Editor

You can create alarm categories and specify their properties in the editor. Click Alarm Management→Settings→Alarm Classes as shown in the following figure to open the editor.

sample1014.hmiproj-IT7070E(800	x480)-Inov	ance Control								_		×
Project Edit Compiler View Optic												^
			୰୕୲ୠ୷୷	📥 📥 en_US	*							
Theirest			× 🖷 Syste		Alarm Clas	ses x						
Embed Screens		1		1					1			
🛛 🗄 🖃 Popup Screens	( +.	Name	Display name	Ack	Log	C color	CD color	CA color	CDA color	Ctext	D te	∋xt
🖉 🖭 🗐 Templates(0/64)	1	Errors	I.	On "activated"	<undefined></undefined>	#ff0000	#ff0000	#000000	#000000	С	D	
Communication	2	Warnings	#	Off	<undefined></undefined>	#ffff00	#111100	#000000	#000000	С	D	
🗳 🚽 😴 Connections	3	System	\$	Off	<undefined></undefined>	#ff00ff	#000000	#000000	#000000	С	D	
- 😅 Cycles												
🖻 📲 Tags(3/128)												
- 🔚 Label Tags												
- 🗟 Show All Tags												
- 📲 System Tags												
🗉 🍙 Data Service												
🖻 🛕 Alarm Management												
— 🔀 Analog Alarms												
- 😽 Discrete Alarms	Errors (Alar	rm Classes)										e X
- 🖼 System Alarms	Gene ⊕ Prop										G	eneral
🖻 🧔 Settings		61065	Set	ttings								
🗕 🗛 Alarm Classes				Name Er								
- 🗛 Alarm Groups				-	Indefined>		*					
			Dis	splay Name !								
Historical Data					"activated"		Ŧ					
				Number 1								
🕀 📄 Status Lists												
Output Properties												
									cpu: 0% mem:	04412 KB 10004	950 \V0.9.0	0.2-A

Figure 9-4 Alarm classes editor

### **Editor** area

The editor area displays all created alarm categories and their property settings. You can edit the property in the cell.

#### **Properties view**

The properties view provides the same property setting function as the editor area

#### **Properties**

- Name: category name. The name is unique.
- Display name: The mark displayed under the Type of the alarm view control when the alarm is triggered. Different alarm categories can have the same display name.
- Ack: Sets whether the alarm needs to be acknowledged.
- Log: Sets the location of alarms and logs, and only the logs in Alarm Logs can be configured.
- C color: When the alarm text is displayed in this color, it indicates that the alarm is active.
- CD color: When the alarm text is displayed in this color, it indicates that the alarm has occurred and been eliminated.
- CA color: When the alarm text is displayed in this color, it indicates that the alarm has occurred and been acknowledged.
- CDA color: When the alarm text is displayed in this color, it indicates that the alarm has occurred and been acknowledged and eliminated.
- C text: The alarm text displayed after an alarm occurs.
- D text: The alarm text displayed after an alarm is eliminated.

• A text: The alarm text displayed after an alarm is acknowledged.



The alarm status text is composed of "Arrived Text", "Departed Text" and "Confirmed Text". As shown in Figure 6-2-6 above, when an alarm occurs, the status text of the alarm is displayed as "C", and if the alarm is confirmed, the status text is displayed as "CA".

### 9.2.7 Alarm Group Editor

In the alarm group editor, you can create alarm groups and specify their attributes. Alarm groups are mainly used to classify multiple alarms into one group. In the alarm view, select any alarm in the alarm group to confirm, and all the alarms generated by this group can be confirmed.

#### Opening the alarm group editor

Click Alarm Management→Settings→Alarm Groups as shown in the following figure to open the system alarm editor.

Project Edit Completer View Options Help Tool         Image: Completer View View Options Help Tool         Image: Completer View View Options Help Tool         Image: Completer View View View View View View View View	sample1014.hmiproj-IT7070E(800x480)-I	novance Control	- 🗆 X
Perform       0001:Screen_1 × System Alarms × AT Alarm Classes × A Alarm Groups × <>         Image: Construction       Image: Construction         Image: Constructio			
Streens(1/250)       Intercent (250)         Image: Add Screen       Image: Add Screen			
Add Screen     1     Ack group_1       Image: Second Screen     1     Ack group_1       Image: Screen     Screen     Screen       Image: Screen     Screen     Screen       Image: Screen     Screen     Project view		0001:Screen_1 × 🕾 System Alarms × 🗛 Alarm Classes × 🗛 A	Alarm Groups 🛛 🗙 🔇 🔪
Add Screen     1     Ack group_1       Image: Second Screen     1     Ack group_1       Image: Screen     Screen     Screen       Image: Screen     Screen     Screen       Image: Screen     Screen     Project view	Creens(1/256)	+ Nama Aroun number	
Image: Second	Add Screen		
Image: Second	5 00001:Screen_1	1 Ack group_1 1	
Image: Second	🗑 🗈 Embed Screens		
Communication Connections Cycles Toycles	🛱 🗈 Popup Screens		
Image: Connections         Cycles         Image: Tags(3/128)         Image: Tags(3	i ≣≣ Templates(0/64)		
Ceneral Cen	Communication		
Image: Tags(3/128)         Image: Label Tags         Image: Show All Tags         Image: Add Tag Group         Image: System Tags         Image: Tag group_2         Image: Tag group_2 <t< td=""><td></td><td></td><td></td></t<>			
Image: Show All Tags   Image: Show All Tags   Image: Add Tag Group   Image: System Tags   Image: Tag group_2   I	- 🛱 Cycles		
Show All Tags   H Add Tag Group   System Tags   Tag group_2   Data Service   Alarm Management   Analog Alarms   System Alarms   System Alarms   System Alarms   System Alarms   System Classes   An Alarm Classes <t< td=""><td>🖃 📲 Tags(3/128)</td><td></td><td></td></t<>	🖃 📲 Tags(3/128)		
Add Tag Group     System Tags     Tag group_2     General     Adam Management     System Alarms     Settings     Af Alarm Classes     A Alarm Groups     Beipors(0/100)     Beige Status Lists     Settings     Settings     A Scripts(0/400)     Beige Status Lists     Settings     A Resource Project view     System Alarms     Settings     A Resource Project view     Settings     Athered Status     Settings     Athered Status     Settings     Settings     A Alarm Groups     Beige Status Lists     Settings     Athered Status     Settings     A Resource Project view     Settings     Output Properties	- 🔚 Label Tags		
System Tags     Tag group_2     Data Service     A Alarm Management     Analog Alarms     System Alarms     Settings     Ack group_1 (Class alarms)     General     General     Settings     Ack group_1     Name Ack group_1     Number 1     Number 1     Number 1     Number 1     Properties view     Status Lists     Project view     A Resource Project view     Status Lists     Properties	😼 Show All Tags		
Tag group_2     G Data Service     A Alarm Management     Analog Alarms     S Discrete Alarms     S System Alarms     S Settings     Art Alarm Classes     A Alarm Groups     A Alarm Classes     A Alarm Groups     A A	- 🖽 Add Tag Group		
Image: Construct of the second of			
Alarm Management       Table editor         Image: Analog Alarms       Image: Analog Alarms         Image: Discrete Alarms       Image: Analog Alarms         Image: System Alarms       Image: Ack group_1 (Class alarms)         Image: Analog Alarm Croups       Image: Ack group_1 (Class alarms)         Image: Analog Alarm Groups       Image: Ack group_1 (Class alarms)         Image: Alarm Groups       Image: Alarm Groups			
Analog Alarms Discrete Alarms System Alarms System Alarms System Alarms Ack group_1 (Class alarms) Ack group_1 (Class alarms) Ack group_1 (Class alarms) Ceneral Settings Ack group_1 Name Ack group_1 Name Ack group_1 Number 1 Properties view Name Ack group_1 Number 1	🕀 🍙 Data Service		
Image: Discrete Alarms   Image: System Alarms <td>🗈 🗛 Alarm Management</td> <td>Table editor</td> <td></td>	🗈 🗛 Alarm Management	Table editor	
System Alarms   Settings   A: Alarm Classes   A Alarm Groups   E: A Recipes(0/100)   E: Historical Data   E: A Scripts(0/400)   E: Reports(0/100)	- 🔀 Analog Alarms		
Image: Settings       Ack group_1 (Class alarms)         Image: Alarm Classes       General         Image: Alarm Groups       General         Image: Alarm Groups       Settings         Image: Alarm Groups       Name Ack group_1         Image: Alarm Groups       Properties view         Image: Alarm Groups       Properties view         Image: Alarm Groups       Properties	- 🔀 Discrete Alarms		
Settings   Alarm Classes   Alarm Groups   E. I. Recipes(0/100)   E. I. Recipes(0/100)   E. I. Reports(0/400)   E. Status Lists   E. C. Runtime User Administration   E. Resource   Project view   E. HMI Settings	- 🚟 System Alarms		
A Alarm Classes       Settings         A Alarm Groups       Name Ack group_1         Historical Data       Number 1         Y Scripts(0/400)       Properties view         Status Lists       Properties view         Resource       Project view         HIS Settings       Output	⊡ ‡ Settings	Ack group_1 (Class alarms)	∂ X
Alarm Groups → Alarm Groups → Resource Project view → HMI Settings Output Properties	Alarm Classes		General
Becipes(0/100)     Recipes(0/100)     Reports(0/100)     Bell Reports(0/	🗛 Alarm Groups	Settings	
Image: Historical Data       Name Ack group_1         Image: Historical Data       Number 1         Image: Historical Data       Number 1         Image: Historical Data       Properties view         Image: Dutput       Properties			
Image: Status Lists       Properties view		Name Ack group_1	
Beports(0/100)     Bestatus Lists     Properties view     Resource Project view     HMI Settings     Output Properties		Number 1	)
Status Lists     Properties view     Sesource Project view     HMI Settings     Output Properties			
Besource Project view     HMI Settings Output Properties		Properties view	
Resource Project view     HMI Settings     Output Properties			
HMI Settings			
Output Properties			
cou: 0% mem:106420 KB 10004950 V0.9.0.2-A			

Figure 9-5 Alarm group editor

### **Editor area**

The editor area displays all created alarm groups and their property settings. You can edit the property in the cell.

## **Properties view**

The properties view provides the same property setting function as the editor area.

## 9.3 Alarms log

### 9.3.1 Description

The alarm record saves the alarm information generated during the project operation for later problem analysis.

### 9.3.2 Contents of Alarm Record

The alarm to be recorded is assigned to the alarm record by alarm category. When the alarm status changes, the alarm record will hold the following information for the corresponding alarm:

- Alarm text
- Alarm category
- Alarm No.
- Date and time
- Alarm state
- Confirmation group
- PLC: alarm trigger tag connection name

An alarm record will be generated when the alarm occurs, the alarm is confirmed and the alarm is eliminated.

### 9.3.3 Alarm Log Editor

You can create and edit the properties of an alarm log in the alarm log editor. For details, see *"9.3.4 Basic Settings of Alarm Log" on page 228.* 

#### Opening the alarm log editor

To open the alarm log editor, expand Historical Data, and double-click Alarm Logs.

_											
Π	P s	am	ple1014.hmiproj-IT7070E(800x4	480)-Inov	ance Control				-		×
			Edit Compiler View Option				en US 🔹				
	Pre	u) i vjec				Alarm Log					
Project	Ĺ		Screens(1/256)		JUT.Screen_1 ×	📓 Alami Lug	is ×				
Å	÷		Communication	(+	Name	🔺 Number 🝷	Num of data records per log	Path	Log alarm text an	d error la	ocatiol
Details View	+	6	) Data Service	1	alarmloggingsl	1	500	Local Disk	On		
tails'	ŧ	A	Alarm Management	2	alarmloggingsl	2	500	Local Disk	On		
Ō	Ŧ	Д	Recipes(0/100)								
	Ð	010	] Historical Data								
			- 🔄 Data Logs				Table editor				
			🗟 Alarm Logs								
	÷	</td <td>&gt; Scripts(0/400)</td> <td></td> <td>ings 2 (Alarm Logs)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	> Scripts(0/400)		ings 2 (Alarm Logs)						
	÷	6	Reports(0/100)	Gen							×
	÷		) Status Lists	Prop		Display		torage		Ge	neral
	Ð	8	) Runtime User Administratiol			Name alarmio		ath_Local Disk	<b>•</b>		
	+	÷	Resource				/ggings_z	aut Local Disk			
	ŧ	Ø	HMI Settings			Size					
	ĺ	_	Project view			Num of data rec	cords per log 500 🗘				
							Properties view				
	Out	tput	Properties						100000 KB 1000 4		0.0.4
								cpu: u%  mem	:108232 KB 100049	150 JV0.9	.U.Z-A

Figure 9-6 Alarm log editor

#### **Editor** area

- Creating an object: Click +, in the upper left corner of the table;
- Batch creating: Click the triangle under the Add button and select an operation in the drop-down menu. Then click the Add button;

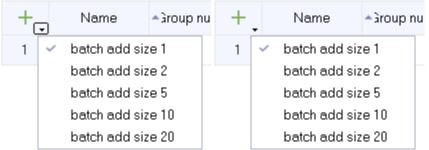


Figure 9-7 Batch creating options

- Deleting an object: Click the row number of the alarm row to be deleted, and the Add button becomes the Delete button —. Click the button to delete the row;
- Hiding and displaying column fields: Right-click the column header, and select the fields to be hidden or displayed in the drop-down menu.

	~	Name	
-	~	Number	
	~	Num of data records per log	
	~	Path	
	~	Log alarm text and error location	
	~	Logging method	
	~	Fill level	
	~	Enable logging at runtime start	
	~	Response at runtime start	
	~	Comment	

Figure 9-8 Column attributes

• Column sort: Click the column header

#### **Properties view**

The properties view provides the same property setting function as the editor area. In addition, It also provides event editing.

#### **Description of event**

Overflow event: The script function that triggers configuration when the alarm logs overflow.

Event items can only be used when triggering events in the Logging Method configuration.

### 9.3.4 Basic Settings of Alarm Log

#### **Property setting**

- Name
   Name of the alarm log
- Num of data records per log The maximum number of alarms allowed to be recorded per alarm log.
- Path

The storage location of the alarm log, which can be the HMI or a USB drive or SD card.

- Log alarm text and error location Choose whether to save the alarm text and the connection name used by the alarm trigger tag.
- Logging method
  - Circular log: When the table is full, the earliest log will be overwritten.
  - Raise event: When the table is full, the script function configured in the overflow event is triggered.
  - Display system alarm: When the number of recorded alarms reaches the specified maximum number, the system alarm is displayed.
- Fill level

The maximum number of logs in percentage to display the system alarm.

- Enable logging at runtime start Choose whether the alarm logging function is enabled when HMI is started.
- Response at runtime start
  - Append data to existing log: Keep the previous alarm logs when HMI starts.
  - Reset log: Clear the previous alarm logs when HMI starts.
- Comment
   Description of the log

#### **Displaying Alarm Log**

To display alarm logs on the HMI, you need to select the data log to be displayed in the setting of the alarm view control. As shown in the following figure.

Alarm View_1(AlarmView)		5 ×
General		Genera
Properties	Display	
Animations		
	Alarms Pending alarms V Unacknowledged alarms V Errors	
	◯ Alarms events	
	🕒 Show grid 📃 Display According Day 🗌 Background Transparent 🗹 Default Style	
		_

Figure 9-9 Alarm log configuration

## 9.4 Using Alarms

### 9.4.1 Creating an Analog Alarm

1. Add a numeric tag to tag group\_2.

Sample1.hmiproj-IT7070E(800x480)	-Inovance Control									- 0	)
iect Edit Compiler ⊻iew Options 177 172 🖹 🕞 🕈 🖊 🎾 🔒 🗊		♂出企⊙掃盡盡	📩 en_US 🕝								
Project ar X	🖾 00001:Screen	n_1 🗙 📹 Tag grou	4p_2 ×								
Communication	H, Nar	me 🔹 🔺 Number	Connection Id	Data type	Length	Array count	Address -	Acquisition cycle Id	Acquisition mode	Data lo	ig Id
- S Connections	1 LW0	18	<internal tag=""></internal>	Int16	2	1	LW 0	100ms	Cyclic on use	<undefine< td=""><td>d&gt;</td></undefine<>	d>
Cycles											

2. Create an analog alarm item.

Project	ъх	🖾 0000	1:Screen_1	×	📹 Tag group_2 🛛 🛪 🕺 Analog /	٩la	ırms ×				
Communication			Text		Number	•	Class	Trigger tag	Trigger mode	Limit	Alarm Group
📱 🖻 🕞 Data Service			analog_1	1		E	Errors	<undefined></undefined>	>	<no limit=""></no>	<undefined></undefined>
🖞 🕞 🛕 Alarm Management											
🛛 — 🟹 Analog Alarms											
— 😽 Discrete Alarms											

3. Set the trigger tag to LW 0, limit to 100, and trigger mode to >.

+.	Text	•	Number -	Class	Trigger tag	Trigger mode	Limit	Alarm Group
1	analog_1	1		Errors	LW_0	>	<no limit=""></no>	<undefined></undefined>

During operation if you set LW 0 to a value greater than 100, the analog\_1 alarm will be triggered.

### 9.4.2 Creating a Discrete Alarm

• Add a Boolean tag to tag group\_2.

a 00001:Screen_1 x 🖼 Tag group_2 x												
+.	Name	• • Number •	Connection Id	Data type	Length	Array count	Address -	Acquisition cycle ld	Acquisition mode	Data log Id	Logging cycl	Logging acquisition mode
1	LW 0	1	<internal tag=""></internal>	Int16	2	1	LW 0	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continuous
2	LB O	2	<internal tag=""></internal>	Bool	1	1	LB O	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continuous

• Create a discrete alarm item.

Project	a x 🔚	000	01:Screen_1	×	≺≡ Tag grou	p_2 × 🗟 🕻	Discrete Alarms	×	
🖻 🖼 Screens(1/256)		+	Text		Number -	Class	Trigger tog	Trigger bit	Infotext
- 🗄 Add Screen		Τ.	lext	1	Number •	Class	Trigger tag	Trigger bit	iniotext
- 🖾 00001:Screen_1		1	discrete_1	1		Errors	<undefined></undefined>	No bit number	
Embed Screens									
🕂 🖃 Popup Screens									
🕀 🗎 Templates(0/64)									
E  Communication									
🗉 📄 Data Service									
🖻 🔺 Alarm Management									
🚽 😽 Analog Alarms									
🚽 🐺 Discrete Alarms									
🔤 🚰 System Alarms									

• Set trigger tag to LB 0.

+.	Text	<ul> <li>Number •</li> </ul>	Class	Trigger tag	Trigger bit	Infotext
1	discrete_1	1	Errors	LB 0	0	

During operation, if you set LB 0, the discrete\_1 alarm will be triggered.

### 9.4.3 Using Alarm Record

• Creating an alarm record

IJ	F	rojec	t i	a x	<b>I</b>	1000	1:Screen_1 ×		🗟 Alarm Log	s	🗙 🔺 Alarm Classes	×		
Project	6	· 🔛	Screens(2/256)											
	ē	- €	Communication		+	•	Name	^	Number 🝷	Nun	m of data records per log	Path	Log alarm text and error locatiol	Logging methol
View		6	) Data Service		1	I	alarmloggings <b>l</b>	1		500		Local Disk	On	Circular log
Details '	Ð	- 🔺	Alarm Management											
ð	Đ	Ъ	Recipes(3/100)											
	ŀ	010 010	Historical Data											
			🔄 🖸 Data Logs											
			🗟 Alarm Logs											
		- 2</td <td>Scripts(1/400)</td> <td></td>	Scripts(1/400)											
1	6	- 6	Reports(0/100)											

• Using Alarm Record

Select the alarm information of the specified category in the alarm category and record it in the alarm record.

To Project	ъх	🖾 0000	)1:Screen_1	× 🗟 Alarm	n Logs 🗙 🔺	Alarm Classes	×			
Communication		+.	Name	Display name	Ack	Log	C color	CD color	CA color	CDA color
🗿 🗉 🍙 Data Service		1	Errors	l.	On "activated"	<undefined></undefined>	<b>#ff</b> 0000	##0000	#000000	#000000
B ⊕ ⊕ Data Service		2	Warnings	#	Off	<undefined></undefined>	<b>#ffff</b> 00	#ffff00	#000000	#000000
🖞 – 🔀 Analog Alarms		3	System	\$	Off	<undefined></undefined>	#ff00ff	#000000	#000000	#000000
- 😽 Discrete Alarms										
🛛 🎦 System Alarms										
Alarm Groups										

In the following figure, an "error" alarm is set to be recorded in alarm record\_1.

+.	Name	Display name	Ack	Log	C color	CD color	CA color	CDA color
1	Errors	ļ	On "activated"	alarmloggin	<b>#ff</b> 0000	#ff0000	#000000	#000000
2	Warnings	#	Off	<undefined></undefined>	#111100	<b>#ffff</b> 00	#000000	#000000
3	System	\$	Off	<undefined></undefined>	#ff00ff	#000000	#000000	#000000

Whenever an "error" alarm occurs, it will be kept in alarm record\_1.

## 9.4.4 Displaying Alarm

• After configuring the alarm, add an alarm view control in the screen to display the alarm.

t	Project	🗗 🗙 🖾 00001:Screen_1 x 📓 Alarm Logs x 🔺 Alarm Classes x
Project	🗄 🖾 Screens(2/256)	0,
	🖻 🌐 Communication	Text Name Number
/iew	- S Connections	
Details View	- 🛱 Cycles	A
Det	⊡ <del>⊲</del> ≣ Tags(3/128)	
		- B
	🔚 🔚 🔤 🔤	
	- \sub Show All Tags	
	- 🖽 Add Tag Group	
	- 📹 System Tags	8 Text Name Number
	😐 🍙 Data Service	
	🗄 🛕 Alarm Management	<b>B</b>
	⊕ <u>⊥</u> Recipes(3/100)	·····································
	🕀 🔠 Historical Data	
		─
	🖶 🧾 Reports(0/100)	
	🕀 📄 Status Lists	
	🗄 🙆 Runtime User Administ	n
	🖻 🚸 Resource	

As shown in the figure, add two alarm views A and B.

The properties of alarm view A are as follows: displays pending and unacknowledged error, warning, and system alarms.

Alarm View_1(Alarm)	View)	a ×
- General ⊕ Properties		General
<ul> <li>Animations</li> </ul>	Display	
	Alarms  Pending alarms  Unacknowledged alarms	
	○ Alarms events	
	◯ Alarms log 〈Undefined〉 ✓ System	
	🗌 Show grid 🔹 Automatic display 🗋 Background Transparent 🗹 Default Style	

The properties of alarm view B are as follows: displays error, warning, and system alarms in Alarm log\_1.

Alarm View_1_2(Ala	rmView)				r×
General Properties Animations	Display			Gei	nera
	Alarms Alarms event	Pending alarms	Unacknowledged alarms	<ul> <li>✓ Errors</li> <li>✓ Warnings</li> </ul>	
	<ul> <li>Alarms log</li> <li>Show grid</li> </ul>	<ul> <li>Undefined&gt;</li> <li>Display According [</li> </ul>	Oay □ Background Transparent ☑ Default Style	System	

#### The number IO field process tag in the figure is LW 0:

	0				
Number IO Field_1(NumberIOField)					đ×
General Properties Animations Events Process Tag LW_0	×	Format type Shift decimal point String field length	t 0	ero	* * *

The text switch process tag is LB 0:

Text Switch_1(Text9	iwitch)		×
General Properties Animations Events	Text ON 1 Text OFF 0 ✓ Switch ✓ Click animate Hold Delay 0*100ms ♦	Tag LB_0 Value ON 1	

• Download and run

After the configuration is completed, you can download and run the project.

1. Input a value so that LW 0 is greater than 100 to trigger the Analog\_1 alarm.

2. Set LB 0 to trigger discrete\_1 alarm. The following alarm message shows:

Text	Name	Number	Time	Date	State
iscrete_1	!	1	16:06:34	2021-11-09	С
analog_1	!	1	16:06:33	2021-11-09	С
< ★	?	8	*	<b>↔</b> →→	¥Þ
Text	Name	Number	Time	Date	State
iscrete_1	!	1	16:06:34	2021-11-09	С
analog_1	!	1	16:06:33	2021-11-09	С
▲ ★	?	8	*	•	* •
111		one			

3. Enter the value so that LW 0 is less than 100. As shown in the following figure, the alarm status of Analog\_1 in alarm view A changes to CD, while the new alarm information status in alarm view B (alarm log) is also CD. The alarm log records all the alarm information (the occurrence, acknowledgment and resolution of the alarm will produce a record).

Text	Name	Number	Time	Date	State
analog_1		1	16:08:35	2021-11-09	CD
discrete_1	!	1	16:06:34	2021-11-09	С
analog_1	!	1	16:06:33	2021-11-09	С
<ul> <li>▲</li> <li>▲</li> <li>Text</li> </ul>	? Name	Number	Time	→ Attended Date	₹ ► State
	Itame	1	16:08:35	2021-11-09	CD
		11	10.00.00	2021-11-00	
analog_1 discrete 1	!	1	16:06:34	2021-11-09	С
discrete_1 analog_1	!	1	16:06:34 16:06:33	2021-11-09 2021-11-09	C C

# 10 Recipe

## 10.1 Overview

### 10.1.1 Description

A recipe is a set of data of the same type, and has a fixed data structure. A recipe can contain several data records, which have the same structure but are different in data. A recipe can be stored in a HMI or an external storage medium.

A project can configure up 100 recipes and a recipe can configure up to 32767 components. A recipe data record can configure up to 1000 records.

### 10.1.2 Display of Recipe

The recipe can be displayed through the recipe view control in the screen. The recipe view control is as shown in the following figure.

Recipe name:	<b></b>	Numbe
, Data record name:		Numbe
Entry name	Value	_
	<b>1</b>	

Figure 10-1 Recipe view control

### 10.1.3 System Functions for Editing Recipes

See "12.3.12 Recipe" on page 260.

## 10.2 Properties and Basic Settings

### 10.2.1 Recipe Editor

You can create, configure and edit recipes in the recipe table editor. You can also set element in the recipe data log.

### Opening the recipe editor

Expand Recipes and double-click Recipe \_ 1 in the project view as shown in the following figure to open the recipe editor.

	Project Edit Compiler View Options Help Tool 日口回目日 - 《 《 》 同局面 9 Q 🏙 🔍 V 🕹 🗘 🏈 🖶 🏜 🛔 en_US									
t	Project 🗗 🛪	🖾 0000	1:Screen_1 ×	🗟 Alarm Log	s 🗙 🔺 Alan	m Classes 🛛 🗙	⊥ 001:Recipe	_1 × ∹∃ T<>		
hoject	🗄 🖾 Screens(2/256)									
ш	🗉 🌐 Communication	Numbe	er 1 📮 Die	splay name Drin	ks	Synchronize	∘lags ⊻la. 	gs offline		
View	🗉 🍙 Data Service	Elemen	ts Data record	s			1 🖡 Exp	oort Import		
Details	🕀 🛕 Alarm Management	+	Name 🔻	Display name	Tag	Default value	Decimal 🝷	Information text		
ŏ	□ <u>I</u> Recipes(3/100)	1	Element 1	Element 1	Var 1	0	0			
	- Z <sub>+</sub> Add Recipe			-	-	-	-			
	<u>II</u> 001:Recipe_1	2	Element_2	Element_2	Var_2	0	U			
	- <u>I</u> 002:Recipe_2									

Figure 10-2 Recipe editor

### **Editor** area

- Creating an object: Click +, in the upper left corner of the table. A recipe can have up to 32767 elements and 1000 data logs.
- Batch creating: Click the triangle under the Add button and select an operation in the drop-down menu. Then click the Add button;

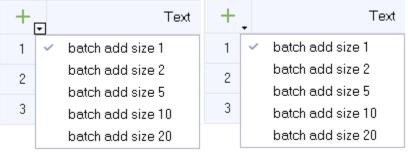


Figure 10-3 Batch creating options

- Deleting an object: Click the row number of the alarm row to be deleted, and the Add button becomes the Delete button
   Click the button to delete the row;
- Hiding and displaying column fields: Right-click the column header, and select the fields to be hidden or displayed 2/3/2010 in the drop-down menu.



Figure 10-4 Column attributes

### 10.2.2 Recipe Property

- Number Unique identification of a recipe in HMI.
- Display Name In the runtime, the name of the recipe that is displayed when the recipe is selected.
- Synchronize Tags

Synchronize the value in the recipe log with the value of the recipe tag. To use the Synchronize

button \leftrightarrow in the recipe view, you must check Synchronize Tags.

• Tags Offline

When this is checked, the tags on the HMI will be disconnected from the corresponding PLC addresses. This option can be enabled when Synchronize Tags is checked.



For the use of synchronize tag and offline tag, see "10.4.2 Applications of the Recipe" on page 241.

• Export

You can export the elements in the table to the specified. csv file, as well as data logs.

- Import
   Select the specified recipe file to import it to the current recipe table, as well as data logs.
- Name
   Unique identifier inside the recipe.
- Display Name The name of the entry that appears in recipe view when the HMI is running.
- Tag

The HMI tag corresponding to the recipe element. Array tags can also be used here when element tags are contiguous addresses.

- Default Value Default value for recipe data.
- Decimal point The number of decimal places displayed by recipe data at run time.

Info text

A description of a recipe item that can be viewed when the HMI device is running by selecting a recipe item and clicking (?) on the recipe view.

### 10.2.3 Recipe Data Record

The value in the recipe data record, which is the preset element value. During HMI operation, you can modify the HMI tag value of an element by switching recipe data records.

#### **Recipe data record editor**

Number 1 🛟 Display name Recipe_1 🗹 Synchronize Tags 🗹 Tags offline											
Elements Data records Export Import											
+.	Name	Display name	Number	Element_1	Element_2	Element_3	Element_4	Element_5			
1	DataRecord_1	DataRecord_1	1	5	5	5	5	5			
2	DataRecord_2	DataRecord_2	2	5	5	5	5	5			

Figure 10-5 Recipe data record editor

### Properties

• Name

The recipe data record name uniquely identifies the recipe data record in the recipe.

• Display Name

The name of the recipe data record that displays in the recipe view. You can configure the display name in multiple languages. You can also specify a descriptive name or a mark directly related to the product, such as a product number. The display name can be duplicate.

Number

The number uniquely identifies the recipe data record in the recipe.

• Element\_1 (n)

It is a preset setting of the tag value in Element\_1. "n" is the sub-index of the element array tag. The default value in the element is used as the preset value if it is not provided.

## 10.3 Viewing and Editing Recipe at Run Time

### 10.3.1 Recipe view

You can view and edit recipes on the recipe view.

### 10.3.2 View and Edit Recipes in Recipe View

1. Recipe configuration and recipe data record are as follows:

Numbe	r 3 🛟 Dis	splay name Rec	ipe_1	Synchronize	Tags 🗹	Tags offline
Element	ts Data record	s				
+.	Name 🔻	Display name	Tag	Default value	Decimal	<ul> <li>Information text</li> </ul>
1	Element_1	Element_1	D0	5	0	

Figure 10-6 Recipe ingredient

Number 1 🍨 Display name Recipe_1 🗹 Synchronize Tags 🗹 Tags offline										
Elements Data records									Import	
+.	Name	Display name	Number	Element_1	Element_2	Element_3	Element_4	Element_5		
1	DataRecord_1	DataRecord_1	1	11	12	13	14	15		
2	DataRecord_2	DataRecord_2	2	21	22	23	24	25		

Figure 10-7 Recipe Data Record

2. In the runtime, a recipe is displayed in recipe view as shown in the following figure: The ingredient values in the figure are all 5 which is the default value.

Recipe name:		Number:
Recipe_1	•	1
Data record name:		Number:
	•	
Entry name	Value	
Element_1	5	
Element_2	5	
Element_3	5	
Element_4	5	
Element_5	5	
	_	
The recipe is read		

Figure 10-8 Recipe view control

3. Viewing a recipe

Click on the recipe view shown in the following figure to select the recipe you want to view. you can view any configured recipe in the recipe view.

Recipe name:			Number:
Recipe_1			<b>-</b> ]1
Recipe_1			Number:
Recipe_2			
Recipe 3 Entry name		Value	
Element_1	5		
Element_2	5		
Element_3	5		
Element_4	5		
Element_5	5		
			<b>*</b>
The recipe is read			

Figure 10-9 Recipe view

4. Editing a recipe at run time

As shown in *"Figure 10–9 Recipe view" on page 239*, you can double-click Value to edit the recipe ingredient value, but since no data record is selected at this time, the edited value cannot be saved.

### 10.3.3 Viewing and Editing Recipe Data Records at Run Time

For recipe configuration, see *"10.3.2 View and Edit Recipes in Recipe View" on page 237*.

### Viewing recipe data record

After selecting a recipe, you can select a recipe data record that belong to it in the recipe view control. As shown in the following figure.

Recipe name:		Number:
Recipe_1		▼ 1
Data record name:		Number:
DataRecord_1		
DataRecord 1 DataRecord 2		
Element_1	0	
Element_2	0	
Element_3	0	
Element_4	0	
Element_5	0	
		<b>1</b>
The data record is read		

Number: Recipe name: ▼ 1 Recipe\_1 Data record name: Number: DataRecord\_1 -Value Entry name Element\_1 11 Element\_2 12 13 Element\_3 Element\_4 14 15 Element\_5 B 剾 × The data record is read

Here, we select Data record\_1, as shown in the following figure. The element values in the figure are modified to the default values preset in Data record\_1. The message box also shows "The data record is read".

Figure 10-10 Recipe view

#### Editing recipe data record

• Editing data record value

After selecting the recipe data record, you can double-click the value in the table to edit the element value. Different from recipe editing, after editing the value, you need to click the Save

button 🕒 on the recipe view control to write the modified value to the corresponding recipe data record.

Creating a data record

Click the New button in the recipe view to pop up the New data record dialog box as shown in Figure 10-3-8. Enter the data record name to create the data record. After creating the data record, you can select it to edit it.



Figure 10-11 Creating a data record

Deleting a data record

After selecting the specified data record, click the Delete button 🔀 in the recipe view to delete it.

## 10.4 Using Recipes

### 10.4.1 Importing and Exporting Recipe Data Records

In the recipe screen, configuration *"12.3.12 Recipe" on page 260* can be used to control the recipe. The system functions for loading, saving, and transferring recipe data records and recipes are located in the "recipe" of the event.

You can import and export the recipe data from/to a USB drive or SD card in the Download page of the control panel.

Maurat daviante [115	P	- Event (	a da Calantia	CDK -	
Mount device: US	В		ode Selectio		
Name		Size	Туре	Date Mo	dified
PLC Update Port:	COM1	• RS485	- PL	.C Device Type:	AM600 Series
	COM1 PLC Pro.	<ul> <li>RS485</li> <li>HMI</li> </ul>		.C Device Type: Download	AM600 Series
PLC Update Port: Update: Export:			Pro.		

During export, all the recipe data records in the project will be exported to the specified path and saved to a \*. CSV file (each recipe is saved as a file separately), and the saved contents are the name of the recipe data record and the element values.

When you import a recipe data record, the recipe will be updated (only one recipe can be updated at a time).

- In the exported file, only the component data can be modified. The identification text in the first line and data record name cannot be changed, otherwise the modified file will fail to be imported.
- Any data record will be discarded when it is imported if any of its component values or data types are incorrect.

### 10.4.2 Applications of the Recipe

In recipe applications, Synchronize Tags and Tags Offline can be used as follows:

Application	Synchronize Tags	Tags Offline
1	×	×
	$\checkmark$	$\checkmark$
2	$\checkmark$	×
√-Checked; ×-Unchecked		

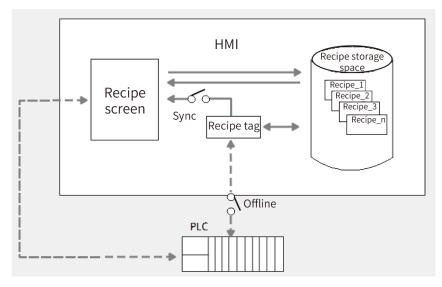
#### Application 1: Entering recipe data at run time

Objective: To input production data on an HMI device without interfering with the ongoing process.

Requirements for recipe configuration:

1. Synchronize Tags is not checked, both Synchronize Tags and Tags Offline are checked

- 2. The screen contains a recipe view
- 3. There is an element storing data records



When Synchronize Tags is not checked:

- 1. Enter product data into the table in the recipe view.
- 2. In the recipe view, save the modified recipe data record to the recipe storage space (you can save this data record directly or save it with another name)
- 3. In the recipe view, transmit the recipe data to the PLC through the To PLC button.

When both are checked:

You can use the same steps mentioned above. Or:

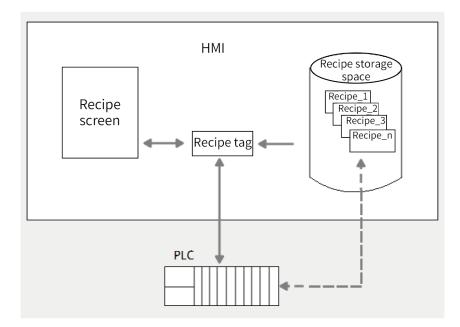
- 1. Modify the value of the numeric IO field where the tag is.
- 2. In the recipe view, synchronize the value of the IO field to the recipe table with the Synchronize Tag button, and then save the modified value to the recipe storage space with the Save button on the recipe view. The two operations are equivalent to the system function SaveDataRecord().
- 3. In the recipe view, transmit the recipe data to the PLC through the To PLC button. You can also transmit the recipe data from the recipe storage space to the PLC through the system function SetDataRecordToPLC().

#### **Application 2: Manual production sequence**

Objective: To display recipe data in real time on the recipe screen, and correct the transferred production data online.

Requirements for recipe configuration:

- 1. Synchronize Tag is checked and Tags Offline is not checked
- 2. The screen contains a recipe view
- 3. There is an element storing data records



Steps:

- 1. View and modify the element values in the recipe view. Transmit the recipe data in the PLC directly to the recipe view. Transmit the modified recipe data to the PLC.
- 2. Use the system function SetDataRecordToPLC() to transfer the data from the recipe storage space to the PLC, use the system function GetDataRecordFromPLC() to transfer the data from the PLC to the recipe storage space, and use the system function LoadDataRecord() to transfer the data from the recipe storage space to the recipe tag.

For details, see the example project "recipe" in InoTouchPad:

InoTouchPad					_	$\times$
Project Edit Compiler View O						
Projects	Fonts	]	greph		Graph list	
Example	Fonts application example		graph application example		Graph list application example	
	ю		math		MQTTPublisher	
	IO application example		math application example		MOTT Publisher application exampl e	
	MQTTSubscriber		Nevigation	] [	Navigation2	
	MQTT Subscriber application exam ple		Navigation application example		Navigation application example	
	QRCode	] [	recipe		Recipt_function	
	QRCode example		recipe application example		Recipt related to system function app lication example	

# 11 Historical Data

## 11.1 Overview

The record keeps tag values and alarm values generated previously. The history data function block includes data recording and alarm recording functions, which are managed by different editors and attribute views respectively.

## 11.2 Data log

### 11.2.1 Data Log Editor

You can create new data logs and specify their properties in the data log editor.

#### Opening the data log editor

Expand Historical Data, and double-click Alarm Logs.

Project Edit Compiler View Options			0-8-≛ ≛ ≛	zh_CN •				
Project		a Logs 🛛 🗙						
🖉 🕀 🖼 Screens(3/256)		News	<ul> <li>Number •</li> </ul>	Num of data as and a soule as	D-#	1	Cit (as and	Earthle la series at susting a test
the the Communication	+.	Name	▲ Number ▼		Path	Logging methol		Enable logging at runtime start
🖻 🖶 🍙 Data Service	1	dataloggings_1	1	500	Local Disk	Circular log	90	On
	2	dataloggings_2	2	500	Local Disk	Circular log	90	On
🛱 🗉 🕂 Recipes(3/100)	3	dataloggings_3	3	500	Local Disk	Circular log	90	On
🖶 🚟 Historical Data								
- 🔄 Data Logs	Data Logs Table editor							
🛏 🗟 Alarm Logs				Tab	eeutor			)
		100.1						/
🖶 🧾 Reports(0/100)		gs_1 (Data Logs)						ex.
🗄 📄 Status Lists	Gene		Display		Storage			General
🖶 🙆 Runtime User Administration					-			
🖶 🔶 Resource			Name	dataloggings_1	Path Loca	I Disk		
🗄 🧔 HMI Settings			Size					
Project view				data records per log 500 🛟				
	$\subseteq$			Prope	rties view			

Figure 11-1 Data log editor

#### **Editor** area

- Creating an object: Click + in the upper left corner of the table;
- **Batch creating:** Click the triangle under the Add button and select an operation in the drop-down menu. Then click the Add button;

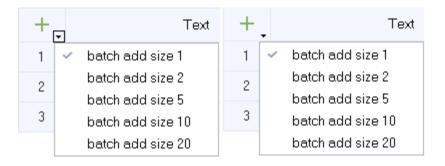


Figure 11-2 Batch creating options

- **Deleting an object:** Click the row number of the data log row to be deleted, and the Add button becomes the Delete button . Click the button to delete the row;
- **Hiding and displaying column fields:** Right-click the column header, and select the fields to be hidden or displayed in the drop-down menu.

~	Name
~	Number
~	Num of data records per log
~	Path
~	Logging method
~	Fill level
~	Enable logging at runtime start
~	Response at runtime start
~	Comment

Figure 11-3 Column attributes

Column sort: Click the column header

#### **Properties view**

The properties view provides the same property setting function as the editor area. In addition, It also provides event editing.

#### **Description of event**

- Overflow event: The script function that triggers configuration when the data logs overflow.
- Event items can only be used when triggering events in Logging Method configuration.

### 11.2.2 Basic Setting

#### **Property setting**

- Name
   Name of the data log
- Num of data records per log The maximum number records allowed by an alarm log

• Path

The storage location of the data log, which can be the HMI or a USB drive or SD card

- Logging method
  - Circular log: When the table is full, the earliest log will be overwritten.
  - Raise event: When the table is full, the script function configured in the overflow event is triggered.
  - Display system alarm: When the number of records reaches the specified maximum number, the system alarm is displayed.
- Fill level

The maximum number of logs in percentage to display the system alarm.

- Enable logging at runtime start Choose whether the data logging function is enabled when HMI is started.
- Response at runtime start
  - Append data to existing log: Keep the previous data logs when HMI starts.
  - Reset log: Clear the previous data logs when HMI starts.
- Comment Description of the log

### 11.2.3 Logging Tag Values

#### Logging configuration data

Open the Data Log Editor and add a data log.

#### Logging configuration tag

As shown in the tags editor in the following figure.

+.	Name∙	<b>^</b> Number <del>∙</del>	Connection Id	Data type	Length	Array count	Address	Acquisition cycle Id	Acquisition mode	Data log Id	Logging cycle ld	Logging acquisition mode
1	LW0	1	<internal tag=""></internal>	Int16	2	1	LW 0	100ms	Cyclic on use	DataLog_1	1s	Cyclic continuous

#### Figure 11-4 Tags editor

- Data log ID: the data log which stores the tag value.
- **Logging cycle ID:** The logging interval. The logging cycle is related to the acquisition mode. Only when the acquisition mode is "cyclic continuous", the cycle is effective.
- Acquisition mode:
  - When changing: The current value is recorded when the tag value changes.
  - On demand: The tag value is recorded by executing the "LogTag" system function.
  - Cyclic continuous: Acquisition is done based on the logging cycle.

### 11.2.4 Outputing Logged Data

### Viewing the tag values in the specified data log on the data view

As shown in the following figure, configure a data view control in the screen, and specify the data log. Then you can see all the recorded tag values in the specified time period on the HMI.

C Go	aLog Start Time: 1-10-28 09:33:52 $\bigcirc$ End Time: 1-10-28 09:33:52 $\bigcirc$ Frev $\rightarrow$ Next $\bigcirc$ Print
Data View_2(DataView)	ਰਾ X
General E Proportion	General
Properties     Animations     Animations	Setting Data log <undefined> Rows per page 100</undefined>

Figure 11-5 Configuring a data view

### Viewing the tag values in the specified data log on the trend view

As shown in the following figure, configure a trend view control in the screen. In Trend, set the Trend Type as Log, configure the related tag, and then the historical graph of the specified tag can be displayed in the trend view.

Trend View_1(TrendView)		2021-10-28 Trend		100 80 60 40 20 0				<ul> <li>.</li> <li>.&lt;</li></ul>
General								
⊟ Properties								
Appearance +	Name (	Display Line typ	e Pen width	Samples	Trend type	Trend tag	Side	\ <sup>F</sup>
Xaxis 1	trend_1	Lines Solid	1	100	Log	<undefined></undefined>	Left Y1 axis	I
- Right Value Axis						記録條目 D	ataLog_1 🔹	
Axis Table						Log entry L		
Trend							<ul> <li>×</li> </ul>	
- Misc ⊕ Animations								7
E Animations						·		

Figure 11-6 Displaying data log in a trend chart

### Exporting data log from the HMI

Insert an SD card on the HMI, and then, as shown in the following figure, go to Control Panel->Download->Export->Logs->Data Log. A \*. csv file is exported.

Mount device: USE	B	<ul> <li>Export Code Sele</li> </ul>	ction: GBK 🛛 👻	
Name		Size Type	Date Mod	dified
PLC Update Port:	COM1	Yes AlarmLog OperationRe	cord vice Type:	AM600 Series
Update:	PLC Pro.	HMI Pro.	Download	Upload
Export:	Record	SystemLog	Recipe Data	LocalSreenshots
Import:	Recipe Data	Logo	1	

Figure 11-7 Control panel view



If you cannot enter the download page, check whether the USB drive or SD card is properly connected.

#### • Access to the control panel:

- When HMI is running, if you insert a USB drive or SD card, the control panel screen will pop up automatically.
- Configuring the system function OpenControlPanel in the screen.

# 11.3 Alarm Record

See "9.3.1 Description" on page 226.

# 12 System Functions and Scripts

## 12.1 Overview

InoTouchPad provides predefined system functions for general configuration tasks. You can use them to accomplish many tasks in the running system without programming skills.

You can also solve complex problems by scripts. The script has a programming interface, which can access some project data in the running system. Scripting is for project designers with knowledge of JavaScript.

## 12.2 Use of System Functions

You can configure system functions on all objects that can respond to events. System functions are mainly used in function lists and scripts to control processes.

• Function list

The system functions in the function list are processed in order.

Script

In a script, you can use system functions related to commands and requirements in your code. In this way, scripts can be executed according to the specified system state.

## 12.3 Function Types

### 12.3.1 Introduction

System functions are predefined functions that can be used to perform many tasks at run time without even requiring any programming knowledge, such as:

- Calculation. for example, they can be used to increase the value of a variable by a specific value or a variable value.
- Recording. They can be used to record the starting process value.
- Setting. They can be used to replace PLC or set bits in PLC.
- Alarm. For example, they can be used to issue an alarm when another user logs in.

## 12.3.2 Calculation

No.	Fu	inction	Description	Script Calling		
	DecreaseVa Reset)	lue (Tag, Value,	Tag = Tag – Value			
		Tag(InOut)	A tag defaulted to null	Supported, for example,		
1		Value(In)	A constant/tag defaulted to 1	DecreaseValue (SmartTags ('tag_ 1'), 1, 0);		
	Parameter	Reset	Reset. Options include Yes and No (default). If Yes is selected, the tag will be reset to the upper limit after being reduced to the lower limit.			
	IncreaseVal Reset)	ue (Tag, Value,	Tag = Tag + Value			
		Tag(InOut)	A tag defaulted to null	Supported, for example,		
2		Value(In)	A constant/tag defaulted to 1			
-	Parameter	Reset	Reset. Options include Yes and No (default). If Yes is selected, the tag will be reset to lower limit after being increased to upper limit.	- IncreaseValue(SmartTags('tag_ 1'),1,1);		
	InverseLine	arScaling (X, Y,	X = (Y - b)/a, X and Y cannot be the	Supported for everyole		
	b, a)		same			
2		X(Out)	A tag defaulted to null	Supported, for example,		
3	Parameter	Y(In)	A tag defaulted to null	InverseLinearScaling(SmartTags ('tag_1'),SmartTags('tag_2'),2,2);		
	i arameter	b(In)	A constant/tag defaulted to 0			
		a(In)	A constant/tag defaulted to 1			
	LinearScalir	ng(Y, X, a, b)	Y= (a *X) + b, X and Y cannot be the same			
		Y(Out)	A tag defaulted to null	Supported, for example,		
4	Devenenter	a(In)	A constant/tag defaulted to 1	LinearScaling(SmartTags('tag_		
	Parameter	X(In)	A tag defaulted to null	- 1'),3,SmartTags('tag_2'),3);		
		b(In) A constant/tag defaulted				
	SetValue (Ta	ag, Value)	Tag = Value	Supported for example		
5	Darameter	Tag(InOut)	A tag defaulted to null	- Supported, for example,		
	Parameter	Value(In)	A constant/tag defaulted to 0	- SetValue(SmartTags('tag_1'),22);		
6	Random (Ta	ig)	Take a random value in the upper and lower limits of a tag	Supported, for example: Random		
	Parameter	Tag(Out)	A tag defaulted to null	- (SmartTags('tag_1'));		

# 12.3.3 Bit Operations

No.	F	unction	Description	Script Calling
	InvertBit (T	ag)	Inverts a Bool tag	Supported, for example,
1	Parame- ter Tag(InOut)		A tag defaulted to null	InvertBit(SmartTags('tag_1'));
	InvertBitInTag (Tag, Bit)		Inverts the bit of a tag	Supported, for example,
2	Parame- ter	Tag(InOut)	A tag defaulted to null	InvertBitInTag(SmartTags('tag_
2		Bit(In)	Bit number, ranging from 0 to 31 and defaulted to 0	1'),1,0);

No.	F	unction	Description	Script Calling
	ResetBit (1	Tag)	Set the value of a Bool tag to 0	Supported, for example,
3	Parame- ter	Tag(InOut)	A tag defaulted to null	ResetBit(SmartTags('tag_1'));
	ResetBitIn	Tag(Tag, Bit)	Sets a bit in a tag to 0	_ Supported, for example,
4	Parame-	Tag(InOut)	A tag defaulted to null	
	ter	Bit(In)	Bit number, ranging from 0 to 31 and defaulted to 0	<ul> <li>ResetBitInTag(SmartTags('tag_ 2'),0);</li> </ul>
	SetBit(Tag	;)	Set the value of a Bool tag to 1	Supported, for example,
5	Parame- ter	Tag(InOut)	A tag defaulted to null	SetBit(SmartTags('tag_1'));
	SetBitInTa	g(Tag, Bit)	Sets a bit in a tag to 1	
6	Darama	Tag(InOut)	A tag defaulted to null	Supported, for example,
	Parame- ter	Bit(In)	Bit number, ranging from 0 to 31 and defaulted to 0	SetBitInTag(SmartTags('tag_2'),0);

## 12.3.4 Screen

No.	Function		Description	Script Calling
1	ActivateScree	en(ScreenName)	Switches to the specified screen by screen name	Supported, for example: ActivateScreen ('Screen_1');
	Parameter	ScreenName	Screen name	
2	ActivateScree (ScreenId)	enByNumber	Switches to the specified screen by screen ID	Supported, for example: ActivateScreenByNumber
	Parameter	ScreenId	Screen ID	(SmartTags('Tag_1'));
3	ActivatePrevi	ousScreen	Switches to the previous screen	Supported, for example: ActivatePreviousScreen();
	ShowPopup		Displays a pop-up screen at the specified position	
		ScreenName	The name of the pop-up screen	
4	Parameter	posX	X coordinate of the pop-up screen, which is screen center by default. Constant/tag	Supported, for example: ShowPopup ('Screen_2', 100, 200);
		posY	Y coordinate of the pop-up screen, which is screen center by default. Constant/tag	
_	HidePopup		Hides a pop-up screen	Supported, for example:
5	Parameter	ScreenName	The name of the pop-up screen	HidePopup('Screen_2');
6	HideAllPopups		Hides all pop-up screens	Supported, for example: HideAllPopups();

# 12.3.5 User Management

No.	Function		Description	Script Calling
1	GetAuthoriz	zation	Writes the permissions of the group to which the currently logged-in user belongs to the specified tag	
1	Parameter	Tag(Out)	writes a tag. Default is null. The tag must be of Int32 type.	
2	GetGroupN	umber (Tag)	Writes the group number of the currently logged-in user to the specified tag	
	Parameter	Tag(Out)	Writes a tag. Default is null.	
2	GetPasswor	rd (Tag)	Writes the current user password to the specified tag	
3	Parameter	Tag(Out)	Writes a tag. Default is null.	
	GetUserNar	ne (Tag)	Writes the current user name to the specified tag	
4	Parameter	Tag(Out)	Writes a tag. Default is null.	
5	Logoff		Logs off	
	Logon (Use	rName, Password)	Logs on	Not supported
6	<b>_</b>	UserName(In)	User name. Default is null. It must be of string type.	
	Parameter	Password(In)	Password. Default is null. It must be of string type.	
7	RemoveUser (UserName)		Administrator group users can use this to delete a user (except admin users) by user name	
	Parameter	UserName(In)	User name. Default is null.	
8	ShowLogon	Dialog	Pops up the logon dialog box	
9	Parameter	ChangePass- word (UserName, Password)	Modify the password of the specified user	
		UserName(In)	User name. Default is null. It must be of string type.	
		Password(In)	Password. Default is null. It must be of string type.	

## 12.3.6 Date and Time in HMI

No.	Fu	inction	Description	Script Calling
	SetHMITime(Tag, Tag, Tag)		Sets the current HMI time: hours, minutes and seconds.	
1	Parameter	Tag(In)	Reads the value of the bound tag and converts the value into a time in hours, minutes and seconds, which is then written into the HMI.	
	SetHMIDate	(Tag,Tag,Tag)	Sets the current HMI time: year, month and day.	
2	Parameter	Tag(In)	Reads the value of the bound tag and converts the value into a time in year, month and day, which is then written into the HMI. (You need to check whether the time is valid. The system does not regard February 30th wrong.)	- Not
	SetHMIDate	Time(Tag,Tag,	Sets the current HMI time: year, month, day, hours,	supported
	Tag, Tag, Tag,Tag)		minutes and seconds.	oupported.
3	Parameter Tag(In)		Parameter Tag(In) Reads the value of the bound tag and converts the value into a time in year, month, day, hours, minutes and seconds, which is then written into the HMI. (You need to check whether the time is valid. The system does not regard February 30th wrong.)	
4	UpdateTagl	DateTime (Tag)	Reads the current HMI time value and writes it to the specified tag	
	Parameter	Tag(Out)	Tag is of DateTime type.	

# 12.3.7 Settings

No.		Function	Description	Script Calling	
	SetConnectionMode (Connection, Mode)		Connect or disconnect a specified connection	Supported, for example,	
1	Pa- ra-	Connection (In) Connection Name		SetConnectionMode ("Connection_1", 0);	
	me- ter	Mode(In)	Value: online/offline	( connection_1 , 0),	
	-	eConnection ection, Station ss)	Change the slave device address of the specified connection		
2	Pa- ra-	Connection (In)	Connection Name		
	me- ter	Station address(In)	Slave device address	Supported, see	
	GetConnectionMo- deState (Connection)		Gets the state of a specified connection. This function is used in scripts	SetConnectionMode	
3	Pa- ra- me- ter	Connection (In)	Connection Name		

No.	Function		Description	Script Calling
	Change pAddre (Conne IpAddr	ection,	Change the IP address of the connected slave	
4	Pa- ra-	Connection (In)	Connection Name	
	me- ter	IpAddress (In)	IP address, with string tag	
	Update	eTag(Tag)	Get the latest value of a tag	
5	Pa- ra- me- ter		Тад	
	SetLan (Langu		Set the language of the HMI	Not supported
6	Pa- ra- me- ter	language(In)	Language abbreviation You can select Toggle or language abbreviation; Toggle: switch to the next language	
	SetSty	le (styleSheet)	Set the global style of the HMI	
7	Pa- ra- me- ter	styleSheet (In)	You can select Toggle or a style name; Toggle: switch to the next style	-
		cklightMode klightMode)	Set backlight mode	
8	Pa- ra- me- ter	Blacklight- Mode (In)	Off/ON, default is ON	

No.	I	Function	Description	Script Calling	
	SetBad (Ligh	cklight tValue)	Set the screen brightness		
9	Pa- ra- me- ter	LightValue (In)	0 to 100. Default value: 90		
		cklightTime eValue)	Sets backlight timeout, in minutes		
10	Pa- ra- me- ter	TimeValue (In)	0 to 255. Default value: 5		
	Time	eenSaver- (TimeValue)	Sets screensaver timeout, in minutes	-	
11	Pa- ra- me- ter	TimeValue (In)	0 to 255. Default value: 3		
		twareInpu- ed (Status)	Disabled/enabled soft keypad		
12	Pa- ra- me- ter	Status(In)	Value: enabled/disabled		
13	OpenC	ControlPanel	Open the HMIAutorun setup interface	Not supported	
14		librate- uchScreen Open the calibration interface			
15	Restor tings	eFactorySet-	Restores factory settings		
16	Sync		Synchronize the data in memory to disk. Before exiting/restarting, you need to call this function to save all the data to the disk.		
17	Reboo	t	Restart the operating system that hosts HMIRuntime	_	
18	Shutde		Shut down the HMI	_	
		ntDisk( /pe, Tag )	Unmount a storage device		
19	Pa-	TmpType(In)	Value: SD card/USB drive, default is SD card		
	ra- me- Tag(Out) ter		Process status output value, which is empty by default		
	TrigInstalMentEarly( Tag)		Trigger the next installment in advance		
20	Pa- ra- me- ter	Tag(In)	Installment trigger tag, Bool type		
21	Unlock stalMe	«CurrentIn- nt	Unlock the current installment		

# 12.3.8 Data Service

No.		Function	Description	Script Calling
1	PublisheTa	ag(Publisher)	Send the specified publish variable information to the server	
1	Parame- ter	Publisher(In)	Publisher list ID	
2	WriteTagV	aluetoRemoteDB(Group)	Send a command to the device to start sampling data to the database	
2	Parame- ter	Group(In) Data group No.		Not supported
3	ReadTagVa	aluefromRemoteDB(Group)	Send a command to the device to sample data from the database	Not supported
5	Parame- ter	Group(In)	Query group No.	
4	SendMail(MailId)		Send an e-mail message from the HMI to a designated recipient	
	Parame- ter	MailId(In)	E-mail No.	

# 12.3.9 Printing

No.		Function	Description	Script Calling	
1	PrintScree	n (path)	Prints the current screen, and saves the screenshot to a USB drive when the printer is not connected		
1	Parame- ter	Path	Screenshot storage directory: Local HMI/Storage Card/USB drive		
	PrintAlarm	n(Screen object)	Prints the contents of an alarm view		
2	Parame- ter	Screen object(In)	Screen object. You can only select the alarm view control.		
	PrintLog (S	Screen object)	Prints the contents of a data view	-	
3	Parame- ter	Screen object (In)	Screen object. You can only select the data view control.		
	PrintRecip	ntRecipe (Screen object) Prints the contents of a recipe view			
4	Parame- ter	Screen object (In)	Screen object. You can only select the recipe view control.	Not supported	
	PrintBitMa	ıp (…)	Prints images in BMP format	-	
		BmpStartX(In)	X coordinate of the starting point of the screenshot	-	
		BmpStartY(In)	Y coordinate of the starting point of the screenshot	-	
		BmpWide(In)	Width of the screenshot	-	
5	Parame-	BmpHigh(In)	Height of the screenshot	-	
	ter	ter LabelStartX(In)		In) X coordinate of the starting point of the image on the label paper	
		LabelStartY(In)	Y coordinate of the starting point of the image on the label paper		

# 12.3.10 Alarm

No.	I	Function	Description	Script Calling
1	ClearAlarmBuffer		Delete alarms from the HMI alarm buffer	
Ţ	ClearAlamidi	lier	Unacknowledged alarms are also deleted	
	ShowAlarmW (ObjectName	/indow , DisplayMode)	Hide/show the alarm window on HMI	
		ObjectName	Alarm window object name	
2	Demonstern		No: Hide the alarm screen	Not supported
	Parameter	DisplayMode	Yes: Display the alarm screen	
			Toggle: Switch between two modes	
3	ClearActionedAlarmBuffer		Delete alarms that have been dealt with from	
Ŭ.			HMI alarm buffer	
4	Веер		Play a buzzer	

# 12.3.11 Log

No.		Function	Description	Script Calling
1	ClearLog (LogType, Log) Parameter LogType(In) Log(In)		Deletes all records in a log Data log/alarm log. Default: data log Log name. Default is null.	Supported, for example, ClearLog('data log_1');
2	CloseAllLogs		Disconnects the runtime from all logs You must first stop the logging function before closing the log. Use the system function StopLogging.	Not supported
3	OpenAllLogs	5	Establishes a connection between the runtime and logs. You can proceed with logging. Use StartLogging to restart logging.	Not supported
4	LogTag (Tag) Parameter Tag(In)		Saves the value of a tag in a data log; Used for tag logging mode "on demand" The tag whose value to be	Supported, for example, LogTag(SmartTags('tag_1'));
5	StartLogging	g (LogType, Log) LogType(In)	logged. Default: null Start logging Data log/alarm log. Default:	Not supported
	Parameter	Log(In)	data log Log name. Default is null.	
	StopLogging	g (LogType, Log)	Stop logging	-
6	Parameter	LogType(In)	Data log/alarm log. Default: data log	Not supported
		Log(In)	Log name. Default is null.	

No.		Function	Description	Script Calling
7	LogTagGrou	ıp (Tag)	Saves the tag values in a tag group in a data log. Used by tag group logging mode "on demand"	Supported, for example, LogTagGroup ('tag group_2')
	Parameter	Group(In)	The tag group whose values to be logged. Default: null	
8	ClearOperat	tionRecord	Clears operation records	
	ExportDatal EncodeType	Logs (PathType, e, Tag)	Exports all data logs	
9		PathType(In)	Export location. Default: local drive	-
5	Parameter	EncodeType(In)	Encoding of the exported text. Default: GBK	
		Tag(out)	Operation status output. Default: null	
	ExportAlarn EncodeType	nLogs (PathType, e, Tag)	Exports all alarm logs	
10		PathType(In)	Export location. Default: local drive	
10	Parameter	EncodeType(In)	Encoding of the exported text. Default: GBK	
		Tag(out)	Operation status output. Default: null	
	ExportOper EncodeType	ationRecord(PathType, e, Tag)	Exports an operation record	
11		PathType(In)	Export location. Default: local drive	
11	Parameter	EncodeType(In)	Encoding of the exported text. Default: GBK	– Not supported
		Tag(out)	Operation status output. Default: null	Not supported
		LogsByTime(PathType, e, Tag, StartTime,	Exports data logs by time	
		PathType(In)	Export location. Default: local drive	
12	Damasta	EncodeType(In)	Encoding of the exported text. Default: GBK	
	Parameter	Tag(out)	Operation status output. Default: null	
		StarTime(In)	Start time, of DateTime type	
		EndTime(In)	End time, of DateTime type	-
		LogsSplitDate(PathType, EncodeType, Tag)	Splits exported data logs by date	
13		PathType(In)	Export location. Default: local drive	
	Parameter	DirName(In)	Directory name, can be a constant or a string tag	
		EncodeType(In)	Encoding of the exported text. Default: GBK	
		Tag(out)	Operation status output. Default: null	

# 12.3.12 Recipe

No.		Function	Description	Script Calling	
	DeleteDataR	ecord (···)	Deletes a recipe data record		
		Recipe number/name(In)	Recipe number/name		
1	Darameter	Data record number/name (In)	Data record number	-	
	Parameter	Confirmation(In)	Confirm, values: Yes and No		
		Processing status(Out optional)	Processing status, 2: Ready 4: Successful 12: Failed		
	GetDataReco	prdFromPLC (···)	Transfers a given recipe data record from the PLC to a storage medium of the HMI	-	
		Recipe number/name(In)	Recipe number/name		
2		Data record number/name (In)	Data record number	-	
	Parameter	Overwrite(In)	Overwrite, values: Yes, No and with confirmation	-	
		Processing status(Out optional)	Processing status, 2: Ready 4: Successful 12: Failed	-	
	GetDataReco	ordName (···)	Writes the name of the given recipe and recipe data record in the a tag		
		Recipe number(In)	Recipe number/name	-	
2		Data record number(In)	Data record number		
3	Parameter	Recipe name(Out)	Recipe name		
	Parameter	Data record name(Out)         Data record name			
		Processing status(Out optional)	Processing status, 2: Ready 4: Successful 12: Failed		
	GetDataRecordTagsFromPLC (···)		Transfers the value of the recipe data record loaded into the PLC to a recipe tag	-	
4		Recipe number/name(In)	Recipe number/name		
	Parameter Processing status(Out optional)		Processing status, 2: Ready 4: Successful 12: Failed	-	
	LoadDataRecord (···)		Transfers a given recipe data record from the storage medium of the HMI to a recipe tag	Not supported	
_		Recipe number/name(In)	Recipe number/name	-	
5	Parameter	Data record number/name (In)	Data record number	-	
		Processing status(Out optional)	Processing status, 2: Ready 4: Successful 12: Failed	-	
	SaveDataRed	cord (…)	Stores the current value of a recipe tag to the storage medium of the HMI as a data record		
		Recipe number/name(In)	Recipe number/name	1	
6		Data record number/name (In)	Data record number		
	Parameter	Overwrite(In)	Overwrite, values: Yes, No and with confirmation		
		Processing status(Out optional)	Processing status, 2: Ready 4: Successful 12: Failed		
7	SetDataReco	ordTagsToPLC (…) -260-	Sends the value of a recipe tag to the PLC. The recipe tag contains the value of the data record displayed on the HMI.		
7		Recipe number/name(In)	Recipe number/name	]	
	Parameter	Processing status(Out optional)	Processing status, 2: Ready 4: Successful 12: Failed		

No.	Function		Description	Script Calling
	SetRecipeTa	gs (…)	Sets the online/offline status of a recipe tag	
		Recipe number/name(In)	Recipe number/name	-
9		Status (In)	Status, values: online and offline	_
5	Parameter	Output status message(In)	Output status message, values: yes and no	
		Processing status(Out optional)	Processing status, 2: Ready 4: Successful 12: Failed	
	ExportDataR	ecords	Exports data records	_
		Recipe number/name(In)	Recipe number/name	_
10		Path	Path	1
10	Parameter	Code	Encoding, GBK	
		Processing status(Out Processing status, 2: Ready 4: Successfu optional) 12: Failed		
	ImportDataRecords		Imports data records	
	Parameter	Path	Path	
11		File name	File name (file: aaa, note that the file name here is different from the export function. For example, when the path is a local drive, the file name is RecipeDataRecords/aaa.csv)	Not supported
		Processing status(Out optional)	Processing status, 2: Ready 4: Successful 12: Failed	-
	ExportSingle	DataRecords	Exports a single data record	_
		Recipe number/name(In)	Recipe number/name	_
		Data number	Data record number	-
12		Path	Path: local disk, SD card, USB drive	
12	Parameter	Code	Encoding, GBK and UTF-8	
		Processing status(Out optional)Processing status, 2: Ready 4: Successful 12: Failed		
		ExportFileName	Name of the exported file	1
13	ImportSingle	DataRecords	Imports a single data record	1
		Recipe number/name(In)	Recipe number/name	1
		Path	Path: local disk, SD card, USB drive	1
	Parameter	ImportFileName	Name of the Imported file	1
		Processing status(Out optional)	Processing status, 2: Ready 4: Successful 12: Failed	1

# 12.3.13 Operations on Screen Objects

No.		Function	Description	Script Calling	
1	AlarmViewAo object)	knowledgeAlarm (Screen	Acknowledges the alarm in the specified alarm view		
±	Parameter	Screen object (In)	Screen object. You can only select the alarm view control.		
2	AlarmViewSł object)	nowOperatorNotes (Screen	Displays the operator instructions in the specified alarm view. These instructions are the information text configured in analog/discrete alarms		
	Parameter	Screen object(In)	Screen object. You can only select the alarm view control.		
3	RecipeViewD object)	eleteDataRecord (Screen	Deletes the the data record displayed in a recipe view		
	Parameter	Screen object (In)	Screen object. You can only select the recipe view control.		
4	RecipeViewG (Screen obje	ietDataRecordFromPLC ct)	Sends the data record loaded in the PLC to the HMI and displays it in the recipe view.		
	Parameter	Screen object (In)	Screen object. You can only select the recipe view control.		
-	RecipeViewN object)	lewDataRecord (Screen	Creates a new data record in the given recipe view.		
5	Parameter	Screen object (In)	Screen object. You can only select the recipe view control.		
_	RecipeViewSaveAsDataRecord (Screen object)		Saves the data record currently displayed in recipe view with a new name.		
õ	Parameter Screen object (In)		Screen object. You can only select the recipe view control.		
	RecipeViewSaveDataRecord (Screen object)		Saves the the recipe data record displayed in the recipe view.		
7	Parameter	Screen object (In)	Screen object. You can only select the recipe view control.		
	RecipeViewSetDataRecordToPLC (Screen object)		Sends the the recipe data record displayed in the recipe view to the PLC.		
8	Parameter	Screen object (In)	Screen object. You can only select the recipe view control.		
2	RecipeViewS object)	howOperatorNotes (Screen	Displays configured information text of a specified recipe view.	Not supporte	
9	Parameter	Screen object (In)	Screen object. You can only select the recipe view control.		
10	RecipeViewS Tags (Screen	ynchronizeDataRecordWith- object)	Synchronizes the element tag value to the data record currently displayed in the recipe view		
	Parameter	Screen object (In)	Screen object. You can only select the recipe view control.		
11	TrendViewBa object)	ackToBeginning (Screen	Goes back to the beginning of the trend record in the trend view, where the starting value of the trend record will be displayed.		
	Parameter Screen object (In)		Screen object. You can only select the trend view control		
10	TrendViewRu object)	ulerBackward (Screen -262-	Move the ruler backward in the trend view		
12	Parameter	Screen object (In)	Screen object. You can only select the trend view control		
10	TrendViewRu	llerForward (Screen object)	Move the ruler forward in the trend view		

## 12.3.14 Free Protocol

No.	F	unction	Description	Script Calling
1	FreeIn (Connection)		Receives data and return an array	Supported, for example,
1	Parameter Connection (In)		The name of the free protocol	FreeIn ('Connection_1');
	FreeOut(Co	nnection , Array)	Sends data in an array	Supported, for example,
2	Parameter	Connection (In)	The name of the free protocol	var a = new Array();
2	Parameter	Array (In)	The data array to be sent	a[0] = 1;
	Parameter	Array (III)		<pre>FreeOut('Connection_1',a);</pre>
	AddCRC16 (Array)		Adds CRC16 check data to an array	Supported, for example,
	Parameter	Array		var a = new Array();
3			The array to be CRC checked	a[0] = 1;
				a[2] = 2;
				AddCRC16(a);
	AddCheckSum(Array)		Adds checksum to an array	Supported, for example,
		er Array		var a = new Array();
4	<b>.</b> .		The array to which the checksum to be	a[0] = 1;
	Parameter		added	a[2] = 2;
				AddCheckSum(a);

## 12.3.15 Timer

No.		Function	Description	Script Calling	
	SetInterval	(expression,value)	Sets a timer to execute a function repeatedly	Supported, for example, function add()	
	Parame- ter	expression	The function to be executed	{	
1	Parame- ter Value		The interval, in ms	var val=SmartTags("tag_1"); SmartTags("tag_1")=val+1; } SetInterval(add , 1000);	
	ClearInterval(timer)		Clears a timer, which must be used with SetInterval	Supported, for example, var timer=SetInterval(add ,	
2	Parame- ter	Timer	The timer created by SetInterval	1000); ClearInterval(timer);	
	SetTimeout(expression,value)		Sets the timer to execute a function only once	Supported, for example, function add()	
	Parame- ter	expression	The function to be executed	{	
3	Parame- ter Value		The interval, in ms	<pre>var val=SmartTags("tag_1"); SmartTags("tag_1")=val+1; } SetTimeout (add , 1000);</pre>	

No.	Function		Description	Script Calling	
	ClearTimeout(timer)		Clears a timer, which must be used with SetTimeout	Supported, for example, var timer= SetTimeout (add ,	
4	Parame- ter	The timer created by SetInterval	The timer created by SetTimeout	1000); ClearTimeout (timer);	

## 12.3.16 Data Operation

No.		Function	Description	Script Calling	
_	SwapByte	(value)	Swaps high and low bytes	Supported, for example, var tag=-32768;	
1	Value(In)		Object to be operated	tag =SwapByte(tag); Tag output value: 128	
	SwapWord	d(value)	Swaps high and low words	Supported, for example, var tag= -2147483648;	
2	Parame- ter Value(In)		Object to be operated	tag =SwapWord(tag); Tag output value: 32768	
	LowByte(value)		Takes the value of the low byte	Supported, for example, var tag= -32640;	
3	Parame- ter Value(In) The object to operated		The object to be operated	tag =LowByte (tag); Tag output value: 128	
	HighByte(value)		Takes the value of the high byte	Supported, for example, var tag= -32640;	
4	Parame- ter	Value(In)	Object to be operated	tag =HighByte (tag); Tag output value: -32768	
	LowWord(	value)	Takes the value of the low word	Supported, for example, var tag= -2147450880;	
5	Parame- ter Value(In) Object to be operated		-	tag =LowWord (tag); Tag output value: 32768	
	HighWord	(value)	Takes the value of the high word	Supported, for example, var tag= -2147483648;	
6	Parame- ter Value(In) Object to be operated		-	tag =HighWord (tag); Tag output value: -2147483648	

# 12.3.17 Reading and Writing an Array

No.		Function	Description	Script Calling	
1	ReadArray(tagSource, index, size, tagTarget)		Starting from "index", reads a certain number ("size") of elements from the array tag "tagSource" to the tag "tagTarget", and returns the number of successfully read elements	Supported, for example, SmartTags('result') = ReadArray(SmartTags('plc_ array'),SmartTags('index'), SmartTags('count'), SmartTags ('local_	
	Parameter	tagSource(In)	The array which stores the source data	array') );	
		Index(In)	Start index	Starting from "index", reads "count" elements from "plc_	
		size(In)	The number of elements	array" to "local_array" and	
		tagTarget(In)	The target array	saves the result to "result"	
	WriteArray(tagSource, index, size, tagTarget)		Starting from "index", writes "count" elements of "tagSource" to "tagTarget"	Supported, for example, SmartTags('result') =	
2	Parameter	tagSource(In)	The array which stores the source data	WriteArray( SmartTags('local_	
		Index(In)	Start index	array'),SmartTags('plc_array'), SmartTags('index'),SmartTags	
		size(In)	The number of elements	('co	
		tagTarget(In)	The target array		

# 12.4 Using Function list

## 12.4.1 Description

When a configuration event occurs, multiple system functions and scripts can be executed through the function list.

Button_1(Button)				ರ್ X
General	十一前14 🗄 🗄	(		Function List
<ul> <li></li></ul>	Calculation	□ 1	IncreaseValue	
Events Click	DecreaseValue     IncreaseValue     IncreaseValue     IncreaseValue     IncreaseValue     IncreaseValue     Random     Edit bits     Screens     User administration     HMI DateTime     Settings		Tag(InOut)	LW0
Press			Value	1
- Release - Activate			Reset	No
Deactivate		⊡ 2	IncreaseValue	
In Change			Tag(InOut)	LW0
		ι	Value	1
			Reset	No
	Data Service     Print			

For example, using a function list in an event of a button:

Button	Function
+	Adds the selected function from the function selection list to the function execution list
_	Deletes the selected function from the execution list
莭	Deletes all functions from the execution list

Button	Function		
t	Moves up the selected function in the execution list		
t	Moves down the selected function in the execution list		
<b>H</b>	Expands the execution list		
E	Collapses the execution list		

## 12.4.2 Properties of Function List

Different HMI devices can be used for the same project. When you change an HMI device in a project, all system functions and scripts that are not supported by the selected HMI device are marked yellow. Unsupported system functions cannot be executed at run time.

The system functions and scripts in the function list are processed at run time from top to bottom. To avoid latency, system functions that require longer runtime (such as file manipulation) are processed simultaneously. For example, even if the previous system function is not completed, you can still execute the next system function.

# 12.5 Use of Scripts

Using scripts in the runtime, you can achieve a single solution in a project, such as:

• Configuring advanced function list

By calling system functions and other scripts in a script, you can use the script just like using a function list. Execute system functions and scripts in a script according to conditions, or repeat them. Then add the script to the function list.

• Creating a function

Scripts are available throughout the project. You can use scripts as system functions. You can define send parameters and return values for these scripts. For example, you can use scripts to convert numeric values.

# 12.6 Script Editor

### 12.6.1 Overview

Creating a new script or opening an existing script will open the script editor.

🔓 🖮 💌 Q 🖥	🖥 💽 🕞 🛃 🗘 📿 😤 📥 📥 📥 🖿 en_US	- QQ		16/××√×
> Script_1	×	Tools	Toolb	oar buttons 🛛 🖙 🗙
function Scrip	ot_10 {	Function list v	vizard Cod	e template wizard
2 Dec	world=SmartTags('LW0'); reaseValue(SmartTags('LW0'),1,0); Work Place	(+ — ፹ ↑	↓陪目	Function List
} Script_1 (Script)	Line:2,Col:37		Script wiz	ard
General	General			
/⊕ Properties_	Parameters			
	Add Change Remove Properties view			
	/		bly	× Clear All

• Script toolbar

Commands for synchronizing objects and tags and checking script syntax are located in the Scripts toolbar. Move the mouse to the corresponding tool icon and a tooltip will show. For example, if you

click 😢, the prompt "Use basic syntax" shows, it will become 👺. In this mode, the script compiler does not strictly check the syntax and you can write classes and need not to define variables first.

• Workspace

You can create and edit scripts in the workspace.

Properties view

You can configure scripts in the properties view. You can determine whether the script is a process or a function, and can also declare parameters for the script. In addition, to ensure that multiple scripts can run stably, IT7000 provides thread numbering function. If you want to run a large script, it is recommended to put it into a single thread.

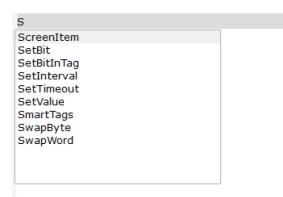
• Script wizard

In the script wizard, you can create system functions and scripts using the assigned parameters as in the function list. Archived system functions and scripts can also be transferred from the script wizard to active scripts. In this way, you only need to perform parameter allocation once.

### 12.6.2 Features

• Autocomplete

Autocomplete automatically lists all matching system functions in JS object model while you are typing:



Ι

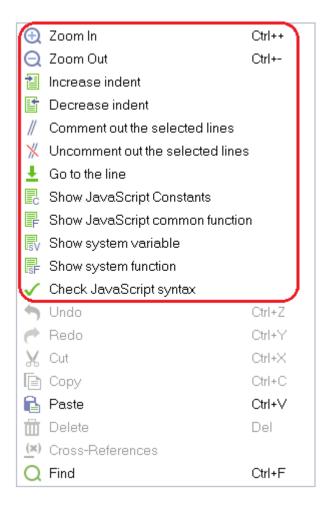
Syntax highlighting

In the script editor, keywords are highlighted with different colors:

```
2
    var arr = new Array(3);
3
    arr[0] = "a"
4
    arr[1] = "b"
5
    arr[2] = "c"
6
    arr.push( "d" );
7
    arr.pop();
8
    arr.toString(); //"a,b,c"
9
    arr.reverse(); //arr[0]=c, arr[1]=b, arr[2]=a
10
```

• Object list

You can use the context menu in the workspace to display script objects in a list.



## 12.7 Syntax

## 12.7.1 Overview

InoTouchPad uses JavaScript for coding to achieve higher flexibility and operation logic.

JavaScript is the most popular scripting language on the Internet. It is widely used in servers, PCs, laptops, tablets and smart phones. In a project, up to 100 scripts can be created, and scripts cannot be called each other.

## 12.7.2 Literal

In programming languages, fixed values are generally called literals:

**The number literal can** be an integer or a decimal, or a scientific notation (e), for example: 3.14, 1001, 123e5.

The string literal can use single or double quotation marks: "John Doe", 'John Doe'.

The **expression literal is** used for calculation: 5 + 6, 5 \* 10.

The array literal defines an array: [40, 100, 1, 5, 25, 10].

The object literal defines an object: {firstName: "John", lastName: "Doe", age: 50, eyeColor: "blue"}.

The **function literal** defines a function: function myFunction (a, b) {return a \* b;}.

### 12.7.3 Variable

In programming languages, variables are used to store data values. JavaScript uses the keyword "var" to define variables and the equal sign to assign a value to variables:

var x, length;

x = 5;

length = 6;

You can declare multiple variables in a single statement. The statement starts with "var" and separates variables with a commas:

var lastname="Doe", age=30, job="carpenter";

The declaration can be in multiple lines:

var lastname="Doe",

age=30,

job="carpenter";

Variables can be declared without a value. For these variables, their value is actually "undefined".

Variables can be accessed by the variable name. In instruction-style languages, variables are usually variable. A literal is a constant value. The variable name can be short (such as x and y) or more descriptive (such as age, sum and totalvolume).



Variables can start with a letter or with a  $\$  and  $_$  sign (though this is not recommended), and variable names are case sensitive (y and Y are different).

## 12.7.4 Operators

Operator	Description	Example
+	Addition	<pre>x=y+2 The + operator can be used to add up (concatenate) text values or string variables, for example: txt1= "what a"; txt2 = "nice day"; txt3=txt1txt2; The value of txt3 is "What a nice day". In addition, the + operator can also add strings and numbers, for example: z = "Hello" +5; The value of Z is "Hello5".</pre>
-	Subtraction	x=y-2
*	* Multiplication	x=y*2
/	Division	x=y/2
%	Remainder	x=y%2

#### Table 12–1 Arithmetic operators

Operator	Description	Example
++	Increment	x=++y
	Increment	x=y++
	Docromont	x=-y
-	Decrement	x=y-

#### Table 12–2 Assignment operators

Operator	Description	Example
=	Assignment	x=y
+=	Addition assignment	X+=y, that is x=x+y
-=	Subtraction assignment	X-=y, that is x=x-y
*=	Multiplication assignment	X*=y, that is x=x*y
/=	Division assignment	X-=y, that is x=x-y
%=	Remainder assignment	X%=y, that is x=x%y

### Table 12–3 Comparison operators

Operator	Description	Comparison	Return Value
==	Equal	x==5	TRUE
	Equal	x==8	FALSE
	Strict equal (both value	x===5	TRUE
	and type are the same)	x==="5"	FALSE
!=	Not equal	x!=8	TRUE
	Strict not equal ( the	x!==5	FALSE
!==	operands are of the same type but not equal, or are of different type)	x!==" 5"	TRUE
	Greater than	x>8	FALSE
<	Less than	x<8	TRUE
=	Greater than or equal	x>=8	FALSE
<=	Less than or equal	x<=8	TRUE

#### Table 12–4 Logical operators

Operator	Description	Example
&&	Logical AND	(x < 10 & & y > 1) is true
	Logical OR	(x==5    y==5) is false
!	Logical NOT	!(x==y) is true

### Table 12–5 Conditional operators

Operator	Description	Example
		voteable = (age < 18)?"Too young":"The age is acceptable"; If the value of the variable "age" is
?:	Conditional assignment	less than 18, "Too young" is assigned to the variable "voteable", otherwise "The age is acceptable" is assigned.

### 12.7.5 JavaScript Statement Separation

JavaScript statements are separated by the semi colon. For example: x = 5 + 6; y = x \* 10;

## 12.7.6 JavaScript Keywords

JavaScript keywords are used to identify the action to be performed, and like any other programming language, JavaScript reserves some keywords for its own use, as shown in the following figure:

abstract	else	instanceof	super
boolean	enum	int	switch
break	export	interface	synchronized
byte	extends	let	this
case	false	long	throw
catch	final	native	throws
char	finally	new	transient
class	float	null	true
const	for	package	try
continue	function	private	typeof
debugger	goto	protected	var
default	if	public	void
delete	implements	return	volatile
do	import	short	while
double	in	static	with

### 12.7.7 Comments

Comments are not executed. You can add comments to describe the code, or to improve the readability of the code. A single-line comment begins with //. For example:

//Title text

document.getElementById ("myH1"). innerHTML= "Welcome to my home page";

//Paragraph text

document.getelementbyid ("myP"). innerHTML= "This is my first paragraph. ";

A multi-line comment begins with /\* and ends with \*/. For example:

/\* The following code will output a title and a paragraph which represent the beginning of the home page \*/

document.getElementById ("myH1"). innerHTML= "Welcome to my home page";

document.getelementbyid ("myP"). innerHTML= "This is my first paragraph.";

You can comment a statement so that it will not be executed. For example:

// document.getElementById ("myH1"). innerHTML= "Welcome to my home page";

document.getelementbyid ("myP"). innerHTML= "This is my first paragraph. ";

You can put comments at the end of a line. For example:

Var x = 5; //declares variable x and assigns 5 to it

Var y = x + 2; //declares variable y and assigns x + 2 to it

#### 12.7.8 Data Types

#### Data Types

Value types (primitive types): string, number, boolean, null, undefined, and symbol.
 Reference data types: object, array, and function.

JavaScript is dynamically typed, which means that the same variable can be of different types:

var x; //x is undefined

var x = 5; //x is now an integer

var x = "John" //x is now a string

#### Declaration

When you declare a new variable, you can use the keyword "new" to declare its type:

var carname=new String;

var x= new Number;

var y= new Boolean;

var cars= new Array;

var person= new Object;

#### Number

There is only one number type in JavaScript. Numbers may or may not have a decimal point:

Var x1 = 34.00; //with a decimal point

Var x2 = 34; //without a decimal point

#### Boolean

A Boolean (logical) variable can have only two values: true or false.

var x=true;

var y=false;

#### String

A string can be any text in quotation marks. You can use single or double quotation marks:

var carname="Volvo XC60";

var carname='Volvo XC60';

#### • Array

The following code creates an array named "cars":

var cars=new Array();

cars[0]="Saab";

cars[1]="Volvo";

cars[2]="BMW";

#### Object

An object is created by figure brackets. Inside the brackets, the properties of the object are defined in the form of "name:value". Properties are separated by a comma:

var person={firstname:"John", lastname:"Doe", id:5566};

The object (person) in the above example has three properties: firstname, lastname, and id. Spaces and line breaks do not matter. The declaration can be in multiple lines:

var person={

firstname : "John",

lastname : "Doe",

id : 5566

};

The object property can be accessed through the following ways:

name=person.lastname;

name=person["lastname"];

#### Undefined and Null

An "undefined" variable does not have a value. You can empty a variable by setting its value to null: cars=null;

person=null;

### 12.7.9 Function

A function is a block of code wrapped in curly braces, preceded by the keyword function. When a function is called, the code block inside the function will be executed. A function can be called directly when an event occurs (such as when the user clicks a button) and can be called anywhere by JavaScript. JavaScript is case-sensitive. The keyword "function" must be lowercase. When you call the function, you must type the function name in the correct case.

#### Calling a function with arguments

When you call a function, you can pass values to it, which are called arguments. These parameters can be used in the function. You can send as many arguments as you like. These arguments are separated by commas (,): myFunction(argument1, argument2)

When you declare a function, declare the arguments as variables:

function myFunction(var1,var2){

//code block

}

Variables and arguments must appear in the same order. The first variable is the value of the first argument passed, and so on.

#### Functions with a return value

Sometimes, we want the function to return the value to the place where it was called. This can be achieved by using the return statement. When the return statement is used, the function stops executing and returns the specified value.

```
function myFunction(){
var x=5;
```

return x;

}

Note that the entire script does not stop executing. It continues from where the function was called.

#### • Function expression

A function can be defined by an expression, and the function expression can be stored in a variable:

var x = function (a, b) {return a \* b};

After the function expression is stored in the variable, the variable can also be used as a function:

var x = function (a, b) {return a \* b};

var z = x(4, 3);

In addition, functions can also be defined through the built-in function constructor (Function ()):

var myFunction = new Function("a", "b", "return a \* b");

var x = myFunction(4, 3);

### 12.7.10 Scope of Variables

#### Local

Variables which are declared within a function are local variables. Local variables: accessible only within a function. Because local variables are only effective within a function, different functions can use variables with the same name. Local variables are created when the function executes, and are automatically destroyed after the function is executed.

//The carName variable cannot be accessed here

function myFunction() {

var carName = "Volvo";

//The carName variable can be accessed here

}

Global variable

Variable which are defined outside a function are global variables. The scope of global variables is global and all scripts and functions can use them.

var carName = " Volvo";

//The carName variable can be accessed here

function myFunction() {

//The carName variable can be accessed here

}

#### • Variable lifecycle

The lifecycle of a JavaScript variable is initialized when it is declared. Local variables are destroyed after the function is executed, and global variables are destroyed after the page is closed.

### 12.7.11 Conditional Statements

In programming, you often need to perform different actions for different conditions. You can use conditional statements in your code to achieve that. JavaScript provides the following conditional statements:

If statement: The code is executed only if the condition is true

If... else statement: The if block is executed when the condition is true and the else block is executed when the condition is false

If.... else if.... else statement: Use this statement when there are more than two decisions

Switch statment: Use this statement when there are more than two decisions

• If statement: The code is executed only if the condition expression is true if (condition){

//code block to be executed

}

If... else statement: The if block is executed when the condition is true and the else block is
executed when the condition is false
if (condition){

//code block to be executed

```
}
```

else{

//code block to be executed}

 If.... else if.... else statement: Use this statement when there are more than two decisions if (condition1){

//code block to be executed}

else if (condition2){

//code block to be executed

```
}
else{
//code block to be executed
}
Switch statment: Use this statement when there are more than two decisions
switch(n) {
   case 1: //code block to be executed when n = 1
   break;
   case 2: //code block to be executed when n = 2
   break;
   default:
   //code to be executed when n is not equal to any case
}
```

### 12.7.12 Loop Statement

If you want to run the same code over and over again, with different values each time, you should use the loop statement. JavaScript supports different types of loops:

The for loop can run a block of code for a number of times

The for/in loop can iterates the properties of an object

The while loop can repeat the specified block of code when the specified condition is true

The do/while loop can repeat the specified block of code when the specified condition is true

• For statement: runs a block of code for a number of times for (Statement 1; Statement 2; Statement 3) {

Block of code to be executed}

Statement 1 is executed before the code block, statement 2 defines the conditions for the loop, and statement 3 is executed after the code block is executed.

• **for/in statement:** Iterating the properties of an object var person={fname:"John",lname:"Doe",age:25};

For (x in person)//x is the property name {

txt=txt + person[x];

}

 While statement: A while loop repeats a block of code when the specified condition is true While (condition) {

Block of code to be executed

}

 do/while statement: The do/while loop is a variant of the while loop. The loop executes the code block once regardless of the condition, and then repeats the code block if the condition is true do{

```
Block of code to be executed
```

}

while (condition);

## 12.7.13 Break and Continue Statements

• **Break statement** can be used to jump out of a loop and continue to execute the code after the loop, if any.

```
for (i=0;i<10;i++) {
    if (i==3) break;
    x=x + "The number is " + i + "<br>";
}
Continue statement can be used -
    condition is met
```

```
• Continue statement can be used to force to execute the next iteration of the loop if the specified condition is met
```

```
for (i=0;i<10;i++) {
    if (i==3) continue;
    x=x + "The number is " + i + "<br>";
}
```

### 12.7.14 Letter Case

JavaScript is case-sensitive, so when writing JavaScript statements, pay attention to the CapsLock key. The function getElementById is different from getElementbyID, and the variable myVariable is also different from MyVariable.

## 12.7.15 JavaScript Character Set

JavaScript uses the Unicode character set, which covers all characters, including punctuation.

# 12.8 Creating a Script

### 12.8.1 Access to Tags

You can access external and internal tags created in the project in scripts. Tag values can be read or changed at run time. In addition, a local tag can be created in a script as a counter or buffer memory. The script gets the value of an external tag from the runtime memory. When runtime is started, the

actual value will be read from PLC and written into runtime memory. The tag value is then updated to the set period time. The script first accesses the tag value read from the PLC at the checkpoint of the previous scan period.

SmartTags ('tag name ') is used in the script to access a tag in the project:

var a = SmartTags( 'LW 0' );

SmartTags( 'LW 0' ) = 2018;

### 12.8.2 Calling System Functions in a Script

You can insert system functions into the script from the Script Wizard or the context menu List All System Functions, or drag tags directly into the script from the Details view.

- Example 1: Decreasing the value of tag LW 0 by 1 by calling DecreaseValue DecreaseValue(SmartTags( 'LW 0' ),1);
- Example 2: Setting a 1s timer to increase LW 0 by 1 function add()

```
{
var val= SmartTags('LW 0');
SmartTags('LW 0')=val+1;
```

}

SetInterval(add, 1000);

• Example 3: Swapping the high and low bytes of LW 0, which is of type Int16 var tag= SmartTags('LW 0');

SmartTags('LW 0')=SwapByte(tag);

For more system functions that can be called by a script, see section Categories of System Functions.

The tag supports synchronous mode, and allows reading and writing of single tag of array.

• **Example 4**: The tag supports synchronous mode, and allows reading and writing of single tag of array.

```
var i=0;
for(i=0;i<10;i++)
{
SmartTags( "LW 0",i,true )=i;
}
```

### 12.8.3 Example of Dynamic Drawing

With the script, you can draw graphics on the canvas control.

• Example 1: Drawing a clock

```
Script:
function clock(){
var now = new Date();
Var canvas = ScreenItem("Screen _1", "Canvas_1");
if( canvas.draw2d )
{
var ctx = canvas.draw2d(); var w = ctx.width();
var h = ctx.height();
varr=((w>h)?h:w)/2-14;
ctx.manualUpdate = true;
ctx.save();
ctx.clearRect(0,0,w,h);
ctx.translate(w/2,h/2);
ctx.rotate(-Math.PI/2);
ctx.strokeStyle = "black";
ctx.fillStyle = "white";
ctx.lineWidth = 4;
ctx.lineCap = "round";
// Hour marks
```

```
ctx.save();
ctx.beginPath();
var i;
for (i=0;i<12;i++){
ctx.rotate(Math.PI/6);
ctx.moveTo(r-12,0);
ctx.lineTo(r,0);
}
ctx.stroke();
ctx.restore();
// Minute marks
```

ctx.save();

```
ctx.lineWidth = 2;
```

ctx.beginPath(); for (i=0;i<60;i++){ if (i%5!=0) { ctx.moveTo(r-4,0); ctx.lineTo(r,0); } ctx.rotate(Math.PI/30); } ctx.rotate(Math.PI/30); } ctx.stroke(); ctx.restore(); var sec = now.getSeconds(); var sec = now.getSeconds(); var min = now.getMinutes(); var hr = now.getHours(); hr = hr>=12 ? hr-12 : hr; ctx.fillStyle = "black";

```
// write Hours
```

ctx.save();

ctx.rotate( hr\*(Math.PI/6) + (Math.PI/360)\*min + (Math.PI/21600)\*sec );

ctx.lineWidth = 6;

ctx.beginPath();

```
ctx.moveTo( r - 140,0);
```

ctx.lineTo( r-40,0);

ctx.stroke();

ctx.restore();

// write Minutes

ctx.save();

ctx.rotate( (Math.PI/30)\*min + (Math.PI/1800)\*sec );

ctx.lineWidth = 4;

ctx.beginPath();

ctx.moveTo( r - 148,0);

ctx.lineTo( r - 24,0); ctx.stroke();

ctx.restore();

// Write seconds

ctx.save();

ctx.rotate(sec \* Math.PI/30);

ctx.strokeStyle = "#D40000";

ctx.fillStyle = "#D40000";

ctx.lineWidth = 2;

ctx.beginPath();

ctx.moveTo( r - 150,0);

ctx.lineTo( r - 20,0);

ctx.stroke();

ctx.beginPath();

ctx.arc(0,0,5,0,Math.PI\*2,true);

ctx.fill();

ctx.beginPath();

ctx.arc(r - 20,0,5,0,Math.PI\*2,true);

ctx.stroke();

ctx.fillStyle = "#555";

ctx.arc(0,0,3,0,Math.PI\*2,true);

ctx.fill();

ctx.restore();

ctx.beginPath(); ctx.lineWidth = 7; ctx.strokeStyle = '#325FA2'; ctx.arc(0,0,r + 7,0,Math.PI\*2,true); ctx.stroke();

ctx.restore(); ctx.doUpdate(); } } SetInterval( clock,1000 );

The result is as follows:



• Example 2: Drawing a heart shape

Script:

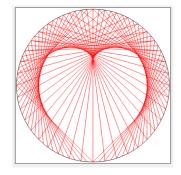
```
Var canvas = ScreenItem("Screen _3", "Canvas_5");
var ctx = canvas.draw2d();
var sleep = 0;
var count = 0;
var rx = 10;
var ry = 10;
var radius = 10;
function deg2rad(x)
{
return x *Math.PI/180;
}
function drawCircle( x, y, r )
{
ctx.beginPath();
ctx.arc(x,y,r,0,Math.PI*2,true);
ctx.stroke();
}
function drawLine( x1, y1, x2, y2 )
{
```

```
ctx.beginPath();
ctx.moveTo(x1, y1);
ctx.lineTo(x2, y2);
ctx.stroke();
if (count++ == 82) {
count = 0;
sleep = 0;
}
}
this.line = drawLine;
function drawSide(begin1, end1, step1, begin2, step2)
{
var d1, d2, x1, y1, x2, y2;
while ( begin1 != end1+step1 ) {
d1 = deg2rad(begin1);
d2 = deg2rad(begin2);
x1 = rx + radius * Math.cos(d1);
y1 = ry - radius * Math.sin(d1);
x2 = rx + radius * Math.cos(d2);
y2 = ry - radius * Math.sin(d2);
SetTimeout( 'line(' + x1 + ',' + y1 + ',' + x2 + ',' + y2 + ')', sleep*100 );
sleep++;
begin1 += step1;
begin2 += step2;
}
}
function drawHeart(){
Var canvas = ScreenItem("Screen _3", "Canvas_5");
if( canvas.draw2d )
{
```

```
ctx = canvas.draw2d();
```

```
var w = ctx.width();
```

```
var h = ctx.height();
ctx.clearRect(0,0,w,h);
rx = w / 2;
ry = h / 2;
radius = ( ( rx > ry ) ? ry : rx ) - 4;
ctx.strokeStyle = "black";
drawCircle( rx, ry, radius );
ctx.strokeStyle = "red";
drawSide(-90, 0, 4.5, 0, 4.5 );
drawSide(-90, -180, -4.5, -180, -4.5 );
drawSide(0, 180, 4.5, 90, 9 );
}
}
drawHeart();
The result is as follows:
```

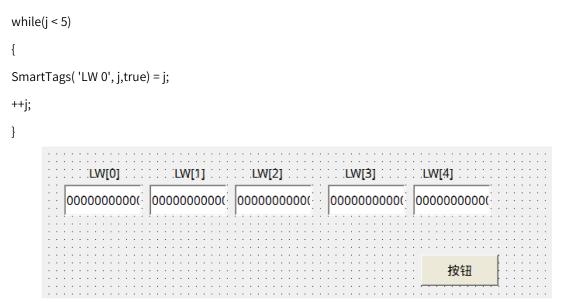


## 12.8.4 Assigning Values to Array with Script

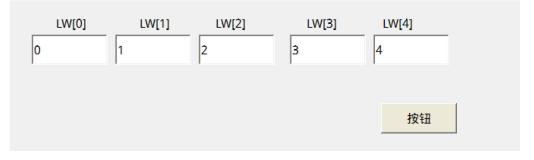
You can use  $\ensuremath{\mathsf{SmartTags}}()$  in a for or while loop to assign values to an array

```
For example:
var i=0;
for ( i = 0; i < 5; ++i )
{
SmartTags( 'LW 0' ,i,true) = i;
}
While loop:</pre>
```

varj=0;



The configuration is shown in the example. The button executes the script mentioned above; The display is as below:



# 13 Multi-lingual Project

# 13.1 Description

In InoTouchPad, you can set up a project in different languages through machine translation, so that users in different countries can use the same project, which can greatly reduce the development period. To enable this multilingual function, you need to set the project language, language and font, and internationalization of the resource module.

Project 67	× 💔 Project Language 🛛 🗙			
🗉 🖼 Screens(2/256)	Languages Selection			
- 🗄 Add Screen	Afrikaans(SouthAfrica)	Faroese(Faroelslands)	🔄 Lithuanian(Lithuania)	🗌 Spanish(Panama)
🖼 00001:Screen_1	Armenian(Armenia)	Finnish(Finland)	Malay(Malaysia)	Spanish(Paraguay)
- 🖾 00002:Screen_2	Basque(Spain)	French(France)	Malay(BruneiDarussalam)	Spanish(Peru)
	Bulgarian(Bulgaria)	French(Belgium)	🔄 Marathi(India)	Spanish(PuertoRico)
Popup Screens	Catalan(Spain)	French(Canada)	🔄 Mongolian(Mongolia)	Spanish(Uruguay)
	Chinese(China)	French(Luxembourg)	🗌 Norwegian(Norway)	🗌 Spanish(Venezuela)
	Chinese(HongKong)	French(Monaco)	Persian(Iran)	🗌 Swahili(Kenya)
i ⊡ 6 00001:folder_3	Chinese(Macau)	<ul> <li>French(Switzerland)</li> </ul>	Polish(Poland)	Swedish(Sweden)
Communication	Chinese(Singapore)	🗌 Galician(Spain)	Portuguese(Portugal)	Swedish(Finland)
⊢⊜ Data Service	Chinese(Taiwan)	🗌 Georgian(Georgia)	Portuguese(Brazil)	🗌 Tamil(India)
🗛 Alarm Management	Croatian(Croatia)	🗌 German(Germany)	Punjabi(India)	🗌 Telugu(India)
- <u>II</u> Recipes(3/100)	Czech(CzechRepublic)	🗌 German(Austria)	🗌 Romanian(Romania)	🔲 Thai(Thailand)
Historical Data	Danish(Denmark)	🗌 German(Liechtenstein)	Russian(RussianFederation)	Turkish(Turkey)
Scripts(1/400)	Dutch(Netherlands)	🗌 German(Luxembourg)	🔄 Serbian(Serbia)	🗌 Ukrainian(Ukraine)
- 🗊 Reports(0/100)	Dutch(Belgium)	German(Switzerland)	🗌 Slovak(Slovakia)	🗌 Urdu(Pakistan)
E Status Lists	English(UnitedStates)	Greek(Greece)	Slovenian(Slovenia)	🗌 Uzbek(Uzbekistan)
-	English(Australia)	🔄 Gujarati(India)	Spanish(Argentina)	🗌 Uyghur(China)
- ⑧ Runtime User Administration	English(Belize)	Hebrew(Israel)	🔄 Spanish(Bolivia)	🗌 Vietnamese(VietNam
Resource	English(Canada)	🗌 Hungarian(Hungary)	Spanish(Chile)	
{//} Project Language	English(Ireland)	Icelandic(Iceland)	🔤 Spanish(Colombia)	
A Lang and Font	English(Jamaica)	🗌 Indonesian(Indonesia)	Spanish(CostaRica)	
🚯 118N	English(NewZealand)	ltalian(Italy)	Spanish(DominicanRepublic)	
🖳 🔣 Global StyleSheet	English(Philippines)	Italian(Switzerland)	Spanish(Ecuador)	
SoftKeyboard	English(SouthAfrica)	🖌 Japanese(Japan)	Spanish(ElSalvador)	
HMI Settings	English(TrinidadAndTobago)	🗌 Kazakh(Kazakhstan)	🔄 Spanish(Guatemala)	
· ······ ···· ····· ····· ····· ···· ····	English(UnitedKingdom)	Kirghiz(Kyrgyzstan)	Spanish(Honduras)	
	English(Zimbabwe)	🖌 Korean(RepublicOfKorea)	Spanish(Mexico)	
	🗌 Estonian(Estonia)	🗌 Latvian(Latvia)	🗌 Spanish(Nicaragua)	

roject 🗗 🗸	{/} Proj	ect Language	× A Lang and Font	×				
🗄 🔚 Screens(2/256)								
Communication		Enabled	Name	DisplayName	<ul> <li>Number</li> </ul>	Font	Co	mment
🗉 🍙 Data Service	1		English(UnitedStates)	en_US	1	Arial,16px		
🗄 🛕 Alarm Management	2		Chinese(China)	zh_CN	2	Droid Sans Fallback,16px		
Recipes(3/100)	3		Chinese(Taiwan)	zh_TW	3	Droid Sans Fallback,16px		
- 😳 Historical Data	4		Korean(RepublicOfKorl	ko_KR	4	Droid Sans Fallback,16px		
Scripts(1/400)	5		Japanese(Japan)	ja_JP	5	Droid Sans Fallback,16px		
e- 🧾 Reports(0/100)	_							
er 🧱 Reports(0/100) er 📄 Status Lists								
🗄 📄 Status Lists	-							
Batus Lists     Status Lists     Son Runtime User Administration								
Break Status Lists Break Status Lists Break Status User Administration Break Resource								
Status Lists     Section User Administration     Resource     // Project Language								
Status Lists  A Language  A Lang and Font								
Status Lists Comparison Comparis								

Screens(1/256)		T All Translate				
Communication						Export
Data Service		Referenced by	en_US	zh_CN	zh_TW	
🛕 Alarm Management	1	ScreenList/40000/title	System Alarms	医体指擎	系統報警	
<u>X</u> Recipes(0/100)			•			
🚻 Historical Data	2	ScreenList/40001/title	Communicatio	通讯	通讯	
Scripts(1/400)	3	ScreenScene/4/text	Button			
🧾 Reports(0/100)	4	ScreenScene/4/onText	Text			
📄 Status Lists	5	ScreenScene/4/clicked				
8 Runtime User Administration	6	Groups/1/DisplayName	Operator group	操作员组	操作員組	
Resource	7	Groups/2/DisplayName	Admin group	管理员组	管理員組	
{/} Project Language	8	AlarmClasses/1/DisplayName	ļ	I	ļ	
<ul> <li>A Lang and Font</li> </ul>	9	AlarmClasses/2/DisplayName	#	#	#	
- 💮 I18N	10	AlarmClasses/3/DisplayName	\$	\$	\$	
– 🔣 Global StyleSheet	11	Users/1/DisplayName	admin	admin	admin	
🔤 SoftKeyboard		Oseis/itDisplay/dame	aunifi	aunin	aumin	

# 13.2 Project Language

The project language setting provides over a hundred languages of your choice, as shown in the following figure:

Languages Selection		
_ 🗌 Afrikaans(SouthAfrica)	English(Zimbabwe)	🔄 Kazakh(Kazakhstan)
🗌 Armenian(Armenia)	🔄 Estonian(Estonia)	🔄 Kirghiz(Kyrgyzstan)
🔄 Basque(Spain)	Faroese(Faroelslands)	🛃 Korean(RepublicOfKorea)
🔄 Bulgarian(Bulgaria)	Finnish(Finland)	🔄 Latvian(Latvia)
🔄 Catalan(Spain)	French(France)	🔄 Lithuanian(Lithuania)
🖌 Chinese(China)	French(Belgium)	🔄 Malay(Malaysia)
🗌 Chinese(HongKong)	🔄 French(Canada)	🔄 Malay(BruneiDarussalam)
🗌 Chinese(Macau)	French(Luxembourg)	🔄 Marathi(India)
🗌 Chinese(Singapore)	French(Monaco)	🔄 Mongolian(Mongolia)
🗾 Chinese(Taiwan)	French(Switzerland)	🗌 Norwegian(Norway)
🗌 Croatian(Croatia)	🔄 Galician(Spain)	Persian(Iran)
Czech(CzechRepublic)	🔄 Georgian(Georgia)	Polish(Poland)
🔲 Danish(Denmark)	🗌 German(Germany)	Portuguese(Portugal)
Dutch(Netherlands)	🔄 German(Austria)	Portuguese(Brazil)
Dutch(Belgium)	🗌 German(Liechtenstein)	🔲 Punjabi(India)
English(UnitedStates)	🔄 German(Luxembourg)	🗌 Romanian(Romania)
🔄 English(Australia)	🔄 German(Switzerland)	🔤 Russian(RussianFederation)
🔄 English(Belize)	🔄 Greek(Greece)	🔄 Serbian(Serbia)
🔄 English(Canada)	🔄 Gujarati(India)	🔄 Slovak(Slovakia)
English(Ireland)	🔄 Hebrew(Israel)	🔄 Slovenian(Slovenia)
🔄 English(Jamaica)	🔄 Hungarian(Hungary)	🔄 Spanish(Argentina)
English(NewZealand)	Icelandic(Iceland)	🔄 Spanish(Bolivia)
English(Philippines)	Indonesian(Indonesia)	Spanish(Chile)
English(SouthAfrica)	ltalian(Italy)	Spanish(Colombia)
English(TrinidadAndTobago)	Italian(Switzerland)	Spanish(CostaRica)
English(UnitedKingdom)	🔽 Japanese(Japan)	<ul> <li>Spanish(DominicanRepublic)</li> </ul>

Five languages, Chinese (China), Chinese (Taiwan), English (United States), Japanese (Japan) and Korean (Korea), are checked by default, which indicates that these languages are activated. The detailed settings of a language can be found in the Language and Font editor. If you need to develop a project for a specified language, you can configure the text of that language in I18N by choosing that language and enabling it in the Language and Font editor (see *"13.3 Language and Font Setting" on page 289* for details).

## 13.3 Language and Font Setting

The language and font workspace is used to set the properties of the selected project language. Double-click Lang and Font in Resource to open the language and font workspace, as shown in the following figure:

	Enabled	Name	DisplayName	<ul> <li>Number</li> </ul>	Font	Comment
1		English(UnitedStates)	en_US	1	Arial,16px	
2		Chinese(China)	zh_CN	2	Droid Sans Fallback,16px	
3	<b>v</b>	Chinese(Taiwan)	zh_TW	3	Droid Sans Fallback,16px	
4		Korean(RepublicOfKorl	ko_KR	4	Droid Sans Fallback,16px	
5		Japanese(Japan)	ja_JP	5	Droid Sans Fallback,16px	

If you need to add a language to this workspace, you can check the language in Project Language and then the language will be automatically added to the language and font workspace. Take adding German (Germany) as an example:

Languages Selection			
Afrikaans(SouthAfrica)	English(Zimbabwe)	🔄 Kazakh(Kazakhstan)	Spanish(Ecuador)
🗌 Armenian(Armenia)	🔄 Estonian(Estonia)	🔄 Kirghiz(Kyrgyzstan)	Spanish(ElSalvador)
🔄 Basque(Spain)	Faroese(Faroelslands)	🕢 Korean(RepublicOfKorea)	Spanish(Guatemala)
🔄 Bulgarian(Bulgaria)	Finnish(Finland)	🔄 Latvian(Latvia)	Spanish(Honduras)
🗌 Catalan(Spain)	French(France)	🔄 Lithuanian(Lithuania)	Spanish(Mexico)
🖉 Chinese(China)	French(Belgium)	🔄 Malay(Malaysia)	Spanish(Nicaragua)
Chinese(HongKong)	French(Canada)	🔄 Malay(BruneiDarussalam)	🔄 Spanish(Panama)
🗌 Chinese(Macau)	French(Luxembourg)	🔄 Marathi(India)	Spanish(Paraguay)
🗌 Chinese(Singapore)	French(Monaco)	🔄 Mongolian(Mongolia)	Spanish(Peru)
🖉 Chinese(Taiwan)	French(Switzerland)	🗌 Norwegian(Norway)	Spanish(PuertoRico)
🗌 Croatian(Croatia)	🔄 Galician(Spain)	Persian(Iran)	Spanish(Uruguay)
Czech(CzechRepublic)	🔄 Georgian(Georgia)	Polish(Poland)	Spanish(Venezuela)
🗌 Danish(Denmark)	🛃 German(Germany)	Portuguese(Portugal)	🗌 Swahili(Kenya)
Dutch(Netherlands)	🔄 German(Austria)	Portuguese(Brazil)	Swedish(Sweden)
🔲 Dutch(Belgium)	🗌 German(Liechtenstein)	🔄 Punjabi(India)	Swedish(Finland)
English(UnitedStates)	German(Luxembourg)	🗌 Romanian(Romania)	🗌 Tamil(India)
🔄 English(Australia)	German(Switzerland)	🗌 Russian(RussianFederation)	🗌 Telugu(India)
🔄 English(Belize)	🔄 Greek(Greece)	🔄 Serbian(Serbia)	Thai(Thailand)
🔄 English(Canada)	🔄 Gujarati(India)	🔄 Slovak(Slovakia)	Turkish(Turkey)
English(Ireland)	Hebrew(Israel)	🔄 Slovenian(Slovenia)	Ukrainian(Ukraine)
🔄 English(Jamaica)	<ul> <li>Hungarian(Hungary)</li> </ul>	Spanish(Argentina)	🗌 Urdu(Pakistan)
English(NewZealand)	Icelandic(Iceland)	☐ Spanish(Bolivia)	🗌 Uzbek(Uzbekistan)
English(Philippines)	🗌 Indonesian(Indonesia)	Spanish(Chile)	Uyghur(China)
English(SouthAfrica)	🔄 Italian(Italy)	🔄 Spanish(Colombia)	☐ Vietnamese(VietNam
🗌 English(TrinidadAndTobago)	Italian(Switzerland)	🔄 Spanish(CostaRica)	
English(UnitedKingdom)	🖌 Japanese(Japan)	Spanish(DominicanRepublic)	

Languages Selection			
Afrikaans(SouthAfrica)	English(Zimbabwe)	Kazakh(Kazakhstan)	Spanish(Ecuador)
Armenian(Armenia)	Estonian(Estonia)	Kirghiz(Kyrgyzstan)	Spanish(ElSalvador)
Basque(Spain)	Faroese(Faroelslands)	Korean(RepublicOfKorea)	Spanish(Guatemala)
Bulgarian(Bulgaria)	Finnish(Finland)	Latvian(Latvia)	Spanish(Honduras)
Catalan(Spain)	French(France)	Lithuanian(Lithuania)	Spanish(Mexico)
Chinese(China)	French(Belgium)	Malay(Malaysia)	Spanish(Nicaragua)
Chinese(HongKong)	French(Canada)	<ul> <li>Malay(BruneiDarussalam)</li> </ul>	Spanish(Panama)
Chinese(Macau)	French(Luxembourg)	Marathi(India)	Spanish(Paraguay)
Chinese(Singapore)	French(Monaco)	Mongolian(Mongolia)	Spanish(Peru)
🖌 Chinese(Taiwan)	French(Switzerland)	Norwegian(Norway)	Spanish(PuertoRico)
Croatian(Croatia)	Galician(Spain)	Persian(Iran)	Spanish(Uruguay)
Czech(CzechRepublic)	🗌 Georgian(Georgia)	Polish(Poland)	Spanish(Venezuela)
Danish(Denmark)	💽 German(Germany)	Portuguese(Portugal)	Swahili(Kenya)
Dutch(Netherlands)	German(Austria)	Portuguese(Brazil)	Swedish(Sweden)
Dutch(Belgium)	German(Liechtenstein)	Punjabi(India)	Swedish(Finland)
English(UnitedStates)	German(Luxembourg)	Romanian(Romania)	Tamil(India)
English(Australia)	German(Switzerland)	Russian(RussianFederation)	Telugu(India)
English(Belize)	Greek(Greece)	Serbian(Serbia)	Thai(Thailand)
English(Canada)	🔄 Gujarati(India)	Slovak(Slovakia)	Turkish(Turkey)
English(Ireland)	Hebrew(Israel)	Slovenian(Slovenia)	Ukrainian(Ukraine)
English(Jamaica)	<ul> <li>Hungarian(Hungary)</li> </ul>	Spanish(Argentina)	Urdu(Pakistan)
English(NewZealand)	Icelandic(Iceland)	Spanish(Bolivia)	Uzbek(Uzbekistan)
English(Philippines)	Indonesian(Indonesia)	Spanish(Chile)	Uyghur(China)
English(SouthAfrica)	Italian(Italy)	Spanish(Colombia)	Vietnamese(VietNam)
English(TrinidadAndTobago)	Italian(Switzerland)	Spanish(CostaRica)	
English(UnitedKingdom)	🖌 Japanese(Japan)	Spanish(DominicanRepublic)	

In Project Language, check German (Germany), and a new line for German (German) is added in the workspace. If you want to remove the language, uncheck it in Project Language.

	Enabled	Name	DisplayName	<ul> <li>Number</li> </ul>	Font	Comment
1		English(UnitedStates)	en_US	1	Arial,16px	
2		Chinese(China)	zh_CN	2	Droid Sans Fallback,16px	
3		Chinese(Taiwan)	zh_TW	3	Droid Sans Fallback,16px	
4		Korean(RepublicOfKorl	ko_KR	4	Droid Sans Fallback,16px	
5		Japanese(Japan)	ja_JP	5	Droid Sans Fallback,16px	
6		German(Germany)	de_DE	6	Droid Sans Fallback,16px	

You can enable/disable the languages and set their font and comment. But the name and display name are predefined and cannot be edited. After setting the required language attributes, you need to check Enable to use the language in the project.

The name is the name displayed in Project Language, and the display name is the abbreviation of the name, which is mainly used by internationalization, internationalization switchover preview and project start language setting:

	Referenced by	en_US	zh_CN	zh_TW	de_DE
1	ScreenList/40000/title	System Alarms	系统报警	系統報警	
2	ScreenList/40001/title	Communicatio	通讯	通讯	
3	Groups/1/DisplayName	Operator group	操作员组	操作員組	
4	Groups/2/DisplayName	Admin group	管理员组	管理員組	

1. Internationalization table

2. Internationalization switchover preview

+	en_US 🔹
Ν	en_US
6	zh_CN
	zh_TW しぷ
	<sup>⊥</sup> - de_DE
	· · · · · · · · · · · · · · ·
• •	
	1111日小公子 見1111
	•

3. Project start language setting

Start Screen	Screen_1	•
Start Language	en_US	+
Start Style Author	en_US	
otar e otyro	zh_CN	
Author	zh_TW	
	de_DE	
	L	

# 13.4 Internationalization

### 13.4.1 Overview

The Internationalization workspace is mainly used to edit project texts that need to be translated into multiple languages. Go to Resources→Internationalization and double click to open the workspace, as shown in the following figure:

	Referenced by	en_US	zh_CN	zh_TW	de_DE	
	ScreenList/40000/title	System Alarms	系统报警	系統報警		
	ScreenList/40001/title	Communicatio	通讯	通讯		
	Groups/1/DisplayName	Operator group	操作员组	操作員組		
	Groups/2/DisplayName	Admin group	管理员组	管理員組		
	AlarmClasses/1/DisplayName	ļ	ļ	ļ		Editor
	AlarmClasses/2/DisplayName	#	#	#		
	AlarmClasses/3/DisplayName	\$	\$	\$		
	Users/1/DisplayName	admin	admin	admin	)	
_	ScreenScene/5/text	hello				

This workspace can display all the text that needs to be translated in the project, and the language that can be translated is determined by "Project Language" and "Language and Font" in the resource. For details, see *"13.3 Language and Font Setting" on page 289*.

## 13.4.2 Filter

There is a filter in the upper left corner of the I18N editor, which classifies all the texts that can be translated in the project into screens, analog alarms, discrete alarms, recipes, list entries, user groups, predefined items and reports, as shown in the following figure:

T	All 🗸	Baidu Transla	te		
	All Screens AnalogAlarms	by	en_US	de_DE	it_Π
1	DiscreteAlarms		System Alarms		
1	AlarmClasses Recipes		Communication Alarms		
3	TextListEntry		Operator group		
4	Groups Predefined items		Admin group		
5	Reports	lame	!		
6	AlarmClasses/2/Display	Name	#		
7	AlarmClasses/3/Displayl	Name	\$		
8	B Users/1/DisplayName		admin		
9	RecipeList/1/DisplayNar	ne	Recipe_1		
1	0 Elements1/1/DisplayNa	me	Element_1		

		Baidu Tr	anslate		Export	Impor
Sc	reens	by	en_US	zh_CN		
	alogAlarms screteAlarms		System Alarms	系统报警		
1	armClasses cipes	Comm		ĺ"Đű"¾¯		
: Tex	tListEntry Operator gro 操作员组		操作员组			
	oups edefined items		Admin group	管理员组		
Re	ports	ame	!	!		
6	AlarmClasses/2/Disp		#	#		
7	AlarmClasses/3/Disp	layName	\$	\$		
8	Users/1/DisplayNam	ie	admin	admin		
9	ScreenScene/3/text		Button	按钮		
10	ScreenScene/3/onTe	ext	Text	文本		
11	ScreenScene/4/write	9				
12	ScreenScene/3/click	ed				
13	RecipeList/1/Display	Name	Recipe_1	配方_1		
14	RecipeList/2/Display	Name	Recipe_2	配方_2		
15	Elements1/1/Display	Name	Element_1	成分_1		
16	Elements1/2/Display	Name	Element_2	成分_2		
17	AnalogAlarms/1/Tex	t	analog_1	模拟量_1		
18	AnalogAlarms/2/Tex	t	analog 2	模拟量 2		

When you select All, all the translated text in the modules except the predefined items is displayed:

\* E

T All

Baidu Translate

	Referenced by	en_US	de_DE	it_Π
1	ScreenList/40000/title	System Alarms		
2	ScreenList/40001/title	Communication Alarms		
3	Groups/1/DisplayName	Operator group		
4	Groups/2/DisplayName	Admin group		
5	AlarmClasses/1/DisplayName	!		
6	AlarmClasses/2/DisplayName	#		
7	AlarmClasses/3/DisplayName	\$		
8	Users/1/DisplayName	admin		
9	RecipeList/1/DisplayName	Recipe_1		
10	Elements1/1/DisplayName	Element_1		

	Referenced by	en_US	zh_CN
1	ScreenList/40000/title	System Alarms	系统报警
/2	ScreenList/40001/title	Communicat	ſ"Ðű"¾¯
3	Groups/1/DisplayName	Operator gro	操作员组
4	Groups/2/DisplayName	Admin group	管理员组
5	AlarmClasses/1/DisplayName	1	!
6	AlarmClasses/2/DisplayName	#	#
7	AlarmClasses/3/DisplayName	\$	\$
8	Users/1/DisplayName	admin	admin
9	ScreenScene/3/text	Button	按钮
10	ScreenScene/3/onText	Text	文本
11	ScreenScene/4/write		
12	ScreenScene/3/clicked		
13	RecipeList/1/DisplayName	Recipe_1	配方_1
14	RecipeList/2/DisplayName	Recipe_2	配方_2
15	Elements1/1/DisplayName	Element_1	成分_1
16	Elements1/2/DisplayName	Element_2	成分_2
17	AnalogAlarms/1/Text	analog_1	模拟量_1
18	AnalogAlarms/2/Text	analog_2	模拟量 2

When you select Screens, only the text of the screen module that needs to be translated is displayed:

Scr	reens Screen_1	1 Tanslate	•	
	Referenced by	en_US	zh_CN	zh_TW
1	ScreenScene/2/text	Use internationalization	使用国际化	使用國際化

Sci	reens	Screen_11	•	Baidu Translate	
	Referenced	by	en_US	zh_CN	zh_TW
1	ScreenScene/16/text		Use I18N	使用国际化	使用國際化

When you select predefined items, the predefined items are displayed (predefined items can also be modified):

<b>T</b> Pre	Predefined items     Baidu Translate						
	Referenced by	en_US	zh_CN				
1	MainWindow/User or password is em	User or pass	用户或密码为				
2	MainWindow/Please enter the right	Please enter	请输入正确的				
3	RemoteDBView/Search	Search	查找				
4	RemoteDBView/Last	Last	尾页				
5	RemoteDBView/Next	Next	下一页				
6	RemoteDBView/Prev	Prev	上一页				
7	RemoteDBView/First	First	首页				
8	AdminDialog/unlock all installment	unlock all ins	解锁所有的分期				
9	AdminDialog/unlock current installm	unlock curre	解锁当前分期				
10	LockDialog/RandomCode	RandomCode	随机码				
11	LockDialog/password	password	密码				
12	LockDialog/end date	end date	结束日期				

The other modules are similar. You only need to select a module to show the translation text involved in this module.

## 13.4.3 Importing and Exporting Internationalization Text

You can import and export translation text in the upper right corner of the I18N editor:

	• Baidu Tran	slate
	Referenced by	en_US
1	ScreenList/40000/title	System Alarms
2	ScreenList/40001/title	Communication Alarms
3	Groups/1/DisplayName	Operator group
4	Groups/2/DisplayName	Admin group
5	AlarmClasses/1/DisplayName	!
6	AlarmClasses/2/DisplayName	#
7	AlarmClasses/3/DisplayName	\$
8	Users/1/DisplayName	admin
9	RecipeList/1/DisplayName	Recipe_1
10		<b></b> · · -

All	▼ Baidu Tra	anslate		Export Impo
	Referenced by	en_US	zh_CN	
1	ScreenList/40000/title	System Alarms	系统报警	
2	ScreenList/40001/title	Communicat	ĺ"Đű"³⁄₄¯	
3	Groups/1/DisplayName	Operator gro	操作员组	
4	Groups/2/DisplayName	Admin group	管理员组	
5	AlarmClasses/1/DisplayName	I.	!	
6	AlarmClasses/2/DisplayName	#	#	
7	AlarmClasses/3/DisplayName	\$	\$	
8	Users/1/DisplayName	admin	admin	
9	ScreenScene/3/text	Button	按钮	
10	ScreenScene/3/onText	Text	文本	
11	ScreenScene/4/write			
12	ScreenScene/3/clicked			
13	RecipeList/1/DisplayName	Recipe_1	配方_1	
14	RecipeList/2/DisplayName	Recipe_2	配方_2	
15	Elements1/1/DisplayName	Element_1	成分_1	
16	Elements1/2/DisplayName	Element_2	成分_2	
17	AnalogAlarms/1/Text	analog_1	模拟量_1	
18	AnalogAlarms/2/Text	analog_2	模拟量_2	

You can also right-click I18N in the project tree view and select Import or Export:

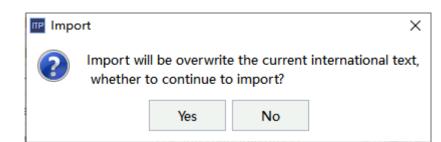
Project 🗗 🗙	<b>000</b>	101:Screen_1 🛛 🗙 🕖 Project Langu	Jage 🗙 ઉ I18N	× A Lang a	and Font
🖶 📄 Data Service		<ul> <li>Baidu Trai</li> </ul>			
🖹 🔺 Alarm Management		Baidu Ira	nsiate	EX	port
🔀 Analog Alarms		Referenced by	en_US	zh_CN	
🗁 \overline Discrete Alarms	1	ScreenList/40000/title	System Alarms	系统报警	
🖙 🔚 System Alarms	2	ScreenList/40001/title	Communicat	ĺ"Đű"¾ <sup>−</sup>	
🗄 🧔 Settings	3	Groups/1/DisplayName	Operator gro	操作员组	
- <u> </u>	4	Groups/2/DisplayName	Admin group	管理员组	
Historical Data	5	AlarmClasses/1/DisplayName	!	!	
Data Logs	6	AlarmClasses/2/DisplayName	#	#	
Alarm Logs	7	AlarmClasses/3/DisplayName	\$	\$	
<li>         Scripts(0/400)     </li>	8	Users/1/DisplayName	admin	admin	
Add Script	9	ScreenScene/3/text	Button	按钮	
Reports(1/100)	10	ScreenScene/3/onText	Text	文本	
Status Lists     Status User Administration	11	ScreenScene/4/write			
	12	ScreenScene/3/clicked			
Resource	13	RecipeList/1/DisplayName	Recipe_1	配方_1	
A Lang and Font	14	RecipeList/2/DisplayName	Recipe_2	_ 配方_2	
	15	Elements1/1/DisplayName	Element_1	_ 成分_1	
Global Support	16	Elements1/2/DisplayName	Element_2	_ 成分_2	
SoftKey Import	17	AnalogAlarms/1/Text	analog_1	_ 模拟量_1	
HMI Settings	18	AnalogAlarms/2/Text	analog_2	_ 模拟量_2	

After selecting the module in the filter, click Export to pop up the following window:

0 · · · · · · · ·		1.10.000		· · · · · · · · · · · · · · · · · · ·		0
	v folde	er 🖉				2
📃 Desktop	^	Name	Date modified	Туре	Size	
Downloads		퉬 crashes	12/28/2021 6:31 PM	File folder		
🖳 Recent Places		퉬 driver	12/28/2021 6:28 PM	File folder		
		퉬 examples	7/8/2021 5:15 PM	File folder		
🕞 Libraries		퉬 fonts	12/28/2021 6:29 PM	File folder		
Documents	E	Graphics	11/3/2020 11:51 AM	File folder		
J Music		퉬 logs	12/28/2021 6:31 PM	File folder		
Pictures		퉬 plugins	12/28/2021 6:29 PM	File folder		
🛃 Videos		퉬 temp	12/28/2021 6:31 PM	File folder		
		퉬 UnifiedDevices	12/28/2021 6:31 PM	File folder		
🖳 Computer		퉬 usbdriver	12/28/2021 6:29 PM	File folder		
<b>A</b>	-	🔊 InoTouchPad	12/28/2021 6:31 PM	Internet Shortcut	1 1	(B
File name:	118nc					
	ANSI (	CSV Files (*.csv)				

Enter the file name, and then click Save to export the translation text displayed in the current module to a \*. csv file.

The exported file is generally used for external editing. After the file is edited, click Import, and the following message box will appear:



Click Yes, and the file import window will pop up:

Organize 🔻 New	folde	r	-					FI	(
🛠 Favorites	-	Nai	me	Date modified	Tj	уре	Size		
Desktop			crashes	12/28/2021 6:31	PM Fi	ile folder			
🗼 Downloads			driver	12/28/2021 6:28	PM Fi	ile folder			
🕮 Recent Places			examples	7/8/2021 5:15 PM	1 Fi	ile folder			
			fonts	12/28/2021 6:29	PM Fi	ile folder			
🥽 Libraries			Graphics	11/3/2020 11:51	AM Fi	ile folder			
Documents	=		logs	12/28/2021 6:31	PM Fi	ile folder			
J Music			plugins	12/28/2021 6:29	PM Fi	ile folder			
Pictures			temp	12/28/2021 6:31	PM Fi	ile folder			
🛃 Videos			UnifiedDevices	12/28/2021 6:31	PM Fi	ile folder			
			usbdriver	12/28/2021 6:29	PM Fi	ile folder			
🖳 Computer		8	InoTouchPad	12/28/2021 6:31	PM In	ternet Shortcut		1 KB	
辑 Network	-								
	ile na				-	CSV Files (*.cs			_

Select the csv file to be imported and click Open. Notes:

- 1. The target module should be consistent with the current module selected by the filter, otherwise the import will fail;
- 2. You cannot import "indexed" fields that do not exist in the project, that is, you must not add or modify "indexed" fields when editing the file externally.

When incorrect data appears in the imported text, a warning message will appear in the output window. The following figure shows the warning when an "indexed" field does not exist:

Category Description	
Info 25 data successfully imported and 1 data failed imported.	
Warning Data 'Elements2/1/DisplayName,Element 1' skipped! Error column: Referenced by,current value is 'Element	ents2/1/DisplayName'.

### 13.4.4 Internationalization of a Project

In a project, any element that contains translatable text will be automatically added to the internationalization table. The "Referenced by" column shows the unique identification of the element, and the second column shows the text that needs to be translated. For example, in InoTouchPad, you can add a text field in Screen\_1 and change the text to "Using internationalization".

🖾 00001:Screen_1 ×	A Lang and Font ×	🖊 Project Language < >
0, , , , , , , , , , , , , , , , , , ,		<u>300, , ,   , , ,    400, , ,  </u>
General Properties Animations	Text 使用国际化	(

Then a new line for the text field is added at the end of the I18N table.

T All	- Baidu Transla	te		
	Referenced by	en_US	zh_CN	zh_TW
1	ScreenList/40000/title	System Alarms	系统报警	系統報警
2	ScreenList/40001/title	Communication Alarms	通讯	通讯
3	Groups/1/DisplayName	Operator group	操作员组	操作員組
4	Groups/2/DisplayName	Admin group	管理员组	管理員組
5	AlarmClasses/1/DisplayName	!	!	ļ
6	AlarmClasses/2/DisplayName	#	#	#
7	AlarmClasses/3/DisplayName	\$	\$	\$
8	Users/1/DisplayName	admin	admin	admin
9	ScreenScene/7/text	Use internationalization	使用国际化	

Now you can add translation in other languages for the text.

All	▼ Baidu Transla	ite		
	Referenced by	en_US	zh_CN	zh_TW
1	ScreenList/40000/title	System Alarms	系统报警	系統報警
2	ScreenList/40001/title	Communication Alarms	通讯	通讯
3	Groups/1/DisplayName	Operator group	操作员组	操作員組
4	Groups/2/DisplayName	Admin group	管理员组	管理員組
5	AlarmClasses/1/DisplayName	!	ļ	ļ
6	AlarmClasses/2/DisplayName	#	#	#
7	AlarmClasses/3/DisplayName	\$	\$	\$
8	Users/1/DisplayName	admin	admin	admin
9	ScreenScene/7/text	Use internationalization	使用国际化	使用國際化

T All

Baidu Translate

+

				1
	Referenced by	en_US	zh_CN	zh_TW
1	ScreenList/40000/title	System Alarms	系统报警	系統報警
2	ScreenList/40001/title	Communication Alarms	通讯	通讯
3	Groups/1/DisplayName	Operator group	操作员组	操作員組
4	Groups/2/DisplayName	Admin group	管理员组	管理員組
5	AlarmClasses/1/DisplayName	!	ļ	İ
6	AlarmClasses/2/DisplayName	#	#	#
7	AlarmClasses/3/DisplayName	\$	\$	\$
8	Users/1/DisplayName	admin	admin	admin
9	ScreenScene/7/text	Use internationalization	使用国际化	使用國際化

After that, the translation is ready for use. To preview the translation, go back to Screen\_1.

Project Edit Compiler Format Vi	-													_	_			
▤◸▨▤◓!◓๙ื४ଢि฿	🛄 (×) C	) [	± 🖪		也	<u>1</u>	0	문 글			en	US			•	æ	#	<b>11</b>
Project	₽×	-	00	001:	Scre	en_	1	×	7	Ana	alog	Alar	ms	>	. 1	۶	Pro	ject !
00001:Screen_1			0, _	, I, ,	++		100 <sub>1</sub>			<u> </u>	200		<u>.        </u>	_ <b>_</b>	300	١.	++-	
00002:Screen 2		100		· · · · · ·	· · ·	· · · ·	· · · ·	· · · ·	· · ·	· · · ·	· · ·	· · ·	· · · ·	· · · · ·	· · · ·	  	· · · ·	· · · ·
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Add Popup Screen		·  -20		· · · ·	· · ·	· · · ·	 	USI	ng		₩ · 4 ₫	1 1	· · · ·	· · · ·	· · · ·	· · · ·	· · · ·	· · · ·
🖾 00003:Screen_3		- -		· · · · · ·	· · ·	· · · ·	· · · ·	· · · ·	· · · · · ·	· · · ·	· · · · · ·	· · ·	· · · ·	· · · · ·	· · · ·	· · · ·	· · · ·	· · · ·
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		-			::	 	::	::	· · ·	::		· ·	· · ·	::	::	::	: :	

Pro	iject Edit Compiler Format \ 1 177 1782 🔛 🖶 🦘 🤭 💥 🛅 🗊	ew Options Help Tool Language Switch 前四〇 前民民生命 C - Hanguage Switch	
	Project 🗗 🛪	🖾 00001:Screen_1 🗙 A Lang and Font 🗙 И Project Language	< >
hoject	🕂 🖽 Add Screen	[0, , , , ] , , , , ] 1ρα, , , ] , , , , ] 2ρα, , , ] , , , , ] 3ρα, , , ] , , , , ] 4ρα, ,	
	- 🖾 00001:Screen_1	•	
View	🕀 🔳 Embed Screens	-	
Details	🕀 🔄 Popup Screens	Juse internationalization	· · ·
Ő	⊞ 📋 Templates(0/64)		
	🕀 🌐 Communication	ē	· · ·
	🗉 🍙 Data Service		· · ·
	🕀 🔥 Alarm Management		

On the tool bar, switch the language to en\_US, as shown below:

Switch the language to zh\_TW, as shown below:

+	6 🔯 🕒 🔂 🧑	χI		団へ	ו		X	24	ĽЦ	0	8	z	h_T\	N		•	<b>1</b>	∎ 🖺	Ð	Θ	1009	6		*	
	程	a x		画面	_1	×	А	语	言和	字体	×	Ų	3 ]	[程语	盲	×	Ð	国	示化	×					
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	⊡ 🗐 弾出画面		· · ·		· · · ·	· · ·	•••	· · · ·		· · ·			· · · ·	· · ·	· · · ·			· · · ·	· · ·	• •		• •	· ·	 	
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	- 🌐 通讯				· · · ·	· · · ·	· · ·	÷ 🖬 -				-6	· · ·	· · · ·	· · · ·		· · · ·	· · · · ·	· · · ·	: :	· · · ·		· · ·	· ·	:
			· · ·	· · · ·	· · · ·	· · · ·	· · · ·	· · · ·	· · · ·	· · · · · · ·	· · ·	· · ·	:::	· · · · · · ·	· · · · ·		· · · ·	· · ·	· · · ·	::	· · ·	· · ·	· · · ·	· ·	:
	- 🛱 周期		· · ·	· · · ·	· · · ·	· · · ·	· · · ·	· · · ·		· · · ·			: :	· · · ·	· · · · ·			· · ·	· · · ·		· · ·	· · ·	· · · ·	· ·	:
	□ 📲 变量(3/32)			:::	::		::	::		: : :			::	: : :	::		:::	::		::		· · · ·	· · ·	 	

γΡ g ۶g ıgı ŀ J

After the translation of a project is completed, you can specify a start language for the project. For example:

1. If the project is applied in Chinese mainland, set the start language to Simplified Chinese in HMI settings.

Project Edit Compiler View Options	Help Tool 2) 〇 🏙 民 民 🕁 小 🖓 🛔 🏯 📠 💼 US 🔹 🔹
Designet	
Image: Constraint of the second se	HMI Settings         Device Type       IT7070E(800x480)         Project Password       •         Start Language       en_US         Start Logo       default_logo.png         Default User       admin         Comment       -
	Screen Saver & Black Light Settings       Other Settings         Screen Saver Wait Time 3 min       Image: Screen Saver Wait Time 3 min         reen Saver Activated Screen        Undefined>         Black Light Wait Time 5 min       Image: Screen Saver Wait Time 5 min         Security Settings       Image: Screen Saver Wait Time 5 min         Local password       111111         Upload password       Show tooltips when tag has no limit         Show DownloadPage when mount SD/UDIsk Device         Adaptive Resolution(only for PC/IPC HMI
<ul> <li>⊕ ∲ Resource</li> <li>□ ∅ HMI Settings</li> </ul>	download password     Image: Comparison of Com
<ul> <li>■ Hotkey</li> <li>Scheduler</li> <li>Instalment</li> <li>Project version</li> <li>Printer Settings</li> <li>Project Settings</li> </ul>	Alarm Settings       OperationRecord Settings         Beep for unACK alarms continuely       Enable OperationRecord         Show AlarmWindow       Enable OperationRecord         SystemAlarm window is Closed Manually       Circular Record(full stop record when Unchecked)         Alarm sort by time       OperationRecord Counts         SystemAlarm Duration 2 s       Image: Circular Record Counts

2. If the project is applied in Taiwan, set the start language to Traditional Chinese in HMI settings.

Project Edit Compiler View Options Help Tool	
	ng and Font 🛛 🚯 I18N 🗙 🥓 Project Settings 🗙
Project       Image: Screens(1/256)         Image: Add Screen       Image: Screens(1/256)         Image: Add Screens       Image: Screens(1/256)<	and Font × Image in the second seco

3. If the project is applied in the USA, set the start language to English in HMI settings.

Project Edit Compiler View Options	Help Tool 0 🔾 🛗 🕞 🕞 🕁 🏠 📿 😤 📥 📥 en_US	•
ti Project 🗗 🛪	🖾 00001:Screen_1 🛛 🗙 🕢 Project Language	× A Lang and Font × 🗇 I18N × 🖌 Project Settings ×
Joint     Image: Constraint of the second seco	HMI Settings Device Type 1T7070E(800x480) Project Password Start Logo default_logo.png Default User admin Comment	<ul> <li>Start Screen Screen_1</li> <li>Start Language en_US</li> <li>Start Style en_US zh_CN</li> <li>Author zh_TW de_DE</li> </ul>
B      Construction     Data Service     Data Service     Alarm Management     Alarm Ma	Screen Saver & Black Light Settings         Screen Saver Wait Time       3 min         reen Saver Activated Screen <undefined>         Black Light Wait Time       5 min         Security Settings       111111         upload password       download password         upload history password      </undefined>	Other Settings         Beep for clicked         Cursor Visible         Draw Focus         Display zero when connection is off         Enable preRead         Show tooltips when tag has no limit         Show DownloadPage when mount SD/UDisk Device         Adaptive Resolution(only for PC/IPC HMI         LoginUserComboBox Enabled         Enable Script var block
<ul> <li>→ Hotkey</li> <li>→ Scheduler</li> <li>→ Instalment</li> <li>→ Project version</li> <li>→ Printer Settings</li> <li>→ Project Settings</li> </ul>	Alarm Settings          Alarm Settings         Beep for unACK alarms continuely         Show AlarmWindow         SystemAlarm window is Closed Manually         Separate Alarm Window         Alarm sort by time         SystemAlarm Duration         2 s	OperationRecord Settings  Enable OperationRecord  Circular Record(full stop record when Unchecked )  OperationRecord Counts 10000 \$

## 13.4.5 Translation Service

You can translate the project text to any other language through online machine translation.

Steps:

1. Select the target languages you want to use in Resources $\rightarrow$ Project Language.

Afrikaans(SouthAfrica)	English(Australia)	French(Canada)
Armenian(Armenia)	English(Belize)	French(Luxembourg)
Basque(Spain)	English(Canada)	French(Monaco)
Bulgarian(Bulgaria)	English(Ireland)	French(Switzerland)
Catalan(Spain)	English(Jamaica)	Galician(Spain)
Chinese(China)	English(NewZealand)	Georgian(Georgia)
Chinese(HongKong)	English(Philippines)	German(Germany)
Chinese(Macau)	English(SouthAfrica)	German(Austria)
Chinese(Singapore)	English(TrinidadAndTobago)	German(Liechtenstein)
Chinese(Taiwan)	English(UnitedKingdom)	German(Luxembourg)
Croatian(Croatia)	English(Zimbabwe)	German(Switzerland)
Czech(CzechRepublic)	Estonian(Estonia)	Greek(Greece)
Danish(Denmark)	Faroese(Faroelslands)	Gujarati(India)
Dutch(Netherlands)	Finnish(Finland)	Hebrew(Israel)
Dutch(Belgium)	French(France)	<ul> <li>Hungarian(Hungary)</li> </ul>
English(UnitedStates)	French(Belgium)	Icelandic(Iceland)

### 2. Select the target languages you want to use in Resources $\rightarrow$ Language and Font.

	Enabled	Name	DisplayName	<ul> <li>Number</li> </ul>	Font	Comment
1	$\checkmark$	English(UnitedStates)	en_US	1	Arial,16px	
2		Chinese(China)	zh_CN	2	Droid Sans Fallback,16px	
3		Chinese(Taiwan)	zh_TW	3	Droid Sans Fallback,16px	
4		Korean(RepublicOfK	ko_KR	4	Droid Sans Fallback,16px	
5		Japanese(Japan)	ja_JP	5	Droid Sans Fallback,16px	

3. Click Translate in Resources→Internationalization.

		Ref	erenced by	en_US	zh_CN	zh_TW	ja_JP			
1	Screer	🖙 Baidu	u Translate			? ×				
2	Screer									
3	Group		-			<b>•</b>				
4	Group	to en_US  appid 20200410000415853								
5	Alarm	арріо	2020041000041383	>>						
5	Alarm			0%						
7	Alarm				Start	Cancel				
3	Users/	,,								
9	ScreenS	cene/3/	′text	Button	按钮					
0	ScreenS	cene/3/	′onText	Text	文本					
1	Scroop	cene/4/	write							

Source language: The language to be translated.

Target language: The language into which the source language to be translated.



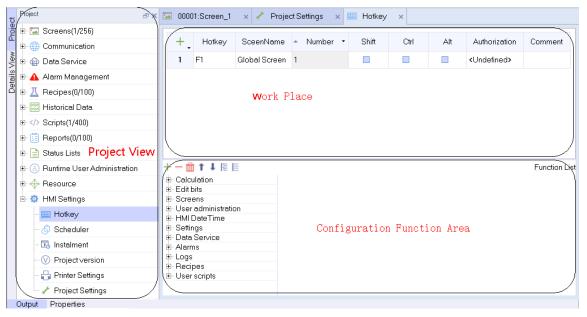
- You need network connection to use Baidu translation service.
- If you have set the target language, this will be skipped during translation.

# 14 HMI settings

# 14.1 Hotkeys

### 14.1.1 Shortcut Keys

The user can use the shortcut keys to configure shortcut key combinations, and bind a system function or script to a shortcut key. If a key is configured for both a global picture and a specific picture, this picture takes precedence over the global picture in the execution of the key. The shortcut key function is only applicable to AP70X series devices, and the shortcut key editing interface is as follows:

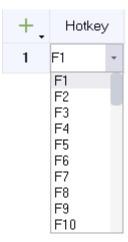


## 14.1.2 Hotkey Editor

In the hotkey editor, you can add hotkeys and bind functions from the function list to them. A hotkey can be a single key or a key combination. For the use of functions, see *"12.2 Use of System Functions"* on page 250.

The hotkey editor table has eight fields, which are Hotkey, Screen Name, Number, Shift, Ctrl, Alt, Authorization and Comment.

Hotkey includes common keys (except numbers) on a keyboard, as shown in the following figure:



**Screen Name** includes the global screen and all created screens (except the template) in a project. When you select the global screen, the hotkey is effective in all screens. If you select any other screen, the hotkey can only take effect on that screen.

S	ceenNa	ame Nu	ımber 🝷	Shift	Ctrl	- Alt
٧V	ndefine	d> - 1				
		▲ Id	Nar	ne		
	1	<ul> <li>-1</li> </ul>	<undefin< td=""><td>ned&gt;</td><td></td><td></td></undefin<>	ned>		
	2	◆ 1	Screen_	1		
	3	<b>4</b> 2	Screen_	2		
	4	♦ 3	Screen_	3		
	5	<b>4</b>	Screen_	4		
-	+					✓ ×

**Number** is the number of a hotkey.

Shift, Ctrl, and Alt are used to create key combinations.

Shift	Ctrl	🔺 Alt	

Authorization assigns the permission to execute the hotkey to a user group.

		NI	Info
	▲ Id	Name	Info
1	<ul> <li>-1</li> </ul>	<undefined></undefined>	
2	• 1	Administration	
3	2	Monitor	
4	♦ 3	Operate	

**Comment** describes the function of a hotkey.

Comment	
In the screen 1, when logging in as an administrator use	er, press the A+Shift key combination, and "variable" will increase by 1

### 14.1.3 Hotkey

- 1. In the project view, go to HMI Settings→Hotkey. Double-click Hotkey to open the hotkey editor.
- 2. Adding a custom hotkey

Click + to add a hotkey, for example, A, as shown in the following figure.

+.	Hotkey	SceenName	Number 🝷	Shift	Ctrl	Alt	Authorization	- Comment
1	А	Global Screen	1				<undefined></undefined>	

3. Configuring the effective screen

Click the Screen Name column to show the drop-down symbol . Click the symbol and select the screen in the drop-down list. You can also select Undefined, that is, Global Screen.

+.	Hotkey	SceenName	Number 🔻	Shift	Ctrl	Alt	Authorization	<ul> <li>Comment</li> </ul>
1	A	Screen_1	1				<undefined></undefined>	

#### 4. Configuring key combination

If you check Shift, you enable the A + Shift key combination.

+.	Hotkey	SceenName	Number 🝷	Shift	Ctrl	Alt	Authorization	- Comment
1	A	Screen_1	1	<b>~</b>			<undefined></undefined>	

#### 5. Configuring authorization

Authorization is configured in the Authorization field.

+.	Hotkey	SceenName	Number 🔹	Shift	Ctrl	Alt	Authorization	Comment
1	A	Screen_1	1	$\checkmark$			Administration	

#### 6. Configuring system function

In the workspace, select the configured hotkey, and bind a system function in the function list.

+ Hotkey	SceenName	Number	▼ Shift	Ctrl	Alt	Authorization	*	Comment	
1 A	Screen_1	1	<b>v</b>			Administration			
· — 🛗 ↑ ↓ 🗄	E							Function L	
- Calculation		E	1	IncreaseVal	ue				
DecreaseVa			·	T A- O- A			11-1 1		
- IncreaseValu				Tag(InOut)			Var_1		
- InverseLinea				Value			1		
LinearScaling	1			Reset			No		
- SetValue Random				nesei			INU	148	
- Edit bits									
- Screens									
- User administrati	on								
- HMI DateTime	on								
- Settings									
- Data Service									
Alarms									
- Logs									
- Recipes									
User scripts									

#### 7. Commenting

After defining the hotkey and configuring the system function, you should write comments about the function of the hotkey.

+.	Hotkey	SceenName	Number 🔹	Shift	Ctrl	Alt	Authorization	+ Comment	
1	A	Screen_1	1				Administration	n In screen 1, when logging in as an administrator user, press the A+Shift key combination, and "variable" will incr	

That is the complete configuration process of a hotkey. In the example above, when the runtime displays screen\_1, if you have logged in as an administrator and press A + Shift, the value of tag\_1 will be incremented by 1.

## 14.2 Scheduler

### 14.2.1 Scheduler Editor

In the scheduler, you can link a system function to a job. When an event occurs, the linked function is called. The scheduler is used to automatically execute jobs controlled by events. For the use of functions, see *"12.2 Use of System Functions" on page 250* for details.

In the scheduler editor, you can schedule jobs by configuring a list of functions for events. You can add jobs in the workspace. The added jobs are globally effective in the runtime.

-											
	oject Edit Compiler View Options He			10							
t	Project >>	ydfiect → X 🖾 00001:Screen_1 × 🖌 Project Settings × 🔗 Scheduler ×									
bioi	Pofect										
	Gommunication	+ Name	Event	Description		▲ Number ▼	Comment				
Details View	🗉 🍙 Data Service	1 Job_1	Once	Perform once, Date:2021-11-09, Time 09:39:01	once, Date:2021-11-09, Time 09:39:01						
tails	🖶 🛕 Alarm Management										
õ											
	⊕- 📴 Historical Data	Work Place									
	🗄 📄 Status Lists Project View	+					Function bist				
		Calculation     DecreaseValue	⊡1	DecreaseValue	DecreaseValue		)				
	🗈 💠 Resource	- IncreaseValue		Tag(InOut)	<no td="" value:<=""><td>•</td><td></td></no>	•					
	🖻 🧔 HMI Settings	- InverseLinearSI - LinearScaling		Value							
	- 📖 Hotkey	- SetValue		Reset	No						
	- 👌 Scheduler	- Random 									
	- 🖪 Instalment	. E Screens									
	-	User administration     HMI DateTime		Configuration Function	Area						
	– 🖶 Printer Settings						)				
	- 🥓 Project Settings	Alarms									
	Output Properties										

The workspace displays scheduled jobs, and the job list displays jobs, events, descriptions, numbers, and comments. You can assign labels and comments and select events. Write the scheduler's description of the job, and configure the function or script to be executed in the job in the configuration function area. In the workspace, you can configure multiple jobs. During operation, the system schedules these jobs according to job event conditions.

## 14.2.2 Event

When a scheduler event is triggered, the associated system function is executed immediately. The following table shows all scheduler events and their descriptions:

Туре	Trigger	Description	Restrictions
	Once	Triggered once when the system time reaches a certain time set by the user. When no timer is selected, the event is triggered when the time set by the user is reached. When there is a timer, the event is triggered when the system time reaches the time set in the timer.	-
	Every X seconds	Triggered every 0.1–60 seconds	-
	Every minute	Triggered every minute	-
	Every hour	Triggered once at the nth minute in every hour. The value of n ranges from 0 to 59. For example, if the time is set to 10, the event is triggered once in the 10th minute of every hour.	-
Time	Every day	Triggered once at a specific time (HH:mm) in every day. For example, if you set the time to 10:22, the event is triggered at 10:22 every day. If you have set a timer, the event is triggered when the time set by the timer is reached.	-
	Every week	Triggered once at a specific time (dddd HH: mm) in every day. For example,, if you set the time to Tuesday 10:22, the event is triggered at 10:22 on Tuesday every week.	-
	Every month	Triggered once at a specific time (d HH:mm) in every day. For example, if you set the time to 2 10:22, the event is triggered at 10:22 on the second day of the month.	-
	Every year	Triggered once at a specific time (MM-dd HH: mm) in every day. For example, if you set the time to 02-02 10:22, the event is triggered at 10:22 on February 2 every year. If you have set a timer, the event is triggered when the time set by the timer is reached.	-
	Screen switching	Triggered once at screen switching	This event can only be configured once for a project
	User switching	Triggered once when the user logs out.	This event can only be configured once for a project
	Login	Triggered once when the user logs in.	This event can only be configured once for a project
Event	Alarm buffer overflow	Triggered once when the alarm buffer overflows. The alarm buffer is limited to a specified size (512) and is not involved in configuration.	This event can only be configured once for a project
	Start	This event can only be configured once for a project	
	Screensaver	Triggered once after screensaver is activated	This event can only be configured once for a project

## 14.2.3 Job

1. In the project view, expand HMI Settings and double-click Scheduler to open the editor.

2. Adding or deleting jobs

Click + to add a job. Select the job you want to delete, and click - to delete it.

+.	Name	Event	Description	🔺 Number 🝷	Comment
1	Job_1	Once	Perform once, Date:2021-11-09, Time 09:39:01	1	
2	Job_2	Once	Perform once, Date:2021-11-09, Time 09:46:03	2	

• Configuring the event

Click the Event column and click to show the the drop-down list. You can select one as needed from the 14 events.



• Configuring job description

When creating a job, you need to configure the event description.

+.	Name	Event	Description	🔺 Number 🝷	Comment
1	Job_1	Once	Perform once, Date:2021-11-09, Time 09:46:44	1	
2	Job_2	×Seconds	Perform every 1 second(s)	2	
3	Job_3	1 min	Perform every minute	3	
4	Job_4	1 h	Perform every hour at 47 Minute	4	
5	Job_5	Daily	Perform every day Time 09:47	5	
6	Job_6	Weekly	Perform every week at day of week Tuesday , Time 09:47	6	
7	Job_7	Monthly	Perform every month, Date 09, Time 09:47	7	
8	Job_8	Yearly	Perform every year, Date 11-09, Time 09:47	8	
9	Job_9	Change screen	Perform when the current screen is changed	9	
10	Job_10	Change user	Perform when the current user is changed(during logon or logoff)	10	
11	Job_11	LogOn	Perform when logon success	11	
12	Job_12	Overflow alarm buffer	Perform if the alarm buffer overflows	12	
13	Job_13	Start up	Perform on runtime start up	13	
14	Job_14	ScreenSaver activated	ScreenSaver activated	14	

- When the event is "1 min", "change screen", "change user", "overflow alarm buffer", "start up" or "screensaver activated", the default description is used.
- To dynamically modify the configured startup time of a daily, annual, or one-time event at run time, select an internal tag as the timer. The tag value determines the start time of the job at run time. The tag must be of the Date Time type.
- For system events, only one job can be configured and executed on each HMI device.

+.	Name	Event		Description						<ul> <li>Numbe</li> </ul>	r •	Comment		
1	Job_1	Once	Perform	Perform once, Date:2021-11-09, Time 09:46:44				1						
2	Job_2	×Seconds	Perfor	Perform once						2				
3	Job_3	1 min	Date	Date 2021-11-09							3			
4	Job_4	1 h		Time 09:46:44							4			
5	Job_5	Daily	Timer	imer <undefined></undefined>						-	_			
6	Job_6	Weekly					ld		Name	Info	Da	ta type		
7	Job_7	Monthly	Perform		1	٠	-1	٧	ndefined>	<no address=""></no>	Int16			
8	Job_8	Yearly	Perform											
9	Job_9	Change screen	Perform	rform										
10	Job_10	Change user	Perform	form										
11	Job_11	LogOn	Perform											
12	Job_12	Overflow alarm buffer	Perform	Perform All Objects					× :	×				
13	Job_13	Start up	Perform	Perform on runtime start up					13	_//				
14	Job_14	ScreenSaver activated	Screen	Save	er activ	/ated						14		

#### • Comment

The comment is a description of the job.

### • Configuring system function

When an event occurs, the linked function is called.

+.	Name	Event	Description	▲ Number ▼ Comment
1	Job_1	Once	Perform once, Date:2021-11-09, Time 09:46:44	1
2	Job_2	×Seconds	Perform every 1 second(s)	2
3	Job_3	1 min	Perform every minute	3
4	Job_4	1 h	Perform every hour at 47 Minute	4
5	Job_5	Daily	Perform every day Time 09:47	5
6	Job_6	Weekly	Perform every week at day of week Tuesday , Time 09:47	6
7	Job_7	Monthly	Perform every month, Date 09, Time 09:47	7
8	Job_8	Yearly	Perform every year, Date 11-09, Time 09:47	8
9	Job_9	Change screen	Perform when the current screen is changed	9
10	Job_10	Change user	Perform when the current user is changed(during logon or logoff)	10
11	Job_11	LogOn	Perform when logon success	11
12	Job_12	O∨erflow alarm buffer	Perform if the alarm buffer overflows	12
13	Job_13	Start up	Perform on runtime start up	13
14	Job_14	ScreenSaver activated	ScreenSaver activated	14

十一 🔟 T 🕇 🌾 🖹			Function List
Calculation	81	DecreaseValue	
- IncreaseValue		Tag(InOut)	D1
- InverseLinearScl		Value	1
LinearScaling			
- SetValue		Reset	No
Random		·	·
🗄 Edit bits			
Screens			
🗄 User administration			
🕀 HMI DateTime			
. Settings			
Data Service			

ting 1 4 10 E Cutation   Cutation    Cutation    Cutation    Cutation    Cutation    Cutation    Cutation    Cutation    Cutation    Cutation    Cutation    Cutation    Cutation    Cutation    Cutation    Cutation     Cutation     Cutation      Cutation	L Job_1 Once Perform once, Date:2021-12-14, Time 14:51:54 1
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Image: Decress/Value       SetValue       Reset       Reset       Decress/Value       Decress/Value       Decress/Value       Decress/Value       Decress/Value       Decress/Value       Robert       Robert       Decress/Value       Robert       Decress/Value       Robert       Decress/Value       Robert       Decress/Value       Robert       Decress/Value       Robert	
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26	bata Šervice
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ipes	ccipes a

Select a job, select a function in the function list, and configure the tag and value. When an event occurs, the linked function is called.

## 14.3 Project Version

### 14.3.1 Project Version Editor

The project version is mainly used for the backup and recovery of a project. Up to 16 projects can be backed up.

The project version editor is as follows. The editor table has six fields, namely name, number, date and time, backup, restore and comment:

Pupect	🖾 00001:Screen_1	🗙 🥓 Project Se	ettings 🗙 👌 Scheduler	🗙 🕐 Project	tversion ×	
`⊕- 🖾 Screens(1/256)						
⊕ ⊕ Communication	, <sup>≁</sup> , <sup>Name</sup>	▲ Number ▼	DateTime/Size	Backup	Restore	Comment
🗉 🍙 Data Service	1 Version_1	1	2021-11-09 09:56:01/0KB	Backup	Restore	
🕀 🗛 Alarm Management						
⊕ <u>⊼</u> Recipes(0/100)						
🖭 时 Historical Data						
⊕  Scripts(0/400) Project View		Work PI	ace			
E- C Reports(0/100) Area						
🗉 📄 Status Lists						
⊕ ③ Runtime User Administration						
🗈 🔶 Resource						
🖻 🧔 HMI Settings						
- 🔤 Hotkey						
- 👌 Scheduler						
- 🖪 Instalment						
Printer Settings						
Project Settings						

Name: the version of the project backup.

**Number:** the number of the project backup.

Date and time: the time when the project was backed up.

Backup: Click the Backup button to back up the project.

**Restore:** Click the Restore button to restore the project backup.

**Comment:** description of the project backup.

### 14.3.2 Using Project Version Management

During project configuration, when some independent functions are configured, and the modification is huge, it is often necessary to back up the project. If later configuration is inappropriate or need to be re-edited, you can go back to a backed up version.

- 1. Expand HMI Settings and double-click Project version to open the editor.
- 2. Add a backup/restore entry.

Click +.

+.	Name	🔺 Number 🝷	DateTime/Size	Backup	Restore	Comment
1	Version_1	1	2021-11-09 09:56:01/0KB	Backup	Restore	

3. Click the Backup button in the Backup button to back up the current project, and you will find that the Restore button is enabled.

+.	Name	🔺 Number 🝷	DateTime/Size	Backup	Restore	Comment
1	Version_1	1	2021-11-09 09:59:49/18KB	Backup	Restore	

4. After backup, in the subsequent configuration, if you need to re-edit a configured function module, just find the backup/restore entry created last time in the project version workspace, and click the Restore button in this entry.

## 14.4 Project Settings

Project settings include HMI settings, screen saver and backlight settings, alarm settings, operation record settings, other settings and security settings. The setting page is as follows:

Project 🗗 🛪	🖾 00001:Screen_1 🛛 💉 🥓 Project Settings 🛛 🛪	
o Project ♂×	HMI Settings	
Communication	Device Type IT7070E(800x480)	Start Screen_1
	Project Password	Start Language en_US
📱 🕀 🗚 Alarm Management	Start Logo default_logo.png	Start Style <undefined></undefined>
■ <u> </u>	Default User admin	- Author 10004950
Historical Data	Comment	
Scripts(0/400)		
	Screen Saver & Black Light Settings	Other Settings
🗈 📄 Status Lists	Screen Saver Wait Time 3 min	Beep for clicked      Cursor Visible
🗉 🙆 Runtime User Administration	reen Saver Activated Screen	Cursor visible     Draw Focus
⊕ 🚸 Resource	Black Light Wait Time 5 min	Display zero when connection is off
🖻 🤹 HMI Settings		Enable preRead
Hotkey	Security Settings	Show tooltips when tag has no limit
- 🕤 Scheduler	Local password 111111	✓ Show DownloadPage when mount SD/UDisk Device
Project version	upload password	Adaptive Resolution(only for PC/IPC HMI
- 🕞 Printer Settings	download password	LoginUserComboBox Enabled
🖌 Project Settings	upload history password	Enable Script var block
	Alarm Settings	OperationRecord Settings
	Beep for unACK alarms continuely	
	✓ Show AlarmWindow	Enable OperationRecord
	SystemAlarm window is Closed Manually	✓ Circular Record(full stop record when Unchecked )
	Separate Alarm Window	
	Alarm sort by time SystemAlarm Duration 2 s	OperationRecord Counts 10000 ¢
	SystemAlarm Duration 2 s	

### **HMI** settings

Device Type: You can choose the device type used in the project here.

Project Password: To improve the security of the project, you can encrypt the project. If you set the password, you must input the password before editing the project.

Start Logo: You can choose the boot image to be displayed when the device is started. Note: You must also check "boot logo" in the Download window when you download the project.

Default User: Default user on the device.

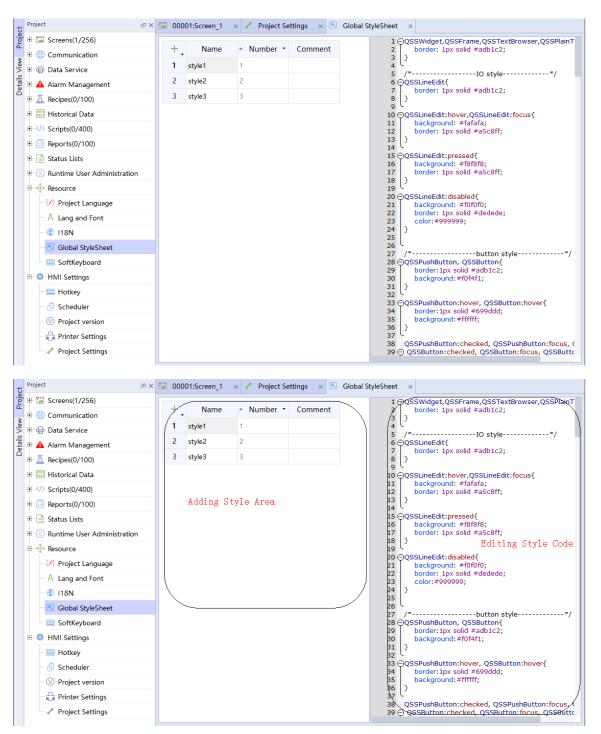
HMI Settings											
Device Type	T7070E(800x480	)		Ŧ	Start Screen	Screen_	1				*
Project Password				Ŧ	Start Language	en_US					+
Start Logo	default_logo.png			•	Start Style	<undefi< th=""><th>ned&gt;</th><th></th><th></th><th></th><th>•</th></undefi<>	ned>				•
Default User	admin			÷	Author	t18723					
Comment							_			_	
	Transfer-Do	wnload							1	ନ ।	23
Screen Saver & Blac	connect										
Screen Saver	USB	*	127		. 0		0		1		
reen Saver Activate	ed password:										
Black Light	Wi										
Security Settings											
Local pas	sv				0%						
upload pas	sv 🗹 sync date	time 🗵	boot logo		clear logs 🗌 clea	ar rw 🗌	retain r	recipe 🗌 I	retain us	ser d	ata
download pas	sv 🗹 retain Inst	alMent	close dialo	og	when execute su	ccessful	у	Do	wnload	Can	cel
upload history pas	sv										

Author: The project creator.

Start Screen: The initial screen displayed after the runtime starts.

Start Language: The default language of the runtime.

Start Style: The global style initially applied after the runtime is started. InoTouchPad provides three global styles, which you can edit in Resource $\rightarrow$ Global StyleSheet, as shown in the following figure:



The global styles apply to IO fields, buttons, text, progress bars, drop-down list controls, scroll bars, tables, and table headers.

You can add and edit new styles in the page and select one of them as the start style.

For example, add a recipe view, an IO field and a button to the screen. The following figure shows the appearance of the screen before the global style is applied:

Recipe name:	Number
Data record name:	Number
Entry name	Value
	<b>1</b>
0000000000	Button

Then, select the global style style1:

Project 🗗 🛪	🖾 00001:Screen_1 🗙 🥓 Project Settings 🔿	× 🔣 Global StyleSheet 🛛 ×
🕀 🖾 Screens(1/256)	HMI Settings	
🗉 🌐 Communication	Device Type IT7070E(800x480)	Start Screen 1
🗈 🝙 Data Service	Project Password	Start Language en US
🗈 🛕 Alarm Management	Start Logo default_logo.png	Start Style style1
	Default User admin	Author
🛨 🛄 Historical Data	Comment	
	Screen Saver & Black Light Settings	Other Settings
🕀 📄 Status Lists	Screen Saver Wait Time 3 min	Beep for clicked
🗉 💿 Runtime User Administration	reen Saver Activated Screen <undefined></undefined>	Cursor Visible
🖻 🚸 Resource	Black Light Wait Time 5 min	Draw Focus     Display zero when connection is off
- 🕢 Project Language		Enable preRead
A Lang and Font	Security Settings	Show tooltips when tag has no limit
- 🚯 I18N	Local password 111111	✓ Show DownloadPage when mount SD/UDisk Device
🔣 Global StyleSheet	upload password	Adaptive Resolution(only for PC/IPC HMI
SoftKeyboard	download password	✓ LoginUserComboBox Enabled
🖻 🤹 HMI Settings	upload history password	Enable Script var block
- 📖 Hotkey	Alarm Settings	OperationRecord Settings
- 🕤 Scheduler	Beep for unACK alarms continuely	
<ul> <li>Project version</li> </ul>	✓ Show AlarmWindow	Enable OperationRecord
Printer Settings	SystemAlarm window is Closed Manually	Circular Record(full stop record when Unchecked )
🥓 Project Settings	Separate Alarm Window	
	Alarm sort by time	OperationRecord Counts 10000 ‡
	SystemAlarm Duration 2 s	

Style1 is applied to the objects on the screen:

Recipe name:		Number:
Data record name:		Number:
Entry name	Value	
		<b>1</b>
00000000000 · · ·	Bu	utton

Comment: Description of the project.

#### Screen saver & backlight settings

Screen Saver Wait Time: The time before the screen saver is activated when there is no operation. The default is 3 minutes. Set it to 0 to disable the screen saver.

Screen Save Activated Screen: The screen to be switched to when the screen saver is activated.

Backlight Wait Time: The time before the backlight is off when there is no operation. The default is 5 minutes. Set it to 0 to never turn off the backlight.



The wait time for the screensaver and the wait time for turning off the backlight are independent of each other, and both start when no operation is detected on the system. If the wait time for turning off the backlight is less than that for the screensaver, the backlight will be turned off first, so you cannot see the screensaver.

#### **Alarm settings**

Beep for unACK alarms continuously: If this is checked, when there is an alarm, the buzzer will continue to sound to remind the user that there is a fault. By default, the option is not selected.

Show Alarm Window: When this is checked, the system alarm window will pop up when there is a system alarm. By default, the option is selected.

Close System Alarm Window Manually: This is available when Show Alarm Window is checked. If this is checked, the operator needs to manually close the system alarm window. If not, the system alarm window will be automatically closed according to the system alarm duration. By default, the option is selected.

System Alarm Duration: This is available when Close System Alarm Window Manually is not checked. The system alarm window is automatically closed when this time is reached. The default is 2 seconds.

Separate Alarm Window: If this is checked, a separate communication alarm window will pop up if there is a communication alarm.

Alarm sort by time: when this is checked, alarms are sorted by time.

#### **Operation record settings**

Enable Operation Record: When this is checked, the runtime will record the operations of the operator.

Circular Record: If this is checked, when the number of records reaches the operation record count, earlier records will be erased. If this is not checked, the recording will stop after the number of records reaches the operation record count.

Operation Record Count: This is available when Circular Record is checked. It is the total number of operation records.

#### Other settings

Beep for Clicking: If this is checked, the buzzer will sound when the operator operates in the runtime. If not, there is no sound.

Cursor Visible: When this is checked, the runtime will display the cursor. If not, the cursor is not displayed.

Draw Focus: If this is checked, dotted border will be drawn on a control when it is focused. If not, no border is drawn.

IT7PC/AP701 Adaptive Resolution: It is only available when the device type is IT7PC or AP70X series. If this is checked, the interface will be adapted to the screen resolution.

#### **Security Settings**

Local Password: The password required to access the HMI setting page.

Upload Password: The password required to upload a project.

Download Password: The password required to download a project or firmware.

Upload History Password: The password required to upload historical data.

## 14.5 Installment Payment

### 14.5.1 Basic information

For customers who want to try our products, we offer an installment payment solution. This solution also benefits HMI manufacturers when they want to extend the trial period, maintain multiple clients in a project, or customize the screen displayed after unlocking. Major features:

- 1. Up to 10 customers can be created in a project.
- 2. Three installment payment methods:
  - a. Static password
  - b. Variable password
  - c. Dynamic password
- 3. Customizable pop-up screen after unlocking.
- 4. Option to keep the original installment information during downloading.
- 5. Trigger the next installment in advance.
- 6. Display remaining time before next installment.
- 7. Unlocking with the administrator password.

### 14.5.2 Overview

1. The installment page is as follows:

🖾 00001:Screen_1 x 🗔 Instalment x 🖼 Tag Group_2 x
enable       AddCustomer       DeleteCustomer       DynamicUnlock         CustomUnlockDialog       Cundefined>       •         Custom Password Tag       Cundefined>       •         Custom Password Tag       Custom Instal Tag       Custom Date Tag
Zhangsan Admin password  batch Use Variable Password
+ Name Id DateTime Password Comment

#### 2. Using constant password

In the constant password mode, installment time and password are fixed, and the result depends on configuration design.

a. You can change the customer name

As shown in the following figure, double-click the customer name tab to pop up the customer name input window and enter "Tom" to modify the name:

_tab_*	1	Clie	ent tab						
			word 🗕						
	bati	ch	Use Co	nstant	Password	*			
-	+	Ν	lame	•	ld	DateTime	Password 🔹	Comment	
			Inp Inp	ut Nar	ne ?	×			
			Name						
				OK	Can	cel			

zhangsan					
Admin password 🔹					
batch Use Cor	nstant Password	-			
+ Name	🗕 ld	DateTime	Password 🔹	Comment	

b. Using constant password

Select "Use Constant Password".

c. Creating an installment

igsan min p batcł	assword 0	tant Password	•		
+.	Name	ld	DateTime	Password 🔹	- Comment
1	Stage1	11	2021-11-23 00: <b>I</b>	ptpmxufihmtd828p	Please enter password to unlock syste
2	Stage2	12	2021-11-24 00: <b>I</b>	njtwcx8s3sy2xwq6	Please enter password to unlock syste
3	Stage3	13	2021-11-25 00: <b>I</b>	rqkg17j6g3osgmqg	Please enter password to unlock syste
4	Stage4	14	2021-11-26 00: <b>I</b>	i6of531brd24rmtd	Please enter password to unlock syste
5	Stage5	15	2021-11-27 00:1	kftixke376eeylod	Please enter password to unlock syste
6	Stage6	16	2021-11-28 00:1	06wj2qvwcfhjrr0j	Please enter password to unlock syste

As shown in the above figure, you can create new installment through the "Batch" button or the "+" button in the upper left corner of the table. Among them, the administrator password of the customer can be modified, and the "time" and "password" of a certain period can be selected for modification.

d. Enabled

After the new installment is completed, you can check "Enable" in the upper left corner of the page, and download the project to the HMI.

3. Using variable password

angsan	Lisi tab_2	tab_3			
Admin pa	assword 0				
batch	Use Varial	ole Password	•		
+.	Name	ld	DateTime	Password 🔻	<ul> <li>Comment</li> </ul>
1	Stage1	6	<undefined></undefined>	<undefined></undefined>	Please enter password to unlock system
2	Stage2	7	<undefined></undefined>	<undefined></undefined>	Please enter password to unlock system
3	Stage3	8	<undefined></undefined>	<undefined></undefined>	Please enter password to unlock system
4	Stage4	9	<undefined></undefined>	<undefined></undefined>	Please enter password to unlock system
5	Stage5	10	<undefined></undefined>	<undefined></undefined>	Please enter password to unlock syster

As shown in the above figure, add a new customer "Alfred", select "Use Variable Password", and create new installments. According to the newly created 5 periods, create 5 tags of DateTime and String types in the tag group, and assign an initial value to them, as shown in the following figure.

🖾 0000	11:Screen_1 ×	🗔 Instalment	× ٵ Tag 🤇	Group_2 ×					
+.	Name 🝷	Number 🝷	Connection Id	🝷 Data type	Length	Array count	Address 🔹	Acquisition cycl	Acquisition mol
1	LW 0	1	<internal tag=""></internal>	DateTime	8	1	LW 0	100ms	Cyclic on use
2	LW 1	2	<internal tag=""></internal>	DateTime	8	1	LW1	100ms	Cyclic on use
3	LW 2	3	<internal tag=""></internal>	DateTime	8	1	LW 2	100ms	Cyclic on use
4	LW 3	4	<internal tag=""></internal>	DateTime	8	1	LW 3	100ms	Cyclic on use
5	LW 4	5	<internal tag=""></internal>	DateTime	8	1	LW 4	100ms	Cyclic on use
6	LW 5	6	<internal tag=""></internal>	String	10	1	LW 5	100ms	Cyclic on use
7	LW 6	7	<internal tag=""></internal>	String	10	1	LW 6	100ms	Cyclic on use
8	LW 7	8	<internal tag=""></internal>	String	10	1	LW 7	100ms	Cyclic on use
9	LW 8	9	<internal tag=""></internal>	String	10	1	LW 8	100ms	Cyclic on use

After that, bind the time and password, and the administrator password can be modified, as shown in the following figure. When the HMI is running, you can change the value of a bound tag. Note that the unlocked stage can be adjusted by modifying the time tag, but after all the stages are unlocked, modifying the time will not trigger installment again.

hangsan	Lisi tab_2	tab_3							
Admin password 0									
batcł	n Use Varia	able Password	*						
+.	Name	ld	DateTime	Password 🝷	<ul> <li>Comment</li> </ul>				
1	Stage1	6	LW 0	LW 5	Please enter password to unlock system				
2	Stage2	7	LW 1	LW 6	Please enter password to unlock system				
3	Stage3	8	LW 2	LW 7	Please enter password to unlock system				
4	Stage4	9	LW 3	LW 8	Please enter password to unlock system				
5	Stage5	10	LW 4	LW 13	Please enter password to unlock system				

4. Using dynamic password

Zha	ingsan	Lisi	Wangwi	u ta	ab_3				
A	dmin pa batch		• e Dynami	c Pa:	ssword	🔹 Dynar	] nic Chec	k Password	
	+.	Nε	ıme	•	ld	Date	Time	Password	• Comment
	1	Stage1		3		<undef< td=""><td>ined&gt;</td><td>skak</td><td>Please enter p<b>l</b></td></undef<>	ined>	skak	Please enter p <b>l</b>
	2	Stage2		4		<undef< td=""><td>ined&gt;</td><td>shake</td><td>Please enter p<b>l</b></td></undef<>	ined>	shake	Please enter p <b>l</b>

As shown in the above figure, dynamic password is similar to variable password, but you only need to configure time tags, and the installment expiration page is shown in the following figure. The

dynamic check password is for password protection of the password generator. It can contain two numeric or alphabetic characters.

		Please input passwo	ord unlock system	
Stage1	End time	2021-12-01 09:55:19	Password	
Random code	QDEwRkUxM	1		
				Unlock

After the dynamic password expires, a random code will be generated. You can click the "Dynamic Unlock" button in the configuration page to enter the random code and dynamic check password as shown in the following figure. Click the Check button. After check, you need to set the delay. If you select Delay, you need to enter the delay days (1-99 days). After that, click the "Generate Password" button, and the generated dynamic password can be input into the password input box of the unlocking screen, thus achieving online extension.

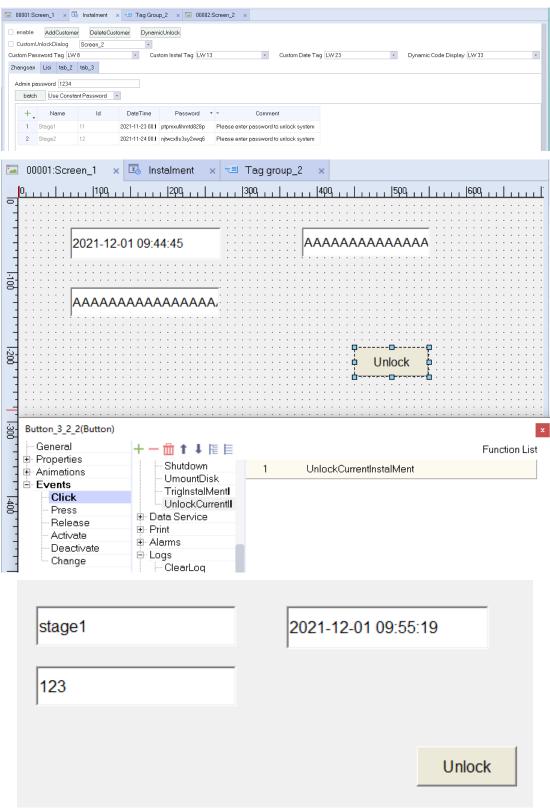
DynamicPassworGenerator	? ×
PassWordGenerator	
Please Input Dynamic Check Password:	
Please Input RandomCode:	Check
MachineType Delay No Delay DelyaDay Method	•
PassWordGenerate	

5. Customizing the unlocking screen

If you are not satisfied wit the installment unlocking screen coming with the system, you can customize the unlocking screen, as shown in the following figure.

a. First check Custom Unlock Dialog, select a pop-up screen which will pop up when the installment arrives, and then set the custom password tag, custom instal tag and custom date tag, which are all of string type. The password tag is used to obtain the input password after the installment arrives, the installment tag is used to display the name of the installment after the installment arrives, and the date tag is used to display the date of the installment after the installment arrives.

b. As shown in the following figure, add three string IO fields in the pop-up screen, bind a tag to them, and add a button and bind the UnlockCurrentInstalMent function to it. Remember to set the pop-up screen to modal type.



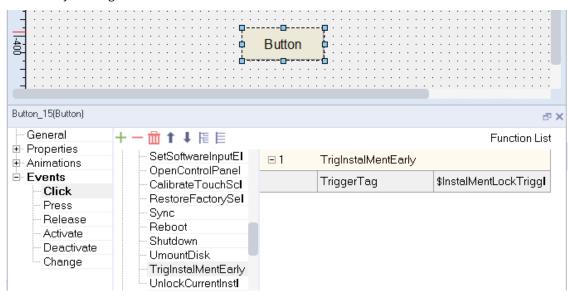
6. Unlocking with the administrator password

In addition to the installment password, you can also enter the administrator password to unlock. After you enter the administrator password, the following dialog box will pop up, and you can choose to unlock the current stage or unlock all stages.

	unlock		
Stage 1	☑ unlock current i ☑ unlock all install		0
Random c	ОК	Cancel	
			Unlock

#### 7. Trigger the installment in advance

You can trigger the next stage in advance as shown in the following figure. The button is bound to the system function TrigInstalMentEarly, and the tag is bound to the system tag \$InstalMentLockTrigger. If there are multiple stages, it is necessary to trigger the next stage in advance by clicking the button.



8. Remaining time of next installment

As shown in the following figure, you can use \$InstalMentLockRemainTime to display the remaining arrival time for the next installment (in minutes).

Number 10 Field_2(Nur	00000000000000000000000000000000000000		
General Properties Animations Events	Type Mode_Input/output	Format Format type Dec Shift decimal point 0 String field length 16 Leading zero	¥ 4 7

#### 9. Creating multiple customers

As shown in the following figure, you can maintain multiple customers by adding or deleting. The customer selected during interface configuration is the installment downloaded to the HMI. The "tab\_9" customer is effective at this time in the following figure.

🗹 enable	AddC	Customer	Delete	Customer	Dyn	amicUnl	ock			
CustomUr	ilockDi	alog	<b>&lt;</b> Undefined	>	-					
Custom Password Tag <undefined> Custom Instal Tag <undefined> -</undefined></undefined>										
Zhang san	Li si	Wangwi	u tab_3	tab_4	tab_5	tab_6	tab_7	tab_8	tab_9	

#### 10. Retaining installment

As shown in the following figure, you can decide whether to retain the previous installment during downloading. If it is retained, the installment configured in the project is ignored. If not, the previous information is overwritten by the downloaded installment.

Transfer-Download				?	×
connect					
USB 🔹	127	. 0 .	0	. 1	
		0%			
🗹 sync date time 🗌 b	ootlogo 🗌 clear	logs 🗌 clear iw	🗌 retain recipe	e 🗌 retain user (	lata
🗹 synctime zone 🗹 r	etain InstalMent 🗹	close dialog when	execute success	fully ownloa Ca	ncel

# 15 Report

# 15.1 Basic information

In applications, Most monitoring systems need to save and analyze the data collected by data acquisition equipment, and print a data report. The data report is a formated report containing analyzed data, which can be used for recording and analyzing the status of a monitored system object.

Data report is essential in the industrial control system, and is the final output of the whole system. Common report forms include real-time data report and historical data report (shift report, daily report and monthly report), which serve the following purposes:

- Displays static data, real-time data, historical records in a historical database and their statistical results;
- Displays all type of reports quickly;
- Easy query and statistics;
- Modifies data and write the table data into the specified variable;
- Displays multipage reports.

For the creation and use of projects, see the sample projects: "Report\_Historical Data Display" and "Report\_Real-Time Data Display".

# 15.2 Creating a Report

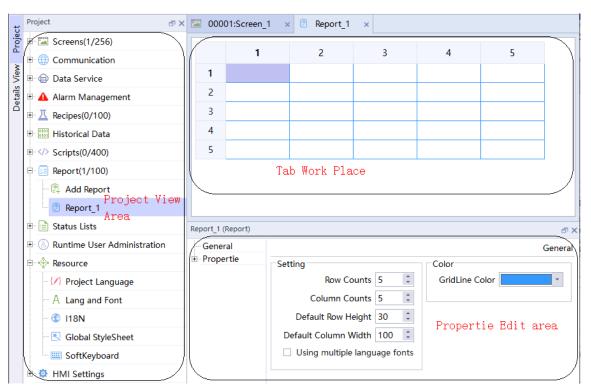
In the project tree, double-click Report->Add Report to create a report as shown in the following figure:

t	Project 🗗	< 🖾 000	01:Screen_1 >	Report_1	×			
Project	🕀 🖼 Screens(1/256)			2	2		F	
	🗉 🌐 Communication		1	2	3	4	5	
\_ie	🕀 🝙 Data Service	1						
Details View	🗉 🗛 Alarm Management	2						
ă		3						
	Historical Data	4						
		5						
	🖃 🧾 Report(1/100)							
	- 🛱 Add Report							
	🕖 Report_1							
	🕀 📄 Status Lists							

# 15.3 Properties and Basic Settings

## **15.3.1** Report Properties

In a report, you can set report properties, report cell properties, and report history cell properties. The report property setting page is as follows:



Report property setting:

Report_1 (Report)		ē×
General		General
	Setting	Color
	Row Counts 5	GridLine Color
	Column Counts 5	
	Default Row Height 30 🗘	
	Default Column Width 100 🗘	
	Using multiple language fonts	
	Column Counts 5 Default Row Height 30 Default Column Width 100	GridLine Color

• To enter the report property setting page: You can click the area outside the report table to display the setting page. You can also right click the table and select Show Table Property, as shown in the following figure:

	1	2	3	4	5
1			Span		
2			Divison		
3			Insert Row(s)		
4			Delete Row(s)		
5			Insert Column(s)		
			Delete Column(s)		1
			multiCopy	•	
			Shq`y Table Prope	rty	

• See the following table for the detailed description of the General property settings:

	Name	Description
	Row Count	The number of rows of the report table, ranging from 1 to 40, and the default is 5
	Column Count	The number of column of the report table, ranging from 1 to 30, and the default is 5
Settings	Default Row Height	The default row height of the report table, ranging from 10 to 200.
	Default Column Width	The default column height of the report table, ranging from 10 t0 200.
	Using multiple language fonts	Check this to use different fonts for different languages in a cell. (No matter whether it is checked or not, different cells can have different font settings)
Color	Gridline Color	The border color of the table

• Comment: You can add comments for the report.

## 15.3.2 Property Settings of Report Cells

The real-time data report is to display and print the value of current data object according to a certain report format (user configuration) in real time, which is a reflection of instantaneous quantity. Real-time data reports consist of ordinary cells. Report normal cell property setting is the setting of the selected cell property (which can be one or more cells).

• Click the selected cell to enter cell property editing. The editing interface is as follows:

Report_1 (Report)		ъ×
General		
Expression	□ Format	
	Enable DecimalPoint Format Enable OnOffText	
	DecimalPoint 0   On Text	
	Off Text	
	DateTime 2018-09-08 01:30:12 🔹	

• See the following table for the detailed description of the General property settings:

	Name	Description
	Enable Decimal Point Format	When this option is checked, the decimal point can be edited. In the decimal point, you can set the display decimal number specified by the cell display floating point number. The decimal point setting range is 0-13, and the default value is 0. In runtime, when a cell displays a floating-point number, the output is displayed in the specified decimal place.
Format	Enable OnOff Text	When this option is checked, the ON and OFF text can be edited, and the text corresponding to the status can be customized in the ON and OFF text editing box. In runtime, when the cell value is 0, the off text is displayed, and when the cell value is not 0, the on text is displayed.
	Date Time	You can choose the time display format in the drop-down list. In the runtime, the cell date and time will be displayed in the user-specified format.
	Enable Edit	When this option is checked, you can edit the selected cell in the runtime. If it is not checked, the cell is read only.
Content of cell	Enable Write Tag	When this option is checked, you can choose to write tags. In the runtime, you can write the values displayed by cells to the specified tags.

#### • Expression property setting:

Report_1 (Report)			तः ) र
General Expression	Relational <ul> <li>Relational Expression</li> </ul> Var_1		Advance Calculate
	Simple Calculate sum	Ŧ	Using RxxCyy can be specified to participate in the calculation of the cell is located xx Row yy column
	Start Position:   1   2   Row   1     End Position:   1   2   Row   1	Col	Check

### 1. Relational Expression:

If the user selects an relational expression, the cell is output according to the value of the expression, which can be a single tag (equivalent to binding a tag) or a single constant:

Relational Expression	<ul> <li>Relational Expression</li> </ul>	
Var_1	 10	

It can also be an expression of tag and tag, tag and constant, or constant and constant:

<ul> <li>Relational Expression</li> </ul>	Relational Expression	Relational Expression	
Var_1+Var_2	 Var_1+2	 1+2	

#### 2. Simple Calculation:

If the user selects Simple Calculation, the cell displays the calculation result. Simple calculation provides four operation modes, as shown in the following figure:

sum	*
sum	
average Value	
Max Value	
Min Value	

They are sum, average, max and min.

Cell configuration is as follows:

Simple Calc	ulate					
sum						•
Start Position:	1	*	Row	1	*	Col
End Position:	1	*	Row	1	*	Col

With the setting in the above figure, the cells involved in the calculation are R1C1, R1C2, R2C1 and R2C2, where "R" means "row" and "C" means "column".

#### 3. Advanced Calculation

If the user selects Advanced Calculation, the cell displays the calculation result.

For example, to add the value of the first cell of the first row to the value of the second cell of the first row, and display the result in the third cell of the first row, you can:

	1 2	3	4	5	
1					
2					
3					
4					
5					
eport_1 (Report General Expression	Relational				
	<ul> <li>Relational Expression</li> </ul>	ו 	Advance	ce Calculate	
	Simple Calculate		participa	g RxxCyy can be te in the calculat ocated xx Row yy	ion of the ce
	Start Position: 1 ‡	Row         1         ‡         Co           Row         1         ‡         Co		Check	

Select the cells in the third column of the first row and enter the expression R1C1+R1C2.

The rows are indicated with "R", and the columns are indicated with "C", which are case insensitive. The index starts from 1, for example, R1C1 represents the first cell of the first row.

For rational expression or advanced calculation, you can check the expressions through the Check button after editing. If the expressions are wrong, an error message will be output in the status bar, as shown in the following figure:

🗉 👍 Alarm Management	Report_1 (Report)		
	General		
∎. 0001 Historical Data	Expression	Relational	
⊕ > Scripts(0/400)		<ul> <li>Relational Expression</li> </ul>	
🖃 📴 Reports(1/100)		Var_1+A	
- 🖳 Add Report		Simple Calculate	
🕖 🖲 Report_1		sum	Ψ.
🕀 📄 Status Lists		Start Position: 1 🗘 Row 1	0 Col
⊕ ⑧ Runtime User Administration		End Position: 1 2 Row 1	0 Col
🖻 🚸 Resource			
Output Properties			
'A' is unknown!		cpu: 0% mem:1484	412 KB 1

#### 4. Supported operators:

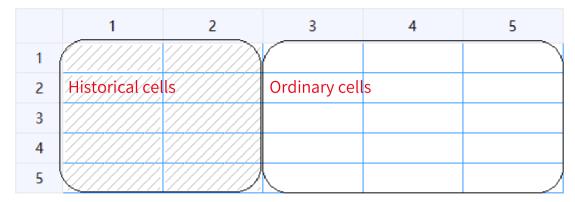
+-\*/: four arithmetic operators

(): brackets

pow(x,y): power function
sqrt(): square root function
Sin, cos, tan: trigonometric functions

## 15.3.3 Property Settings of Report History Cells

Historical data report is to extract and save data records from historical database, and display and print historical data in a certain format. The historical data report is composed of historical cells. After selecting ordinary cells, click Group  $\blacksquare$   $\blacksquare$   $\blacksquare$   $\blacksquare$   $\blacksquare$   $\blacksquare$   $\blacksquare$   $\blacksquare$ , and the selected cells will become historical cells, and the historical cells will be shaded, as shown in the following figure:



History cells are mainly used to display historical data of tags in group records. To display the specified tag in the report, you need to first add the tag to the group record. Here, take the group record in tag group 2 as an example:

1. First, you need to enter the workspace of tag group 2 and right click the table area.

+	Name	•	Number •	Conne	ction ld	Dat	a type	Length	Arr	ay count	Address	- Acquisition
1	Var_1	1		<intern< td=""><td>al tag&gt;</td><td>Int16</td><td></td><td>2</td><td>1</td><td></td><td>LW 0</td><td>100ms</td></intern<>	al tag>	Int16		2	1		LW 0	100ms
2	D1	2		<intern< td=""><td>nal tag&gt;</td><td>Int16</td><td></td><td>2</td><td>1</td><td></td><td>LW 0</td><td>100ms</td></intern<>	nal tag>	Int16		2	1		LW 0	100ms
3	Var_2	4		<intern< td=""><td>nal tag&gt;</td><td>Int16</td><td></td><td>2</td><td>1</td><td></td><td>LW 0</td><td>100ms</td></intern<>	nal tag>	Int16		2	1		LW 0	100ms
4	Var_3	5		<intern< td=""><td>nal tag&gt;</td><td>Int16</td><td></td><td>rt after the</td><td></td><td>ow</td><td>LW 0</td><td>100ms</td></intern<>	nal tag>	Int16		rt after the		ow	LW 0	100ms
							✓ Ince	ert at the end				
5 2 (Ta	Var_4	6		<intern< th=""><th>nal tag&gt;</th><th>Int16</th><th></th><th>y Group Pro</th><th>-</th><th></th><th>LW 0</th><th>100ms</th></intern<>	nal tag>	Int16		y Group Pro	-		LW 0	100ms
2 (Ta	gs)	6		< Intern	nal tag>	Int16			-		LW 0	100ms Gen
2 (Ta Gen Prop	gs) eral perties	6	General	<intern< td=""><td>nal tag&gt;</td><td>Int16</td><td></td><td>v Group Pro</td><td>-</td><td></td><td>LW 0</td><td></td></intern<>	nal tag>	Int16		v Group Pro	-		LW 0	
2 (Ta Gen Prop	gs) eral perties	6	General			Int16		v Group Pro	operty tings	1	LW 0	Ger
2 (Tai Geni Prop	gs) eral perties	6		Name	Var_2		Shq	v Group Pro	operty tings ay count		LW 0	
2 (Ta Gen Prop	gs) eral perties	6			Var_2		Shq	v Group Pro	operty tings		LW 0	Ger
2 (Taj	gs) eral perties	6	Conr	Name	Var_2 <intern< td=""><td></td><td>Shq</td><td>v Group Pro</td><td>tings ay count Length</td><td></td><td></td><td>Gen</td></intern<>		Shq	v Group Pro	tings ay count Length			Gen

2. Select Display Group Properties, and you can see the property settings of the tag group, as shown in the following figure:

+.	<ul> <li>Name</li> </ul>	Number •	Connection Id	Data type	Length	Array count	Address -	Acquisition
1	D1	2	<internal tag=""></internal>	Int16	2	1	LW 0	100ms
2	LW 1	7	<internal tag=""></internal>	Int16	2	1	LW 1	100ms
3	LW 2	8	<internal tag=""></internal>	Int16	2	1	LW 2	100ms
4	Var_1	1	<internal tag=""></internal>	Int16	2	1	LW 0	100ms
5	Var_2	4	<internal tag=""></internal>	Int16	2	1	LW 0	100ms
6	Var_3	5	<internal tag=""></internal>	Int16	2	1	LW 0	100ms
7	Var_4	6	<internal tag=""></internal>	Int16	2	1	LW 0	100ms
(Tag ene								Group Log
	erties ogging Tags	Data log Name	<undefined></undefined>		*			
		trigger	on mode Cyclic		-			

3. Then, in General, add a data log to the group, and set the trigger mode (cyclic continuous or on demand) and set the acquisition period (the trigger mode is not required for the on demand mode), as shown in the following figure:

+,	A Name 🝷	Number •	Connection Id	Data type	Length	Array count	Address •	Acquisition c
1	D1	2	<internal tag=""></internal>	Int16	2	1	LW 0	100ms
2	LW 1	7	<internal tag=""></internal>	Int16	2	1	LW 1	100ms
3	LW 2	8	<internal tag=""></internal>	Int16	2	1	LW 2	100ms
4	Var_1	1	<internal tag=""></internal>	Int16	2	1	LW 0	100ms
5	Var_2	4	<internal tag=""></internal>	Int16	2	1	LW 0	100ms
6	Var_3	5	<internal tag=""></internal>	Int16	2	1	LW 0	100ms
7	Var_4	6	<internal tag=""></internal>	Int16	2	1	LW 0	100ms
2 (Tag Gene								đ
Prop	erties ogging Tags	trigger	lataloggings_1	continuous	•			Group Loggir
Acquisition mode Cyclic continuous								

4. Finally, in Properties→Logging Tags, select the tags to be logged in the group log as the data sources that can be displayed in the history table, as shown in the following figure:

Tag Group_2								₽ ×			
General											
⊟ Properties	Tags										
Logging Tags		gs Log Tags									
		Name	Address			Name	Address				
	1	Var_2	LW 4	→	1	Var_1	LW 0				
	2	Var_4	LW 12		2	Var_3	LW 8				
	3	Var_5	LW 16	←	3	Var_6	LW 20				
	All Obj	ects	•		All Ob	jects	*				

The historical cell properties are set as follows:

• General

The general property settings of history cells are consistent with those of ordinary cells, see *"15.3.2 Property Settings of Report Cells" on page 331*.

• Data Display

Conservat												
General						Data Displ						
HistoryData	Setting Cell Data											
Data Display	Data Source: Tag Group_2											
Time Filter	American the American Alian Cal											
Conditions Filter	Arrangement: According the Col -		Cell	Tag	Display							
	Refresh Time(s): 5											
	✓ Function Button	1	C1	Record Til	Display Record							
	Function Button	2	C2	1 /- n 1	Disales: Densed							
	Display Content:	2	U2	∨ar_1	Display Record							
	According to meet the conditions of data rect 🔹	3	C3	Var_3	Display Record							
	According to meet the conditions of data rect	5	0.5	voi_5	Display record							
		4	C4	Var_6	Display Record							

The Data Display property of the historical cell is described as follows:

### **Data Source**

The history cell displays the source of historical data, and the optional object is the tag group configured by the user:

Data Source:	Tag Group_2		-
Arrangement:	<undefined></undefined>		_
Anangement.	rag Group_2	N	
Refresh Time(s):	Tag group_3 Tag group_4	5	
Function Button	Tag group_4		
Display Content:			

### Arrangement

You can choose by column/by row, and the default is by column.

When you select by column, set the cells in the cell data table to be listed by columns of the report, and display historical data in columns:

Data Source: Tag Group_2	Setting	Cell Data		
Arrangement: According the Col		Cell	Tag	Display
Refresh Time(s): 5	1	C1	Record Til	Display Record
Function Button Display Content:	2	C2	Var_1	Display Record
According to meet the conditions of data recc -	3	СЗ	Var_3	Display Record
	4	C4	)∨ar_6	Display Record

When you select by row, set the cells in the cell data table to be listed by rows of the report, and display historical data in rows:

Data Source: Tag Group_2	Setting C	Cell Data		
Arrangement: According the Row		Cell	Tag	Display
Refresh Time(s): 5	1	R2	Record Til	Display Record
Display Content:	2	R3	Var_1	Display Record
According to meet the conditions of data recc -	3	R4	Var_3	Display Record
	4	R5	)∨ar_6	Display Record

## **Refresh Time**

The time to update the historical data, ranging from 0-65535, and the default value is 0. When the refresh time value is set to 0, the history table is not refreshed (it is recommended not to refresh frequently when the amount of data is large).

### **Function Button**

Check the Function button and click the history table in runtime, you can navigate the history data in the current history table, and you can set the page navigation button in the report attributes in the screen.

9	2019-01-14 09:43:1
9	2019-01-14 09:43:09
9	2019-01-14 09:43:08
9	2019-01-14 09:43:07
9	2019-01-14 09:43:0 구

Report View_1(ReportView	w)				
General Properties	Size		Operation		
Layout	Size		Operation		
Buttons	height 50	÷.	<b>Previous Page</b>	<undefined></undefined>	-
Misc	Width 50	<b>‡</b>	Next Page	<undefined></undefined>	+
Animations					

Attribute	Description
Height/width	The size of the button is set to 50 by default, and the range is 30–100
Previous/next page	They are associated with a Bool tag and navigate pages according as the tag value changes. They are null by default

If this is not checked, the latest historical data can only be updated and displayed according to the refresh time, and the button prosperities are ineffective. It is not checked by default.

### **Display Content**

There are two options, one is to display the data record based on the filter result, which corresponds to the display record of the selected object in the display settings table:

According to meet the conditions of data recc -According to meet the conditions of data records Data record statistical results

Data Source: Tag Group_2	Setting C	ell Data		
Arrangement: According the Col 🔹		Cell	Tag	Display
Refresh Time(s): 1	1	C1	Var 1	Display Record
Function Button			_	
Display Content:	2	C2	Record Time	Display Record
According to meet the conditions of data recc -				

The other is to display statistical results. Select to display statistical results. You can select the following statistical methods in the display columns in the table:

Data Source: Tag Group_2	Setting (	Cell Data		
Arrangement: According the Col		Cell	Tag	Display
Refresh Time(s): 1	1	C1	Var_1	Sum 🕞
Display Content:	2	C2	Record Time	Sum Average Value
Data record statistical results				Max Value Min Value First Record Last Record

Sum: The recorded tags are summed, and the result is displayed in the historical cell.

Average: The recorded tags are summed, and the result is displayed in the historical cell.

Max: The recorded tags are compared, and the maximum value is displayed in the historical cell.

Min: The recorded tags are compared, and the minimum value is displayed in the historical cell.

First Record: Displays the data of the first record.

Last Record: Displays the data of the last record.

## Setting cell data:

Cell: Displays report rows or columns according to the sort method. It is read only.

Tag: You can select the record tag or record time in the selected group of records in Data Source.

Display: It is decided by different ways of displaying contents. If you select the way of displaying data records according to filtering results, the history table will display recorded data; If you select the way of displaying statistical results, the history table will display corresponding statistical results.

- Time Filter
  - 1. The Timer Filter setting page is as follows:

Report_1 (Report)		ē X
- General B HistoryData - Data Display - Time Filter Conditions Filter	Sort     Filter       Sort Tag.     Record Time       Sort Method.     Descending       Filter Time :     Record Time       Filter Time :     Record Time       Caccording to the Tag of Time       Start Time :     Cudefined>       End Time:     Cudefined>	Time Filter

2. The Timer Filter settings described as follows:

#### Sort:

- 1. Sort TagThe object for sorting, which can be the record tag selected in the data source array or the record time.
- 2. Sort MethodSorts in ascending or descending order according to the value of the sort tag.
- 3. Filter TimeSpecifies the record time to be the object to be filtered.

#### Filter:

1. All Records

If you select this mode, the data of all records in the specified record group are filtered.

2. Recent Time

Select this mode to filter the data recorded in the specified group of records in the last X minutes according to the record time. X ranges from 0 to 2147483647 minutes. The default value is 60 minutes.

3. Fixed Time

If you select this mode, you can filter data through one of the following criteria:

Filter	
O All Records	
O Recent Time 60 ‡ min	
Fixed Time The day	) 💠 hour N: 1 💠 N Tag: <undefined> 🗸 🗸</undefined>
According to The day This Month	
Start Time: <ur td="" this="" week<=""><td>Ψ.</td></ur>	Ψ.
End Time: <ur yesterday<br="">The month Before A week Before</ur>	Ŧ
N Recent months	
N month	

The day: You can select a certain time of the day, such as 6:00, and the data recorded from 6:00 to the current time will be filtered from the historical records.

This month: You can select a certain time of the month, such as 6:00, and the data recorded from 6:00 on the first day of the month to the current time will be filtered from the historical records.

This week: You can select a certain time of the week, such as 6:00, and the data recorded from 6:00 on Monday of the week to the current time will be filtered from the historical records.

Yesterday: You can select a certain time of yesterday, such as 6:00, and the data recorded from 6:00 of yesterday to 6:00 today will be filtered from the historical records.

A week before: You can select a certain time of the last week, such as 6:00. Assume that today is Wednesday, and the data recorded from 6:00 of last Wednesday to 6:00 today will be filtered from the historical records.

The month before: You can select a certain time of the last month, such as 6:00. Assume that today is October 16, and the data recorded from 6:00 of of September 16 to 6:00 today will be filtered from the historical records.

N recent months: You can select a certain time of last N months, such as 6:00 of last 2 months. Assume that today is October 16, and the data recorded from 6:00 of of August 16 to 6:00 today will be filtered from the historical records. N can be a constant or a tag.

Nth month: You can select a certain time of the Nth moth, such as 6:00 of the 10th month. The data recorded from 6:00 of October 1 to 6:00 on the first day of the next month will be filtered from the historical records. N can be a constant or a tag.

4. According to the Tag of Time

If you select this mode, you can filter the data recorded from the start time to the end time.

Accordin	ig to the Tag of Time	
Start Time:	Var_1	Ŧ
End Time:	Var_2	•

The start time and end time must be a datetime type tag.

#### Conditions Filter

Through conditional filtering, you can filter the data records that meet the conditions from the group records.

Report_1 (Report)		đ	×
General HistoryData Data Display Time Filter Conditions Filter	Tag: Operator: Compare Object:	Var_1	
1			

The Conditions Filter property settings are described as follows:

Tag: You can only select a tag recorded in the data source.

Operator: The comparison operators include =, >, >=, <, <= and !=.

Operator:	=	+
	=	
	>	
Compare Object:	>=	
	<	
	<=	
	!=	

Comparison Object: It can be any created tag, constant or string (the string needs to be enclosed in single quotation marks, and must not contain any operator mentioned above).

After you set the tag, operator and compare object, click Add to add the condition statement to the condition box, as shown in the following figure:

(	Tag:	Var_1	· · ·	Var_1 = 10
	Operator:	-	and or	
l	Compare Object:	10	( )	
		[	Add Del	Var_1 = 10 Check

You can add multiple conditions to the condition box. You can use the "and" and "or" operators to join them logically.

and: To filter the data, all the conditions joined by the "and" operator must be true.

or: To filter the data, any of the conditions joined by the "or" operator must be true.

For example, if you want to filter historical data with tag\_1 being 10 or 20, you can set the filter condition as follows:

Tag:	Var_1 •		Var_1 = 10 or Var_1 = 20
Operator:	-	and or	
Compare Object:	20	( )	
		Add Del	Var_1 = 10 or Var_1 = 20 Check

You can also move the statement up and down in the condition box by Move Up and Down buttons:

Tag:	-Var_1	•	Var_1 = 10 Var_1 = 20 or
Operator:	-	and or	]
Compare Object:	20	( )	]
		Add Del	Var_1 = 10 Var_1 = 20 or Check

In the above figure, the third statement is moved up one position.

In addition, you can change the priority of a condition with parentheses.

To delete a condition, select the condition statement you want to delete in the box, and then click the Delete button.

You can also edit the conditions directly in the condition edit box.

Var_1=10	
-	Condition box
Var_1=10 <mark>Cc</mark>	ondition edit box Check

Then press Enter or move the focus away from the box to synchronize the changes to the condition box.

After editing all the conditions, click the Check button to check the written condition statement. If the condition statement is fine, the following prompt will appear in the status bar in the lower left corner:

🛛 🗟 Alarm Logs	Report_1 (Report)						a ×
	General HistoryData						
🖶 🧾 Report(2/100)	- Data Display					Var_1=10	
🖭 📄 Status Lists	<ul> <li>Time Filter</li> <li>Conditions Filter</li> </ul>	Tag:	Var_1	-	• •	_	
🕀 🙆 Runtime User A							
🗈 🔶 Resource		Operator:	=	•	and or		
🗄 🧔 HMI Settings		Compare Object:	: 20		( )		
					Add Del	Var_1=10	Check
						)	
Output Properties All right							10004950 V0.8.8.30-R

If the statement is written incorrectly, an error message will be prompted in the status bar to help the user correct it:

🗆 🗟 Alarm Logs	Report_1 (Report)					₫ ×
	General					
⊕- 🧾 Report(2/100)	i⊟-HistoryData ⊡Data Display				Var_1=H	
🗉 📄 Status Lists	Time Filter Conditions Filter	Tag:	Var_1	<b>-</b>	•	
🕀 🙆 Runtime User Admil	Conditions Filter					
🗉 🔶 Resource		Operator:	=	▼ and	or	
🗄 🧔 HMI Settings		Compare Object:	20		)	
				Add	Del Var_1=H	Check
Output Properties						
'H' is unknown!						10004950 V0.8.8.30-R

## 15.4 Common Operations of the Report

#### • Toolbar

The toolbar enables you to perform the following operations on the report editor:

微软雅黑 🚽 Font: Sets the text font of a single or multiple cells.

14 Font size: Sets the text font size of a single or multiple cells.

B Bold: Bolds the text of a single or multiple cells.

*I* Italic: Italicizes the text of a single or multiple cells.

Underline: Underlines the text of a single or multiple cells.

E Left align: Left aligns the text of a single or multiple cells.

E Center align: Center aligns the text of a single or multiple cells.

Example 1 Right aligns the text of a single or multiple cells.

Foreground and background colors

Foreground color: Sets the foreground color of a single or multiple cells.

Background color: Sets the background color of a single or multiple cells.

Size objects horizontally equal: Changes the widths of all selected columns to the width of the last column in the selection.

Size objects vertically equal: Changes the heights of all selected rows to the height of the last row in the selection.

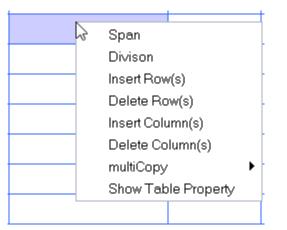
Size objects size equal: Changes the heights and widths of all selected cells to the height and width of the last cell in the selection.

🔟 Group: Changes the selected cells into historical cells.

🔁 Ungroup: Changes the selected historical cells into ordinary cells.

#### Context menu

If you right click the report editor, the following menu will pop up:



### Span

Merges all selected cells.

	1	2	3	4	5
1					
2					
3					
4					
5					

## • Split

Restores the merged cells.

	1	2	3	4	5
1					
2					
3					
4					
5					

## • Insert Row(s)

If you select a number of rows, this command inserts the same number of new rows before the first row in the selection.

## • Delete Row(s)

Deletes all selected rows.

• Insert Column(s)

If you select a number columns, this command inserts the same number of new columns before the first column in the selection.

• Delete Column(s)

Deletes all selected columns.

## • MultiCopy

If you select multiple cells, this command provides the following options:

1. Expression Tag

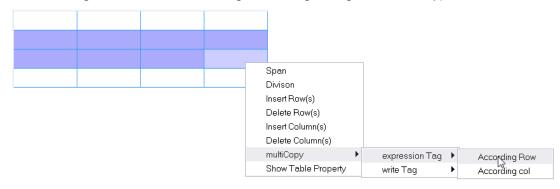
**According Row:** If you choose row-based multiple copy, the selected cells are based on the tags associated with the last selected cell. From the tag table, select the reference tag number to start, find the tags of the same type, and automatically fill them into the associated expressions of cells in row order. If the number of tags of the same type queried in the tag table is not enough to fill the cells, then fill the remaining cells with the reference tags after filling the tags of the same type.

According Column: If you choose column-based multiple copy, the selected cells are based on the tags associated with the last selected cell. From the tag table, select the reference tag number to start, find the tags of the same type, and automatically fill them into the associated expressions of cells in column order. If the number of tags of the same type queried in the tag table is not enough to fill the cells, then fill the remaining cells with the reference tags after filling the tags of the same type.

2. Write Tag

**According Row:** If you choose row-based multiple copy, the selected cells are based on the tag of the last selected cell. From the tag table, select the reference tag number to start, find the tags of the same type, and automatically fill them into the tag in row order. If the number of tags of the same type queried in the tag table is not enough to fill the cells, then fill the remaining cells with the reference tags after filling the tags of the same type.

**According Column:** If you choose row-based multiple copy, the selected cells are based on the tag of the last selected cell. From the tag table, select the reference tag number to start, find the tags of the same type, and automatically fill them into the tag in column order. If the number of tags of the same type queried in the tag table is not enough to fill the cells, then fill the remaining cells with the reference tags after filling the tags of the same type.



Show Table Property: Right-click the report editor and select Show Table Property. The Properties window will show the properties of the report table.

#### • Adjusting row height and column width

You can drag the right boundary of a column heading to change the column width, as shown in the following figure:

	1	2	3 +	→ 4	5
1					
2					
3					
4					
5					

You can drag the bottom boundary of a row heading to change the row height, shown in the following figure:

	1	2	3	4	5
1					
2+					
3					
4					
5					

# 15.5 Examples

Example 1: Creating a Daily Output Report of a production line through the report function **Visual design:** 

- 1. In the Project view, create a report.
- 2. In the report editor, adjust the table to 13 rows and 5 columns.
- 3. Adjust the size of rows and columns and straddle cells as needed.
- 4. Input static text, such as the report title, item names, and periods, directly in the corresponding cells.
- 5. Set the background color. For example, you can set the background color of the header to yellow, and the Total row to light blue as follows:

	1	2	3	4	5
1		XXXStatistics	of daily output of produc	tion line	
2	Period	Total output	Good products number	NG number	Pass rate
3	8:00~9:00				
4	9:00~10:00				
5	10:00~11:00				
6	11:00~12:00				
7	12:00~13:00				
8	13:00~14:00				
9	14:00~15:00				
10	15:00~16:00				
11	16:00~17:00				
12	Total				

## **Function implementation**

1. Create a tag group for good products of the day and NG products of the day respectively, and add statistical tags in the groups, as shown in the following figure:

Screens(3/512)									
Communication	+.	Name	• Number •	Connection Id	Data type	<ul> <li>Length</li> </ul>	Array count	Address 🔹	Acquisition cyc
- 🖉 Connections	1	DO	7	Connection_1	Int16	2	1	D 0	100ms
- 🛱 Cycles	2	D1	8	Connection_1	Int16	2	1	D 1	100ms
🖃 📲 Tags(4/128)	3	D2	12	Connection_1	Int16	2	1	D 2	100ms
- 😼 Show All Tags	4	D3	13	Connection_1	Int16	2	1	D 3	100ms
- 🖽 Add Tag Group	5	D4	14	Connection_1	Int16	2	1	D 4	100ms
	6	D5	15	Connection_1	Int16	2	1	D 5	100ms
	7	D6	16	Connection_1	Int16	2	1	D6	100ms
- Cood products of daily	8	D7	17	Connection_1	Int16	2	1	D7	100ms
	9	D 8	18	Connection_1	Int16	2	1	D8	100ms
Data Service     Alarm Management		D9	19	Connection_1	Int16	2	1	D9	100ms
Adminiaragement		$\sim$	/	-					
🖾 Screens(3/512)									
Communication	+.	Name •	🔺 Number 🔹	Connection Id	Data type	Length	Array count	Address •	Acquisition cyc
- S Connections	1	D 10	20	Connection_1	Int16	2	1	D 11	100ms
🗆 🛱 Cycles	2	D 11	21	Connection_1	Int16	2	1	D 1	100ms
∃	3	D 12	22	Connection_1	Int16	2	1	D 2	100ms
- 🗟 Show All Tags	4	D 13	23	Connection_1	Int16	2	1	D 3	100ms
🖽 Add Tag Group	5	D14	24	Connection_1	Int16	2	1	D 4	100ms
- 📲 System Tags	6	D 15	25	Connection_1	Int16	2	1	D 5	100ms
	7	D 16	26	Connection_1	Int16	2	1	D6	100ms
	8	D 17	27	Connection_1	Int16	2	1	D7	100ms
- 📹 NG number of daily	9	D 18	28	Connection_1	Int16	2	1	D8	100ms
Data Service				_	Int16	2	1	D 9	100ms
🗛 Alarm Management	10	(D 19	29	Connection 1	Linii b	6	1.1	10.2	LUUMS

2. In the report, the period cells in the "Good Product of the Day" column and the "NG Product of the Day" column are associated with these statistical tags to display real-time data. For details, see the following example in which the period cells of 8:00–9:00 are associated with tags:

	1		2		3	4	5
1			XXXStatistics	of daily	output of produc	ction line	
2	Peri	iod	Total output	Good <sub>I</sub>	products number	NG number	Pass rate
3	8:00~	<sup>,</sup> 9:00					
4	9:00~	10:00					
5	10:00~	<sup>,</sup> 11:00					
6	11:00~	<sup>,</sup> 12:00					
7	12:00~	<sup>,</sup> 13:00					
8	13:00~	<sup>,</sup> 14:00					
9	14:00~	<sup>,</sup> 15:00					
10	15:00~	<sup>,</sup> 16:00					
11	16:00~	<sup>,</sup> 17:00					
12	Tot	al					
port_1 (F	Report)						
Gene							
Expre	ession	Relationa	d				
	г	Relati	onal Expression		Advance Calculate		_
		O Simpl	e Calculate	)	Using RxxCyy can be spo the calculation of the cel colur	l is located xx Row yy	
		Start Pos	ition: 1 ‡ Row 1	‡ Col	Chec	ck	

	1		2		3		4	5
1			XXXStatistics	of daily	/ output of pro	duct	ion line	
2	Period		Total output	Good	products num	ber	NG number	Pass rate
3	8:00~9:0	00						
4	9:00~10:0	00						
5	10:00~11	:00						
6	11:00~12	:00						
7	12:00~13	:00						
8	13:00~14	:00						
9	14:00~15	:00						
10	15:00~16	:00						
11	16:00~17	:00						
12	Total							
ort_1 (F								
Gener Expre	ceion	lationa	1					
		Relati	onal Expression		Advance Calcula	ate		
	sur	n	e Calculate	Ŧ	Using RxxCyy can b the calculation of the		s located xx Row yy	
			ition: 1 1 Row 1 tion: 1 1 Row 1	Col Col		Check		

The association of other period cells is the same.

End Position: 1 ‡ Row 1 ‡ Col

	1	2		3	4	5
		XXXStatistics	of daily	output of produc	tion line	
	Period	Total output	Good p	oroducts number	NG number	Pass rate
3	8:00~9:00					
4	9:00~10:00					
5	10:00~11:00					
6	11:00~12:00					
7	12:00~13:00					
8	13:00~14:00					
9	14:00~15:00					
10	15:00~16:00					
11	16:00~17:00					
12	Total					
rt_1 (F ienei	Report)					
	ssion Relationa	1				
		ional Expression		O Advance Calculate		
	💿 Simpl	e Calculate		Using RoxCyy can be spe the calculation of the cell		

3. Set the calculation mode and expression for the cells in the "Total Output of the Day" column and "Qualified Rate of the Day" column respectively, as shown in the following figure:

	1		2		3	4	5
1			XXXStatistics	<mark>of dail</mark> y	y output of produc	tion line	
2	Per	iod	Total output	Good	products number	NG number	Pass rate
3	8:00~	-9:00					
4	9:00~	10:00					
5	10:00~	-11:00					
6	11:00~	-12:00					
7	12:00~						
8	13:00~						
9	14:00~						
10	15:00~						
11		-17:00					
12	Tot	tal					
eport_1 (F	Report)						
Gener							
- Expre:	ssion	Relationa	I				_
		🔿 Relati	onal Expression		Advance Calculate		Ì
		O Simpl	e Calculate		Using RxxCyy can be spe	cified to participate in	
		sum		Ψ.	the calculation of the cell column	is located xx Row yy	J
		Start Pos	ition: 1 ‡ Row 1	0 Col	Chec		
		End Posi	tion: 1 ‡ Row 1	¢ Col			

The setting also applies to other period cells.

4. Set the calculation method in each cell of the Total row, as shown in the following figure:

	1	2		3	4	5
1		XXXStatistics	of daily	output of produc	tion line	
2	Period	Total output	Good p	products number	NG number	Pass rate
3	8:00~9:00					
4	9:00~10:00					
5	10:00~11:00					
6	11:00~12:00					
7	12:00~13:00					
8	13:00~14:00					
9	14:00~15:00					
10	15:00~16:00					
11	16:00~17:00					
12	Total					
_1 (F	Report)					
	ssion Relation	al				
	Rela	tional Expression		O Advance Calculate		
	sum	ole Calculate	-	Using RxxCyy can be spe the calculation of the cell colum	is located xx Row yy	
		sition: 3 🛟 Row 2 sition: 11 🗘 Row 2	Col	Chec	k	

This applies to all Total row cells.

Now, you can configure the statistical report with a report view on the screen. In the runtime, the number of good products and NG products is transmitted by tags, as shown in the following figure:

	1	2	3	4	5
1		XXXStatistics	of daily output of produc	tion line	
2	Period	Total output	Good products number	NG number	Pass rate
3	8:00~9:00	11	10	1	90.9
4	9:00~10:00	11	9	2	81.81
5	10:00~11:00	10	10	0	100
6	11:00~12:00	13	12	1	92.3
7	12:00~13:00	16	13	3	81.25
8	13:00~14:00	12	12	0	100
9	14:00~15:00	10	9	1	90
10	15:00~16:00	16	10	6	62.5
11	16:00~17:00	9	9	0	100
12	Total	108	94	14	88.75

## 15.6 Features of the Runtime

After you complete the configuration described in *"15.5 Examples" on page 347*, run the project, and you can see the following properties of the Report view:

- **Display static data:** It can display the contents of table elements (table cells) edited by users in configuration environment. This function is generally used to complete the header of a report or other fixed contents, and is effective only when the table elements are not connected with tags and data sources.
- Edit data in the runtime environment: The data of the table element can be edited in the runtime environment and the edited results can be output to the corresponding tags. This function is generally used to manually modify the current data of the report.
- **Display dynamic data:** It connects related tags in table elements, and dynamically displays the values of real-time tags at runtime.
- **Display history:** It connects the record tag in the database in the table element, dynamically displays the value of the saved records in the saved data source at runtime. It can display multiple pages and display the fields in the historical data table by row or column.
- **Page navigation buttons:** If you click a multipage-enabled historical report, the following buttons show:

	^	Previous	
	>	Previous Update	
	¥	Next	

- Page-up button: Click this to show the previous history record.
- **Refresh start-stop button:** Click this to refresh the history automatically. When the refresh time is set to 0, clicking this button refreshes the history only once.
- **Page-down button**: Click this to show the next history record. Automatic refresh will stop when you use this feature.
- **Hide function button:** When you click other positions on the screen, it will be automatically hidden.
- **Display statistical results of historical records:** There are two ways to display the statistical results. One is to count the data of other real-time table elements in the table, such as the total of the table. The other is the statistics of the records in the historical database, which connects the

saved data source in the table element, and dynamically displays the statistical results of the saved records in the saved data source at runtime.

# **16** Typical Functions

## 16.1 Drag and Drop

## 16.1.1 Screen Drag-and-drop

To open an existing project, you can directly double-click the \*. hmiproj project file or find and open the project in the software tool. In addition to that, you can also drag the project file directly to the software icon to open the project, as shown in the following figure:

« Inovance Control > InoTouch	Pad → sample11.23	✓ <ul><li></li><li></li></ul> <li></li> <li>搜索"sample11.23"</li>	Ą
	修改日期		
fonts	2021/11/24 14:23		
images	2021/11/24 14:23		
🗟 alarmtable.db	2021/11/23 19:23		
] logo.hex	2021/11/24 14:23		
logo.png	2021/11/24 10:10		_
] runtime.bin	2021/11/24 14:23		
runtime.db	2021/11/24 14:23		
👔 runtime.ini	20 <u>21/11/25</u> 20:16		
sample11.23.hmiproj	2021/11/25 20:16		

During project configuration, you often need to use a button to jump to a screen, which can be achieved through the following steps:

- 1. Add a button control to the current screen.
- 2. Rename the button with the name of the screen that you want to jump to.
- 3. Bind the screen jump function to the button.

Then you can jump to the designated screen by clicking the button.

However, a quick way to achieve this is using screen drag-and-drop, as shown in the following figure:

Project 🗗 🛪	🖾 00001:Screen_1 🗙 🖾 00002:Screen_2 🗙
🖻 🔚 Screens(2/512)	[0 <mark>,</mark> , , , , , , , , , , , , , , , , , ,
- 🕂 Add Screen	<u> </u>
E Embed Screens	
🗈 🖃 Popup Screens	- 100-1-
⊕ ⊕ Communication	
🗈 🍙 Data Service	Screen_2
🕀 🔥 Alarm Management	
⊕ <u> </u>	
⊕ [010] Historical Data	-
⊕- > Scripts(0/400)	
⊕- 🧊 Reports(0/100)	
🕀 📄 Status Lists	
⊕ . ⓐ Runtime User Administration	

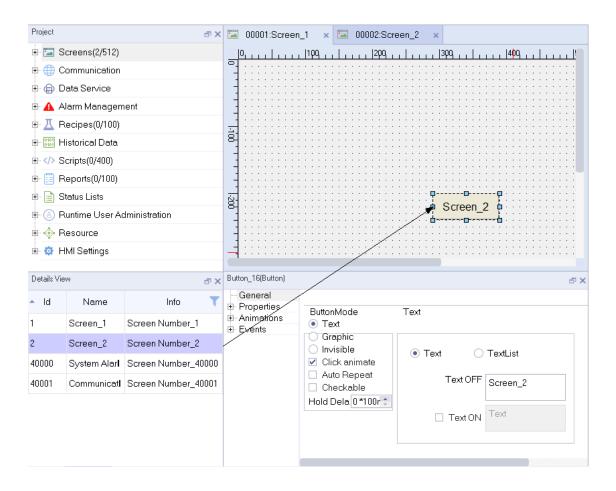
Screens supporting drag-and-drop: Common screens and popup screens.

In addition, you can also drag and drop the screen to be jumped to directly into the screen in the Details view. The steps are as follows:

In the Project view, select Screens and the Details view will show all the created common and popup screens, as shown in the following figure:

Project 67 27	🕻 🖾 00001:Screen	_1 × 🖾 00002:Screen_2 ×
⊕ 🔚 Screens(2/512)		100
🕀 🌐 Communication		
🖭 🝙 Data Service		
🗈 🔥 Alarm Management		
Historical Data	<b>8</b>	177000
⊕ 📴 Reports(0/100)		
🗊 📄 Status Lists		
B Runtime User Administration		
🗈 🚸 Resource		
🗈 🧔 HMI Settings	-	
Details View 🗗 🔿	Screen_1(screen)	ా x
Id Name Info	General	
1 Screen_1 Screen Number_1		Settings 🗹 Template List
		Number 1
2 Screen_2 Screen Number_2		Background color
40000 System Alarl Screen Number_40000		Font Arial,12
40001 Communicati Screen Number_40001	/	Page switching None
		Focus Item <undefined></undefined>

In the Details view, directly drag the screen you want to jump to into the current screen to automatically generate the jump button, as shown in the following figure:



## 16.1.2 Dragging and Dropping a Tag

During project configuration, you often need to use IO domain to read and write tag values. You can achieve that through the following steps:

1. Add an IO field to the current screen.

2. In the properties bar of the IO field, select the specified process tag.

Then you are able to read and write specified project tags with IO domain.

However, a quick way to achieve this is using tag drag-and-drop, as shown in the following figure:

Project		Ð	× 🖬	00001:Sc	reen_1	×																		
	Sconnect	ions	5	0	100	L.		200		. 300	<b>.</b>		. 4	po <sub>1</sub> ,			500				600 <sub>1</sub>			700
	Cycles				· · · · · · ·		· · · · ·	· · · · · ·	· · · ·				· · · · ·		· · · ·	· · · ·		· · · · · · · · · · · · · · · · · · ·	· · · ·		· · · ·		· · · ·	· · · · ·
Ð.	Tags(3/1)				· · · · · · ·		· · · · ·		· · · ·		· · · · ·		· · · · ·		· · · ·	· · · ·		· · · · ·	· · · ·		· · · ·		· · · ·	· · · · ·
	语 Show	-	-100		· · · · · · ·		· · · · ·	· · · · · ·	· · · ·		· · · · ·				· · ·	· · ·		· · · ·			· · ·			
	- 🖽 Add 1	ag Group	_				· · · ·		· · · ·		· · · ·		::						· · · ·					
	Syste	-			· · · · · · ·	-00	0000	00000	· · · ·		· · · ·		::		· · ·	::::		::	: : :			: : :		· · · · ·
• @	Tag gr	roup_2 Select	1-200		/				· · · ·		· · · · ·				· · ·				· · · ·		· · ·	· · · ·		
	Alarm Mana		N	umber IO Field	_1(Numbe	erIOFiel	d)											• •						
⊕ ₫	Recipes(3/10	00)		General																				
	Historical D: View	ata o <sup>7</sup>		Properties Animations	5		pe						Fo	rmat										
^ Id	Name	Info 🔻	+	Events		M	lode I	nput/ou	Itput			•	Sh			-	/pe D oint (						•	
1	LW 0	LW 0/Int16	Drag			Pr	ocess						s	tring	field	l leng	gth 1	6					;	
2	Tag_2	LW 0.0/Bool					Tag (	LW O				•						Le	adin	g zei	ro			
3	Tag_3	LW 0/DateTime																						
5	Tag_5	LW 0/Int16																						
6	Tag 6	LW 0/Int16																						

All tags except array tags allow drag-and-drop.

The detailed view of tag variables is slightly different from that of ordinary variables. See "5.3.9 Using Tags" on page 73 for details.

## 16.1.3 Dragging and Dropping Recipes

When you configure a project, you can display a recipe in the recipe view in the following steps:

- 1. Add a recipe view to the screen.
- 2. In the General property setting page of the recipe view, select the recipe you want to display under "Recipe name".

Then the specified recipe is displayed in the recipe view.

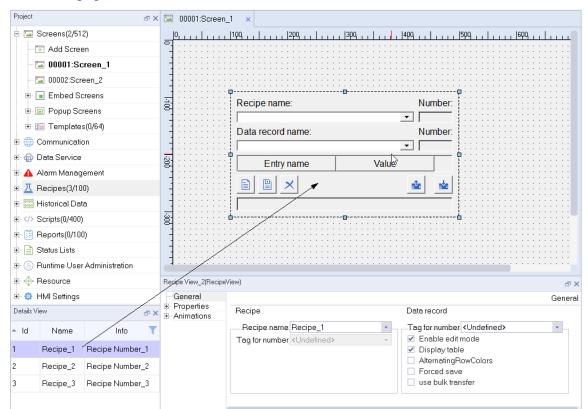
However, a quick way to achieve this is using drag-and-drop, as shown in the following figure:

Project 🗗 🛪	🖾 00001:Screen_	1 × 📕 001:Recipe_1 ×	
🖳 🖾 Screens(2/512)		199	500    600
- 🕂 Add Screen			• • • • • • • • • • • • • • • • • • • •
🖼 00001:Screen_1	-		
🖾 00002:Screen_2		Recipe name:	Number:
🗉 🔳 Embed Screens			
🗈 🖃 Popup Screens	10	Data record name:	Number:
🖭 🗐 Templates(0/64)		· · · · · · · · · · · · · · · · · · ·	] [
Gommunication	-	Entry name Value	
🖭 🍙 Data Service			
🕀 🛕 Alarm Management			🛎 🚊 🔛
- <u>I</u> Recipes(1/100)			
- Z+ Add Recipe	-	· · · · · · · · · · · · · · · · · · ·	·····
001:Recipe_1	) 월 : : : : : : : : : : : : : : : : : : :		
🕀 时 Historical Data	Recipe View 1(Recipe)	iew)	e x
⊕ > Scripts(0/400)	General	,	General
⊕ 🧮 Reports(0/100)	Properties	Recipe Data re	
🖭 📄 Status Lists	Animations	Recipe name Recipe 1	number <undefined></undefined>
⊕ (a) Runtime User Administration			ble edit mode
🗈 🚸 Resource			play table
🕀 🧔 HMI Settings			rnatingRowColors ced save
		use	bulk transfer

In addition, you can also drag and drop a recipe in the detailed view directly into the screen. The steps are as follows:

First, in the project tree on the left, expand Recipes to list all the created recipes in the detailed view, as shown in the following figure:

Project 🗗 🛪	< 🔚	00001:Screen_1	×	<u> </u>	표 002:Reci	ре_2 × <u>Д</u>	003:Recipe_3 ×
🖻 🖾 Screens(2/512)		0	100 1	200	300,	. 409	
🗐 Add Screen	0.		::::				
- 🖾 00001:Screen_1	-				· · · · · · · · · · · ·	· · · · · · · · · · · · · ·	
🖾 00002:Screen_2	-			· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · ·	
🖭 🔳 Embed Screens	-		::::			· · · · · · · · · · · ·	
🖭 🗐 Popup Screens	1-100					· · · · · · · · · · · · ·	
⊞- 💼 Templates(0/64)	-			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · ·	· · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
⊕ ⊕ Communication	_						
🗈 🍙 Data Service	1-200		::::				
🖶 🛕 Alarm Management				· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · ·	· · · · · · · · · · · · · ·	
🕞 🔼 Recipes(3/100) 🔵 Select	-	· · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · ·	· · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
⊕ ன Historical Data	-						
	-300						
	-			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · ·	· · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
🗈 📄 Status Lists	-			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · ·	· · · · · · · · · · · · ·	
🕀 🙆 Runtime User Administration							
🗈 🚸 Resource	Scr	een_1(screen)					₽×
🗄 🧔 HMI Settings		General Properties					
Details View 🗗 🗙		Events	Settin	gs		🗹 Tem	plate List
🔺 Id Name Info 🝸				Number 1		÷ _	
A Recipe_1 Recipe Number_1	N		Back	ground color Font Arial.12		<b>•</b>	
2 Recipe_2 Recipe Number_2	-		Pa	ge switching None		····	
3 Recipe_3 Recipe Number_3	-			Focus Item <undefined< th=""><th></th><th>Ŧ</th><th></th></undefined<>		Ŧ	
	-			🗹 Templat	eVisible		
All recipes are listed here	/						



Then, in the Detailed view, directly drag a recipe to the screen to generate a recipe view, as shown in the following figure:

In the recipe editor, you can add elements as follows:

1. In the recipe editor, click the Add button to add an element

2. Then, you can set the element tag in the Tag field.

When there are lots of elements, the operation will be cumbersome. InoTouchPad provides a a quick way, with which you can drag the specified tag group to the recipe element editor to automatically create elements. The tags in the tag group are also added into the Tag field in sequence. See the following example:

First, create three tags in tag group\_2: an array tag and two common tags, as shown in the following figure:

1 00001:Screen_1 × <													
+.	Name -	- Number -	Connection Id	Data type	Length	Array count	Address •	Acquisition cycl	Acquisition mol	Data log Id	Logging cycle II	Logging acquil	
1	DO	1	Connection_1	Int16	2	1	DO	100ms	Cyclic on use	<undefined></undefined>	1s	Oyclic continul	
2	D1	2	Connection_1	Int16	2	1	D1	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continul	
3	D 2	3	Connection_1	Int16	2	1	D 2	100ms	Cyclic on use	<undefined></undefined>	1s	Cyclic continul	

Then open recipe\_1 editor and drag Tag group\_2 in the tree view to the editor, as shown in the following figure:

Project	♂ × 🖾 00001:Screen_1 × 🖼 Tag group_2 × 🧾 001:Recipe_1 ×	
- 🚽 Connections		
- 🛱 Cycles	Number 1 🗧 Display name Recipe_1 🗹 Synchronize Tags 🗹 Tags offli	ne
🖃 📲 Tags(2/128)	Elements Data records	
🗧 🛜 Show All Tags	+ Name • Display name Tag Default value Decimal • Informati	ion text
- 🕣 Add Tag Group	•	
- 📲 System Tags		
🚽 📲 Tag group_2 🛛 —		
🖻 🝙 Data Service		
🕀 🛕 Alarm Management		
🖻 📕 Recipes(3/100)		
- 🗸 Add Recipe		
- <u>I</u> 001:Recipe_1		

Three elements are automatically created, and the tags in the tag group are bound with these elements in sequence, as shown in the following figure:

Project	a 🗙 🖾 00	001:Screen_1	×	📹 Tag group	_2 × 🛛 00	1:Recipe_1 ×		
🚽 🚽 Connections						D. O. a. character	т 🗆 т.	
🔁 Cycles	Num	ber 1 🌲	Dis	splay name Rec	pe_I	Synchronize	elags ⊠la	gs offline
🖻 📲 Tags(2/128)	Elem	ents Data rec	cord	s				
- 😼 Show All Tags	+	Name	•	Display name	Tag	Default value	Decimal 🔹	Information text
	1	Element_1		Element_1	DO	0	0	
- 📲 System Tags	2	Element 2		Element 2	D1	Ω	0	
🛁 🔚 Tag group_2		Liemen(_2		Liemen(_2		0	U	
🕀 🍙 Data Service	3	Element_3		Element_3	D 2	0	0	
🗉 🛕 Alarm Management								

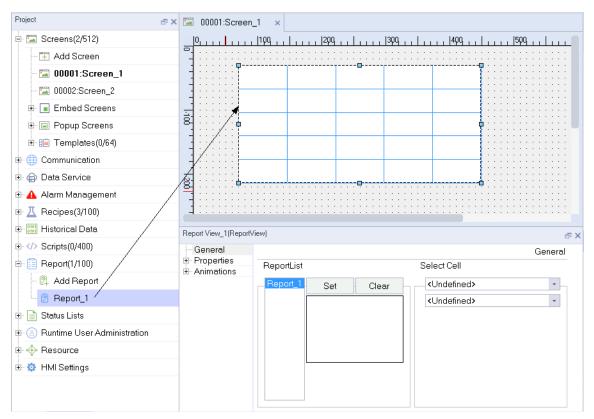
### 16.1.4 Dragging and Dropping the Report

When you configure a project, you can display a report in the report view in the following steps:

- 1. Add a report view to the screen.
- 2. In the Properties bar of the report view, locate the report list and select the report you want to display.

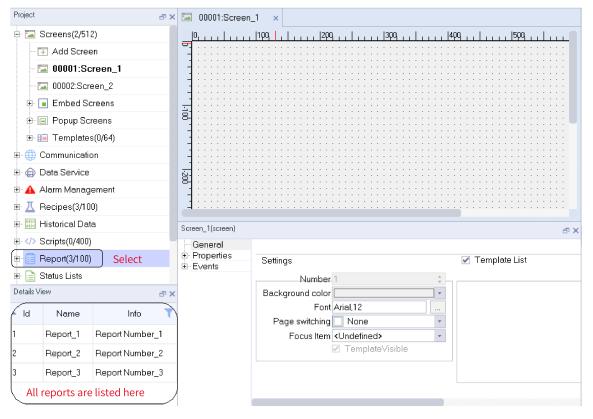
Then the specified report is displayed in the report view.

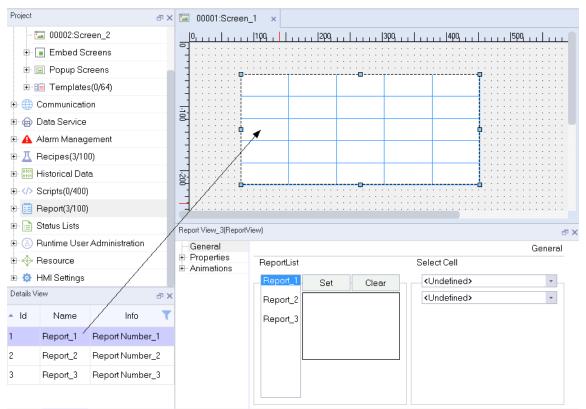
However, a quick way to achieve this is using report drag-and-drop, as shown in the following figure:



In addition, you can also drag and drop the report to be displayed directly into the screen in the detailed view. The steps are as follows:

First, in the project tree on the left, select the root node of the report module to list all the created reports in the detailed view, as shown in the following figure:





Then, in the detailed view, directly drag the report to be displayed to the screen to generate a report view displaying the report in the screen, as shown in the following figure:

# 16.1.5 Dragging a Control

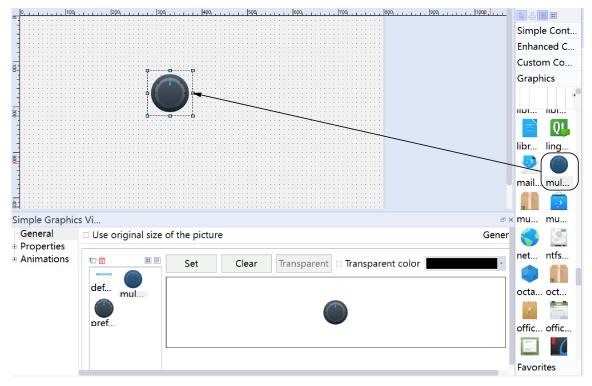
When configuring a project, you can add a control by selecting the control first, and then click on the screen. You can also add a control through drag and drop, as shown in the following figure:

🖾 00001:Scre	en_1 ×	Tools 🗗 🗙
	ΙΡΟ,Ι_ΥΟ,Ι2Ο,ΙΙ3Ο,ΙΙ4Ο,ΙΙ5Ο,ΙΕ	R & III
		Simple Controls
		🦯 Line
		< Polyline
	PP	🔵 Polygon
	······	🗢 Ellipse
		Rectangle
		🛪 Bezier
		I Table
4::::::		A Text Field
Ellipse_1(Ellipselter	) av	P Bit Indicator
Properties	Appearance	He Bit Button
	colors Border	E Word Indicator
	Border color	
	Fill color Style Solid 🔹	Enhanced Controls
	Border style	Custom Controls
		Graphics
		Favorites

The drag-and-drop feature applies to all controls, including simple controls, enhanced controls, and favorite controls.

# 16.1.6 Dragging an Image

In the gallery, you can select any picture and drag it directly to the screen to add a graphical view control configured with the picture, as shown in the following figure:



🖾 00	001:Screen_1	× ≔ Graphic	s Lists 🛛 🛛						Tools		₽ ×
		Graphics I	ists			List e	ntries(Grapł	nic			<b>⊪∥32</b>
+,	Name	<ul> <li>Number </li> </ul>	Selection	Comment	+,	<ul> <li>Number</li> </ul>	Value 🔻	Entry			
1	Graphics list_1	1	Range ()		1	1	0				<b>⊪   22</b>
					<u> </u>	1	0	<b>V</b> X			• 📕 48
								$\backslash$			actions
										÷	applets
										Ð	categ
									pref pref pref	pref	pref
Graph Gen	iics list_1 (Gra							₽×	2.		2
	oerties	C						General	pref	pref	pref
		Settings Name Gra	aphics list_1						ë	*	
		Select Rar	nge ()	-					pref	pref	pref
										*	
									pref	pref	pref

In addition, you can also drag and drop pictures directly into the list entry of the graphic list to add pictures, as shown in the following figure:

# 16.1.7 Dragging-and-dropping Historical Data

When you configure a project, you can display a data log in the data view in the following steps:

- 1. Add a data view to the screen.
- 2. In the general settings of the data view, select the data log you want to display.

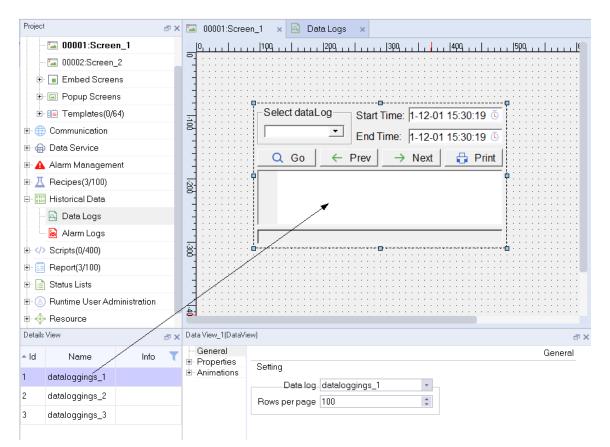
Then the specified data log is displayed in the data view.

However, a quick way to achieve this is using data log drag-and-drop in the details view.

First, in the screen editing view, select Data Logs in Historical Data to show all created data logs the details view:

Project		1	a x		0000	01:Se	reen.	_1	×		Data	Logs	5	×											
	🖾 00001:Screen_	1			0, , ,	. Li		1pq		Lu	112	209.			,  3¢	տ,	ı Lı		,  4 <b>p</b> t	}	L		509,	пL	 LE
-	🖾 00002:Screen_2			리	: : :	:::	:::		::	: : :	: : :		::		: : :	::		::			::		: : :		 
+	Embed Screens			-	: : :								::												
+	Popup Screens			-																					 
+	📋 Templates(0/64)			-	: : :	:::	: : :		::	: : :	: : :	: : :	::		: : :	::		::		: : :	::		:::		 
<b>⊕</b> ⊕	Communication			100		: : :										::		::							 
± @	Data Service			-						: : :		· · · ·	::		· · · ·	::	· · ·	::	· · ·						 
÷ 💧	Alarm Management			-		:::				: : :	: : :		: :										:::		
≖⊥	Recipes(3/100)			1200														::							 
0101 0101	Historical Data			2								· · · ·		· · ·			· · ·				• •	· · ·			
11	🔄 Data Logs 🛛 Se	elect		-							· · · ·	· · · ·	: :		· · · ·		· · · ·			· · · ·	· · ·				 
	🗟 Alarm Logs			-					: :				::			::		::			::				 
	Scripts(0/400)			ä		: : :				: : :						::		::							
+ 🗊	Report(3/100)			-					::			· · · ·	:::			::	· · · ·	::		· · · ·	· · ·	· · · ·			
•• 📄	Status Lists			-		: : :				: : :		· · · ·					· · ·	::	· · ·	· · ·			:::		
Ð. (8	Runtime User Admir	nistration		1	:::	:::	:::	:::	::	:::	:::	:::	::		:::	11		11		:::	::		:::		 ::
±.	Resource			Scre	en_1(:	screen	ป		_			_	_	_	_	_	_	_							đХ
Details	View		a ×		Gene		2																		- ×
<b>▲</b> ld	Name	Info	T	E F	Prope Event	erties 		Setti	ngs										¥	Τe	empl	ate L	st		
(	dataloggings_1			ш <u>т</u>	_ven					Nur	nber	1						*							
2	dataloggings_2							Bac	kgro		color							•							
3	dataloggings_3										Font		•												
	data logs are liste	dhara						Р			:hing Item							• •							
	uata logs are liste	unere	_											late'	Visib	le									

Then, in the details view, directly drag the data log to be displayed to the screen to generate a data view displaying the data log in the screen, as shown in the following figure:



Likewise, you can also using drag-and-drop to display a alarm log in an alarm view.

# 16.1.8 Dragging and Dropping the Status List

When you configure a project, you can display a text list in a symbolic IO field in the following steps:

1. Add a symbolic IO field to the screen.

2. In the General settings, select the text list you want to display under Display.

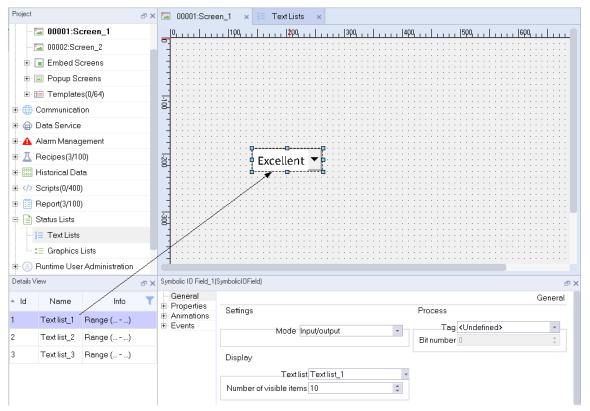
After these two steps, the symbol IO field can be bound to a text list.

However, a quick way to achieve this is using text list drag-and-drop in the details view.

First, in the screen editing view, select Text Lists in Status Lists to show all created text lists in the details view:

Project	ъ×	🖾 00001:Scree	en_1 × ½≣ Tex	t Lists 🗙				
- 🖾 00001:Screen_1			1100, <mark>_</mark>	2pq   _	3pq		.  400	500,
- 🖾 00002:Screen_2								
🗉 🔳 Embed Screens				· · · · · · · · ·	· · · · · · · ·		· · · · · · · ·	
🗉 🖃 Popup Screens				· · · · · · · ·	· · · · · · · ·	· · · · · · ·	· · · · · · · ·	
🖭 📋 Templates(0/64)								
🗈 🌐 Communication		8						
🖭 🍙 Data Service				· · · · · · · · ·	· · · · · · · ·		· · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
🕀 🛕 Alarm Management				· · · · · · · · ·				
🕀 时 Historical Data			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · ·	· · · · · · · ·	· · · · · · · ·	· · · · · · · ·	
					· · · · · · · ·	· · · · · · · ·	· · · · · · · ·	· · · · · · · · · · · · · · ·
🕀 🧾 Report(3/100)								
🖻 📄 Status Lists								
1 Text Lists Select			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · ·	· · · · · · · ·	· · · · · · · ·	· · · · · · · ·	· · · · · · · · · · · · · · ·
				· · · · · · · · ·	· · · · · · · ·		· · · · · · ·	· · · · · · · · · · · · · ·
🕀 🙆 Runtime User Administration	n –	d						
Details View	a x	Screen_1(screen)						ප ×
A Id Name Info	T	- General ⊕ Properties						
Text list_1 Range ()		E∨ents	Settings				🗹 Tei	mplate List
2 Text list_2 Range ()			Numbe Background colo			÷ -		
3 Text list_3 Range ()				t Arial,12				
All text lists are listed here			Page switching	g 🕂 Push		•		
		ſ	Focus Iten	n <b>&lt;</b> Undefine I Templa		•		

Then, directly drag the text list to be displayed to the screen to generate a symbolic IO field in the screen, as shown in the following figure:



Likewise, you can also using drag-and-drop to display a graphics list in a grapic IO field.

# 16.2 Table operations

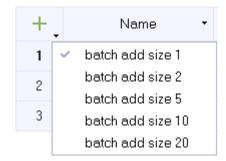
### 16.2.1 Add

Most modules of InoTouchPad, such as connection, tag, and alarm, are edited in a table. Some common operations of the table include add, delete, hide, and sort, which are described in detail in this section.

For tables where rows can be added, such as tables in tag groups, you can use the Add icon +, in the upper left corner of the table to add data.

+.	Name	•	Number 🝷	Connection Id	Data type	Length	Array count	Address 🔹
+	Name	•	Number 🝷	Connection Id	Data type	Length	Array count	Address 🝷

You can click on the arrow icon — in the lower right corner of the Add icon to set how many rows the Add icon can add at one time. The default is one row:



After you select, for example, batch add size 5, and click +, five rows will be added at one time.

### 16.2.2 Delete

You can delete data from a table.

Select the row where the data to be deleted is located.

—	Name 🝷	Number 🝷	Connection Id	Data type	Length	Array count	Address 🔹
1	LW 0	5	<internal tag=""></internal>	Int16	2	1	LW 0
2	LW1	6	<internal tag=""></internal>	Int16	2	1	LW 1

The Add icon +, becomes – the Delete icon. Click the Delete icon to delete that row. You can also delete the row by pressing the Delete key.

If you need to delete multiple rows at a time, select the rows, and then click the Delete icon – or press the Delete key.

If you need to delete all the data in the table, press Ctrl+A to select all the rows, and then click the Delete icon — or press the Delete key.

### 16.2.3 Hiding a Column

A table typically has multiple fields, corresponding to some attributes of a module. Since some of these attributes are optionally editable, If you need not to use them, you can hide them. For example, in the tag table, for the internal tag LW 0, no data logs are used, then Data log , Logging cycle and Logging acquisition mode can be hidden.



Uncheck Data log, Logging cycle and Logging acquisition mode to hide them, as shown in the following figure:

+.	Name	•	Number	•	Connection Id	Data type	•	L.		lress •	Acquisition cycle Id	Acquisition mode
1	LW 0	5			<internal tag=""></internal>	Int16	2	~	Number		100ms	Cyclic on use
								~	Connection			
								~	Data type			
								~	Length			
								~	Array count			
								~	Address			
								~	Acquisition cycle			
								~	Acquisition mode			
									Data log			
									Logging cycle			
									Logging acquisition mode			

### 16.2.4 Sorting a Column

For fields that can be sorted, when you click the header of the list, a small sorting icon will appear on the leftmost side of the header. For example, in the variable table, click the header of the numbered list, and the sorting icon on the left side will appear.

+.	Name 🔹	Number •	Connection Id	Data type	Length	Array count	Address 🔻	Acquisition cycle Id	Acquisition mode
1	LW 0	5 6	<internal tag=""></internal>	Int16	2	1	LW 0	100ms	Cyclic on use
2	LW 1	8	<internal tag=""></internal>	Int16	2	1	LW 1	100ms	Cyclic on use
3	LW 2	9	<internal tag=""></internal>	Int16	2	1	LW 2	100ms	Cyclic on use
4	LW 3	10	<internal tag=""></internal>	Int16	2	1	LW 3	100ms	Cyclic on use

Click the sort icon, and the whole table will be sorted according to the column data. The sorted table is as follows:

+.	Name 🔹	<ul> <li>Number</li> </ul>	Connection Id	Data type	Length	Array count	Address 🔻	Acquisition cycle Id	Acquisition mode
1	LW 3	10	<internal tag=""></internal>	Int16	2	1	LW 3	100ms	Cyclic on use
2	LW 2	9	<internal tag=""></internal>	Int16	2	1	LW 2	100ms	Cyclic on use
3	LW 1	8	<internal tag=""></internal>	Int16	2	1	LW 1	100ms	Cyclic on use
4	LW 0	5	<internal tag=""></internal>	Int16	2	1	LW 0	100ms	Cyclic on use

# 16.2.5 Column Width Adjustment

For tables that allow adjusting column width, you can adjust the size by dragging the borders of columns with the mouse. For example, in the variable group table, you can adjust column width as shown in the following figure:

+.	Name -	<ul> <li>Number</li> </ul>	Connection Id	Data type	Length 🕂	Array count	Address 🔹	Acquisition cycle Id	Acquisition mode
1	LW 3	10	<internal tag=""></internal>	Int16	2	1	LW 3	100ms	Cyclic on use
2	LW 2	9	<internal tag=""></internal>	Int16	2	1	LW 2	100ms	Cyclic on use
3	LW 1	8	<internal tag=""></internal>	Int16	2	1	LW 1	100ms	Cyclic on use
4	LW 0	5	<internal tag=""></internal>	Int16	2	1	LW 0	100ms	Cyclic on use

# 16.3 Import and Export

### 16.3.1 Import and Export Rules

Import and export rules are mainly aimed at five modules: tags, text lists (including text lists and list entries), alarms (including analog alarms and discrete alarms), resource (i18n) and recipes (data records of recipes), which support import and export functions.

The general rule for importing is: for the tag, text list and recipe, when an identification name already exists, the corresponding row is overwritten, otherwise, a new row is added; For the alarm, because the alarm names can be the same, a new line is always added. When these four modules exceed the maximum number of rows that the list can hold, the extra rows are discarded (a tag list can accommodate 32,767 rows, a text list and list entry can accommodate 256 rows, and analog alarm and discrete alarm can accommodate 2000 rows). If a field is illegal, the row is filtered during import and a prompt about the discarded contents and filtered field is displayed; For the internationalization of the resource module, only the text is updated (that is, the items that exist in the "reference" column are updated, while the items that do not exist are directly filtered out, and a prompt about the discarded information is displayed).

The export and import of tags, text lists, alarms, internationalization, and recipes are as follows:

### Tag

During export, the tag information is written to a \*. csv file. The first 18 rows of the exported text are explanatory information and headers of the tag list, and the remaining rows are the exported data, which are in 13 columns: name, connection ID, data type, length, array count, address, acquisition cycle ID, acquisition mode, maximum, minimum, start value, comment and group Id. The fields are separated by ",". When a field is not empty, the contents are enclosed by double quotation marks. If the contents contain double quotation marks, the " will be escaped by another ", that is ""..."". (Note: the "," used for separating the fields and the double quotation marks enclosing the contents of the fields are all English characters).

During import, the first 18 lines of the import text are in a fixed format, and can not be added, deleted or changed. Only variable data can be edited. In the import file, each variable occupies an independent line, and each variable contains the following 13 fields which cannot be added or deleted:

**Name:** The tag name. If a name is empty, the line of data will not be imported. If the name exists in the project database, the imported data will overwrite the data in the database, otherwise, new data is added.

**Connection:** The name of the configured connection, which can be empty or the connection created in the current project (except for the connection with slave protocol including MODBUS slaves and MODBUS TCP slaves). If the connection does not exist in the current project, the data will not be imported.

Data type: the data type of the tag:

- 1. It cannot be null.
- 2. When the connection is an internal tag, any data type that is not supported by an internal tag cannot be imported.

3. For an existing connection, any data type that is not supported by the connection protocol cannot be imported.

# **A**Caution

Strings are case sensitive and strictly match the type in the variable editor. Invalid strings will be filtered.

**Length:** Length = Array count \* Data type length, specifies tag length (the length of Bool type is in bit and that of other types is in byte), Length = Array count \* Data type length, UInt16 (length is 2), Int16 (length is 2), UInt32 (length is 4), Int32 (length is 4), Float (length is 4), Double (length is 8), Bool (length is 1), String (length is 2–255), WString (length is 4–80), DataTime (length is 8).

- 1. It cannot be null.
- 2. When the data type is Wstring or String: The value is only valid when it is 1.
- 3. When the the data type is of any type other than Wstring or String: The value is an integer within 1– 1600.

**Array count:** the number of elements in an array:

- 1. It cannot be null.
- 2. When the data type is Wstring or String: The value is only valid when it is 1.
- 3. When the the data type is of any type other than Wstring or String: The value is an integer within 1– 1600.

Address The address of the specified tag

- 1. It cannot be null.
- 2. The address is invalid and is not imported if not as specified by the protocol or the internal tag.
- 3. The address value should be formatted correctly, such as D 0 instead of D0, where the space cannot be omitted.

Acquisition cycle: The acquisition period of a specified tag:

- 1. It cannot be null.
- 2. Any period that is not 1h, 1min, 10s, 5s, 2s, 1s, 500ms, or 100ms, or that is not added in InoTouchPad is invalid.

**Acquisition mode:** The acquisition mode of a specified tag:

- 1. It cannot be null.
- 2. The value must be 0, 1, and 2 (0-on demand, 1-cyclic on use, and 2-cyclic continuous).

Maximum: restricts objects to numeric type:

- 1. When the import data is of UInt16, Int16, UInt32, Int32, Float, or Double type, any value beyond the limit is invalid (it can be void, meaning that there is no limit).
- 2. For Bool, WString, String and DataTime, the value must be void.
- 3. Maximum must be greater than minimum.
- 4. Non-numeric strings, including valid tag names, are invalid (The value is not exported if it is a tag).

Minimum: restricts objects to numeric type:

1. When the import data is of UInt16, Int16, UInt32, Int32, Float, or Double type, any value beyond the limit is invalid (it can be void, meaning that there is no limit).

- 2. For Bool, WString, String and DataTime, the value must be void.
- 3. Maximum must be greater than minimum.
- 4. Non-numeric strings, including valid tag names, are invalid (The value is not exported if it is a tag).

Start value: the start value of the specified tag:

- 1. When the import data is of UInt16, Int16, UInt32, Int32, Float, or Double type, any value beyond the limit is invalid (it can be void, meaning that there is no limit).
- 2. For Wstring and String types, the value is invalid if the string size is greater than the tag length.
- 3. For the DataTime type, the time value must be correct and in the format of "yyyy-MM-dd hh:mm:ss" or "yyyy/MM/dd hh:mm:ss" (note: the hour, minute and second are not necessary, but the year, month and day must be provided).

**Comment:** The comment of a tag.

**Group ID**: the tag group to which the tag should be imported. This is only effective when you import tag under Show All Tags, and the group ID must also exist.

#### **Text List**

During export, the text list information is written to a \*. csv file. The first 10 rows of the exported text are explanatory information and headers of the Text list, and the remaining rows are the exported data, which are in 5 columns: name, selection, comment, value, and entry. The fields are separated by ",". When a field is not empty, the contents are enclosed by double quotation marks. If the contents contain double quotation marks, the " will be escaped by another ", that is ""..."". (Note: The "," used to separate fields and the double quotation marks enclosing the contents of fields are English characters)

During import, the first 10 lines of the import text are in a fixed format, and can not be added, deleted or changed. In the import file, each entry occupies an independent line containing 5 fields which cannot be added or deleted:

**Name:** The name of the text list. If a name is empty, the line of data will not be imported. If the name exists in the project database, the imported data will overwrite the data in the database, otherwise, new data is added.

#### Selection:

- 1. It cannot be null.
- 2. Values other than 0, 1, and 2 are invalid. (0-bit, 1-bit number, 2-range value)

**Comment**: no restrictions.

#### Value:

- 1.0 (bit):
  - a. Values other than 0 or 1 are invalid.
  - b. The value that already exists in the database is invalid.
- 2.1 (bit number):
  - a. Values other than an integer in 0–31 are invalid.
  - b. The value that already exists in the database is invalid.
- 3.2 (range), single value:

- a. Values other than an integer in -2147483648-2147483647 are invalid.
- b. The value that already exists in the database is invalid.
- 4. 2 (range), single value:
  - a. Except for valid single-valued integers, all values that are not in the format of "number number" are invalid (note that there must be one, and only one, space before and after "-"). It is invalid if the minimum value is greater than or equal to the maximum value, or the value is beyond the range.

Entry: no restrictions.

#### Analog Alarm

During export, the alarm list information is written to a \*. csv file. The first 16 rows of the contents are explanatory information and headers of the text list, and the remaining rows are the exported data, which are in 11 columns: text, alarm class, trigger tag, limit, trigger mode, hysteresis mode, hysteresis, hysteresis in percent, delay, infotext and alarm group. The fields are separated by ",". When a field is not empty, the contents are enclosed by double quotation marks. If the contents contain double quotation marks, the " will be escaped by another ", that is ""..."". (Note: The "," used to separate fields and the double quotation marks enclosing the contents of fields are English characters)

The first 16 lines of the import text are in a fixed format, and can not be added, deleted or changed. In the import file, each alarm occupies an independent line containing 11 fields which cannot be added or deleted:

Text: no restrictions.

#### Alarm class:

- 1. It cannot be null.
- 2. Any class that is not in the alarm class is invalid.
- 3. Cannot be the system alarm.

#### Trigger tag:

- 1. Tag names that are not of type UInt16, Int16, UInt32, Int32, Float, or Double are invalid.
- 2. Tag names that do not exist in the tag list are invalid.
- 3. Tag names whose array count is not 1 are invalid.

#### Limit:

- 1. When there is no trigger tag, the limit must be null.
- 2. When there is a trigger tag, the limit must not exceed the tag range.
- 3. Tag names cannot be imported. (Note: Constants can be imported, but tags cannot.)

**Trigger mode:** any value except 0, 1, 2, 3, and 4. It cannot be null. (0: less than 1: greater than 2: equal to 3: less than or equal to 4: greater than or equal to)

**Hysteresis mode:** any value except 0, 1, 2, and 3. It cannot be null. (0: Off; 1: On "activated"; 2: On "activated" and "deactivated"; 3: On "deactivated")

#### **Hysteresis:**

- 1. It cannot be null.
- 2. It can only be 0 when the hysteresis mode is off.

3. When the hysteresis mode is not off, it must be an integer in 0-100.

#### **Hysteresis percent:**

- 1. It cannot be null.
- 2. It can only be 0 when the hysteresis mode is off.
- 3. When the hysteresis mode is not off, it must be 0 or 1.

#### Delay:

- 1. It cannot be null.
- 2. Values other than an integer in 0–10000 are invalid.

Infotext: No restrictions.

Alarm group: Any name that is not in the alarm group is invalid. It can be null.

#### **Discrete alarm**

During export, the alarm list information is written to a \*. csv file. The first 16 rows of the contents are explanatory information and headers of the alarm list, and the remaining rows are the exported data, which are in 11 columns: text, alarm class, trigger tag, Trigger bit, Info text, Alarm Group, HMI ack tag, HMI ack bit, PLC ack tag, PLC ack bit and trigger mode. The fields are separated by ",". When a field is not empty, the contents are enclosed by double quotation marks. If the contents contain double quotation marks, the " will be escaped by another ", that is ""..."". (Note: The "," used to separate fields and the double quotation marks of fields are English characters)

The first 16 lines of the import text are in a fixed format, and can not be added, deleted or changed. In the import file, each alarm occupies an independent line containing 11 fields which cannot be added or deleted:

Text: no restrictions.

#### Alarm class:

- 1. It cannot be null.
- 2. Any class that is not in the alarm class is invalid.
- 3. Cannot be the system alarm.

#### **Trigger tag:**

- 1. The tag must be of Uint16, Int16 and Bool type.
- 2. The tag name must exist in the tag list.
- 3. The array count of the trigger tag in the tag list must be 1. (note: it can be null.)

#### **Trigger bit:**

- 1. When there is no trigger tag, the trigger bit cannot be null.
- 2. It can only be 0 when the trigger tag is of Bool type.
- 3. It must be an integer in 0–15 when the the trigger tag is of Int16 or UInt16 type.
- 4. When there is a trigger tag, the trigger bit cannot be null.
- 5. In the discrete alarm database, the bit number of the tag whose name is identical to the trigger tag must be different. (That is, the same tag cannot have the same bit number in the whole alarm list)

#### Infotext: No restrictions.

Alarm group: Any name that is not in the alarm group is invalid. It can be null.

#### HMI ack tag:

- 1. When the trigger tag is of Bool type, it must be null.
- 2. When the trigger tag is an internal tag, it must be null.
- 3. When the trigger tag has an external connection:
  - a. The HMI ack tag must be of Int16 or Uint16 type.
  - b. The HMI ack tag and the trigger tag must be different tags.
  - c. The HMI ack tag name must exist (can be null).
- 4. When the trigger tag is null:
  - a. The HMI ack tag must be of Int16 or Uint16 type.
  - b. The data type of The HMI ack tag must exist (can be null).

#### HMI ack bit:

- 1. It must be an integer in 0–15 when the HMI ack tag is of Int16 or UInt16 Type.
- 2. When the HMI ack tag is null, it must be null.
- 3. The same HMI ack tag must not has the same bit.

#### PLC ack tag:

- 1. When the trigger tag is of Bool type, it must be null.
- 2. When the trigger tag is an internal tag, it must be null.
- 3. When the trigger tag has an external connection:
  - a. The PLC ack tag must be of Int16 or Uint16 type.
  - b. The PLC ack tag and the trigger tag must be the same.
  - c. The PLC ack tag name must exist (can be null).
- 4. When the trigger tag is null, the PLC ack tag must be null.

#### PLC ack bit:

- 1. It must be an integer in 0–15 when the PLC ack tag is of Int16 or UInt16 type.
- 2. It must be null when the PLC ack tag is null.
- 3. In the discrete alarm database, the bit number of the tag whose name is identical to the PLC ack tag must be different.

**Trigger mode:** any value except 0, 1, 2, and 3. It cannot be null. (0: 0->1 1: 1->0; 2: ==0; 3: ==1)

#### Internationalization

During exporting, the translation text information is written to a \*. csv file. The first 3 lines, which are in a fixed format, are some explanatory information of the tag list and the fourth line is the header of the list. The number of exported columns is determined by the start column of language and font. The contents after the fourth line are exported data. The fields are separated by ",". When a field is not empty, the contents are enclosed by double quotation marks. If the contents contain double quotation marks, the " will be escaped by another ", that is ""..."". (Note: The "," used to separate fields and the double quotation marks enclosing the contents of fields are English characters)

During importing, the first 3 lines of the import text are in a fixed format, and can not be added, deleted or changed.

Referenced by: 1. It cannot be null. 2. Users cannot define new reference information.

There are no restrictions for other columns.

#### Recipe

During exporting, the recipe data record list information is written to a \*. csv file. The first line is in a fixed format, which is some description information of the recipe data record list. The second line is the header of the list. The number of exported columns is determined by the number and name of data records. The first column is the element name of the recipe, and the content after the second line (except the first column) is the exported data. The fields are separated by ",". When a field is not empty, the contents are enclosed by double quotation marks. If the contents contain double quotation marks, the " will be escaped by another ", that is ""..."". (Note: The "," used to separate fields and the double quotation marks enclosing the contents of fields are English characters)

During importing, the first 1 line of the import text are in a fixed format, and can not be added, deleted or changed.

**Name:** The name of an element. Generally, it will not be modified when exported. It is used to modify the recipe with data records.

Data record name column: numerical data corresponding to each element:

- 1. If any data in this column is null, the data record is discarded during import.
- 2. If any data in this column does not match the element tag type, the data record is discarded during import.
- 3. If any data in this column exceeds element tag type upper limit, the data record is discarded during import.



When editing the exported \*. csv file, you cannot add new rows, that is, you cannot add components externally. If you add any new row, you cannot import the whole table because the number of components is incorrect. However, you can add new columns, that is, a new data record. The data record name in the table header must not be empty, otherwise, the data in this column will be filtered out during importing. In addition, if the data record name of the newly added column already exists, the data record data with the same name will be overwritten during importing; If the data record name of the new column does not exist, it will be imported into the software tool as a new data record. This also applies to importing and exporting in HMIAutorun.

# 16.3.2 Importing and Exporting Tags

You can import and export a tag group or all tags. To export a tag group, expand Tags in the Project view, and then double-click the tag group (for example, Tag group\_2) to open the editor.

Pro	ect	er ×		0000	)1:Screen_1	🗙 🥶 Та	ag group	_2 ×						
FI0	⊕ c	Communication			N									
		Connections		+.	Nan	ne •	<ul> <li>Nun</li> </ul>	nber •	Connection Id	Date	a type	Length	Array count	Address
	두	Cycles		1	LW 0		5		<internal tag=""></internal>	Int16	2		1	LW 0
	<u>-</u>	Tags(2/128)		2	LW1		8		<internal tag=""></internal>	Int16	2		1	LW 1
		🗟 Show All Tags		3	LW 2		9		<internal tag=""></internal>	Int16	2		1	LW 2
		🖽 Add Tag Group		4	LW 3		10		<internal tag=""></internal>	Int16	2		1	LW 3
		- 📹 System Tags		5	LW 4		11		<internal tag=""></internal>	Int16	2		1	LW 4
		📹 Tag group_2		6	LW 5		12		<internal tag=""></internal>	Int16	2		1	LW 5
+	@ D	)ata Service												
Ð	🗛 A	larm Management	LW	8 (Tags	s)									
	<u>д</u> Р	Recipes(3/100)		Gener	ral									Gene
•	0101 0101 H	listorical Data		Prope Event		General					Settings			
•	S	cripts(0/400)			-		Name	LW 8			Array count	1		*
٠	🗐 P	Report(3/100)				Co	nnection	<interna< td=""><td>l tag&gt;</td><td>*</td><td>Length</td><td>2</td><td></td><td>÷</td></interna<>	l tag>	*	Length	2		÷
•	🗎 S	tatus Lists				D	ata type	Int16		*	Group	Tag group_	2	*
		Runtime User Administration				Acquisitio	on mode	Cyclic o	nuse	Ŧ				
Det	ails Vie	w				Acquisiti	on cycle	100ms		Ŧ				

Right-click the tag group to show the following context menu:

Communication	+	Nan	ne 🔹 🔺 N	umber 🝷 Co	onnection Id	Data type	Length	Array count	Address
- 😅 Cycles	1	LW 0	5	<int< td=""><td>ernal tag&gt;</td><td>Int16</td><td>2</td><td>1</td><td>LW 0</td></int<>	ernal tag>	Int16	2	1	LW 0
🖻 📲 Tags(2/128)	2	LW1	8	<int< td=""><td>ernal tag&gt;</td><td>Int16</td><td>2</td><td>1</td><td>LW1</td></int<>	ernal tag>	Int16	2	1	LW1
🗧 🔁 Show All Tags	3	LW 2	9	<int< td=""><td>ernal tag&gt;</td><td>Int16</td><td>2</td><td>1</td><td>LW 2</td></int<>	ernal tag>	Int16	2	1	LW 2
- 🖽 Add Tag Group	4	LW 3	10	<int< td=""><td>ernal tag&gt;</td><td>Int16</td><td>2</td><td>1</td><td>LW 3</td></int<>	ernal tag>	Int16	2	1	LW 3
- 📲 System Tags	5	LW 4	11	<int< td=""><td>ernal tag&gt;</td><td>Int16</td><td>2</td><td>1</td><td>LW 4</td></int<>	ernal tag>	Int16	2	1	LW 4
	)pen editor Rename	LW 5	12	<int< td=""><td>ernal tag&gt;</td><td>Int16</td><td>2</td><td>1</td><td>LW 5</td></int<>	ernal tag>	Int16	2	1	LW 5
	Duplicate Export mport	al							Gene
	Even	uties ts	General			Settir	-		
G     Report(3/100)	_			ie LW 8			/ count 1		*
Status Lists			Data typ	on <internal.tag< td=""><td><b>}</b></td><td></td><td>Length 2 Group Tag grou</td><td>n 2</td><td></td></internal.tag<>	<b>}</b>		Length 2 Group Tag grou	n 2	
🕀 🕘 Runtime User Administration			Acquisition mod		е		mante fragigion	I	
Details View	a ×		Acquisition cyc	e 100ms		~			

Click Export, and the export window pops up:

Organize 🔻 New	/ folder					(
		Name	Date modified	Туре	Size	
🔆 Favorites					0.20	
🧮 Desktop		🎍 crashes	12/28/2021 6:31 PM	File folder		
🗼 Downloads		퉬 driver	12/28/2021 6:28 PM	File folder		
📃 Recent Places		퉬 examples	7/8/2021 5:15 PM	File folder		
	=	퉬 fonts	12/28/2021 6:29 PM	File folder		
ز Libraries		퉬 Graphics	11/3/2020 11:51 AM	File folder		
Documents		퉬 logs	12/28/2021 6:31 PM	File folder		
👌 Music		퉬 plugins	12/28/2021 6:29 PM	File folder		
Pictures		lemp	12/28/2021 6:31 PM	File folder		
😸 Videos		UnifiedDevices	12/28/2021 6:31 PM	File folder		
		usbdriver	12/28/2021 6:29 PM	File folder		
🖳 Computer	-	👔 InoTouchPad	12/28/2021 6:31 PM	Internet Shortcut	1 KB	
File name:						_
Save as type:	ANSI C	SV Files (*.csv)				

Click Save to export the file in CSV format, which can be viewed and edited by Excel. At the same time, the status bar shows the following message:

⊕- > Scripts(0/400)	
🖭 🧾 Report(3/100)	
🕀 📄 Status Lists	
🖭 🙆 Runtime User Administration	
🗄 🚸 Resource	
Output	
Category	
Info	9 pieces of data are derived

For import, similarly, also right-click the tag group to show the context menu:

	Communication		+_	Nar	ne •	<ul> <li>Num</li> </ul>	iber 🔹	Connection Id	Data	type	Length	Array count	Address
	Cycles		1	LW 0		5		<internal tag=""></internal>	Int16	2	1		LW 0
Þ	ٵ Tags(2/128)		2	LW1		8		<internal tag=""></internal>	Int16	2	1		LW 1
	😪 Show All Tags		3	LW 2		9		<internal tag=""></internal>	Int16	2	1		LW 2
	- 🕣 Add Tag Group		4	LW 3		10		<internal tag=""></internal>	Int16	2	1		LW 3
	🚽 🖘 System Tags		5	LW 4		11		<internal tag=""></internal>	Int16	2	1		LW 4
	Data Service	Open edit Rename	tor	LW 5		12		<internal tag=""></internal>	Int16	2	1		LW 5
	Alarm Management Recipes(3/100)	Duplicate Export											
_	Historical Data	Import	Events	al ties	General					Settings			Gen
•	Scripts(0/400)					Name	LW 8			Array count	1		*
•	Report(3/100)				Cor	nnection	<interna< td=""><td>l tag&gt;</td><td>-</td><td>Length</td><td>2</td><td></td><td>÷</td></interna<>	l tag>	-	Length	2		÷
•	) Status Lists				D	ata type	Int16		-	Group	Tag group_2		<b>*</b>
	) Runtime User Administratio	n			Acquisitio	in mode	Cyclic o	n use	-				
Details	View	er ×			Acquisitio	on cvcle	100ms		-				

Click Import, and the following message box pops up:

Imp Impo	ort		×
?	Import will be overwrite the whether to continue to imp		ame variable name ,
	Yes	No	

Click No to cancel importing and Yes to continue: The import window pops up:

Import Tags	1 1011		✓→ Search Docume.	×
Correction Libraries > De		•	Search Docume	nts 🔎
Organize 🔻 New folder				-
	Documents library		Arrange	oy: Folder 🔻
	ame	Date modified	Туре	Size
🖳 Recent Places	InoTouchPad	12/28/2021 6:31 PM	File folder	
🔚 Libraries	tag.csv	12/29/2021 5:34 PM	CSV File	0 KB
Documents				
🎝 Music				
Pictures				
Videos				
IT compare				
📬 Network 🔹 🔻				
File name:	tag.csv		CSV Files (*.csv)     Open	✓ Cancel

Select the file to be imported in the pop-up window and click Open. after the import is completed, the output window will show a message about the result.

Output				₽×
	Category	Description	Time	
Info		9 data successfully imported and 0 data failed imported.	16:28:37	
Output	Properties			
Output	Properties			

For import and export of all tags, you can double click Show All Tags and perform the above operations.

🗏 📹 Tags(2,	/128)
- 🔁 Sho	w All Taos
- 🕣 Ad	Open editor
	Export
	Import
🔤 Tag	group_2



System Tag Group cannot be imported or exported.

# 16.3.3 Importing and Exporting Alarms

You can import and export analog alarms and discrete alarms. This section instructs you how to import and export analog alarms.

In the Project view, expand Alarm Management and then double-click Analog Alarms to open the editor.

roject 🗗 🛪	🖾 000	01:Screen_1	🗙 🔀 Analog Al	arms 🗙						
- 📨 Screens(2/512)		Tert	Number •	0	Timester	Trimonala	1 1	L barren eta an est		
Communication	+.	Text	▲ Number ▼	Class	Trigger tag	Trigger mode	Limit	Hysteresis mod		
🗝 🍙 Data Service	1	analog_1	1	Errors	LW 0	>	<no limit=""></no>	Off		
🕂 🛕 Alarm Management	2	analog_2	2	Errors	LW1	>	<no limit=""></no>	Off		
– 🔀 Analog Alarms	3	analog_3	3	Errors	LW 2	>	<no limit=""></no>	Off		
— 😽 Discrete Alarms	4	analog_4	4	Errors	LW 3	>	<no limit=""></no>	Off		
– 🖼 System Alarms	5	analog_5	5	Errors	LW 5	>	<no limit=""></no>	Off		
🗈 🧔 Settings	6	analog 6	6	Errors	LW 6	>	<no limit=""></no>	Off		
- <u>X</u> Recipes(3/100)		9								
Historical Data	analog 1 (	Analog alarms)								
> Scripts(0/400)	Gene									
- 🗊 Report(3/100)	🗄 Prop	erties	Settings					Gene		
🗉 📄 Status Lists	⊞-Even	ts	Text ana	I						
- (8) Runtime User Administration			Number 1	iog_i	*					
- 🚸 Resource										
HMI Settings			Classes Errors  Groups (Undefined)							

Right-click Analog Alarms to show the following context menu:

Projec	t	- × 🖼	0000	1:Screen_1	🗙 🔀 🛛 Analog Ali	arms ×				
• <b>(</b>	Screens(2/512)		+.	Text	<ul> <li>Number •</li> </ul>	Class	Trigger tag	Trigger mode	Limit	Hysteresis mod
	Data Service Alarm Management		1 2	analog_1 analog_2	2	Errors Errors	LW 0	> >	<no limit=""></no>	Off
	,	en editor port	3 4	analog_3 analog_4	3	Errors Errors	LW 2 LW 3	> >	<no limit=""></no>	Off Off
ŧ		port	5	analog_5	5	Errors Errors	LW 5	>	<no limit=""></no>	Off Off
+·· 010	Recipes(3/100)	anal		analog_6 (nalog alarms)	0	Errors		,		on
• 🖸	> Scripts(0/400) Report(3/100)	<b>.</b>	Gener Prope Event:	rties	Settings					Gener
<b>+</b> (8	-				Text_ana Number 1 Classes Erro		•			
÷ 🔅	HMI Settings				Groups VIn		· · ·			

Click Export, and the export window pops up:

Export Analog Alarn	ns					X
COO - E + Lib	raries	Documents	•	<ul> <li>✓</li> <li>Search E</li> </ul>	Documents	٩
Organize 🔻 Nev	v folde	r				0
ጵ Favorites 📃 Desktop	<b>^</b>	Documents library Includes: 2 locations		A	rrange by: Folder 🔻	
Downloads		Name	Date modified	Туре	Size	
🖳 Recent Places	=	퉬 InoTouchPad	12/28/2021 6:31 PM	File folder		
🔚 Libraries	-	recipe_1.csv	12/29/2021 5:34 PM	CSV File	0 KB	3
Documents						
🁌 Music						
Pictures						
🕂 Videos						
🖳 Computer	-					
File name:	Analo	gAlarm				-
Save as type:	ANSI (	CSV Files (*.csv)				•
Alide Folders				Save	Cancel	

Click Save to export the file in CSV format, which can be viewed and edited by Excel. At the same time, the status bar shows the following message:

Output		ප ×
Category	Description	Time
Info	The analog alarms are derived from 6 elements.	16:39:42
Info	The analog alarms are derived from 6 elements.	16:39:42

For import, similarly, also right-click Analog Alarms to show the context menu:

Pro	oject 🗗 🛪	🖾 000	01:Screen_1	🗙 😼 Analog Al	arms ×				
•	Screens(2/512)  Communication  Data Service  Alarm Management  Alarm Management  Screte Alarms Export  System Alarms Import  Communication	+ 1 2 Dr 3 4 5	Text analog_1 analog_2 analog_3 analog_4 analog_5	Number           1           2           3           4           5	Class Errors Errors Errors Errors Errors	Trigger tag       LW 0       LW 1       LW 2       LW 3       LW 5	Trigger mode	Limit <no limit=""> <no limit=""> <no limit=""> <no limit=""> <no limit=""></no></no></no></no></no>	Hysteresis mod Off Off Off Off Off Off Off
		6 analog_1	analog_6 (Analog alarms)	6	Errors	LW 6	>	<no limit=""></no>	Off
+	-	⊕ Gen ⊕ Prop ⊕ Ever	erties	Settings Text ana Number 1 Classes Erro Groups <un< td=""><td>irs</td><td>•</td><td></td><td></td><td>Gener</td></un<>	irs	•			Gener

Click Import, and the following message box pops up:

I	Impo	ort			×
	?	Wh	ether to emp	ty the analoga	alarm data?
			Yes	No	

The following dialog box shows to ask you whether to empty the analog alarm data before importing. If you only want to export the data to modify them and then import them again, it is recommended to click Yes and the following window will pop up:

Import Analog Alar						X
G 🖉 🖛 Lib	oraries 🕨	Documents 🕨	•	<b>↓</b> Searc	h Documents	Q
Organize 👻 New	w folder				:≕ ▼ 🚺	?
쑦 Favorites 📃 Desktop		Documents library Includes: 2 locations			Arrange by: Folder -	
Downloads		Name	Date modified	Туре	Size	
🖳 Recent Places		퉬 InoTouchPad	12/28/2021 6:31 PM	File folder		
🔚 Libraries		AnalogAlarm.csv	12/29/2021 5:34 PM	CSV File	0 KB	
Documents						
🌙 Music						
Pictures						
Videos						
12						
🗣 Network	-					
	File nan	ne: AnalogAlarm.csv			es (*.csv) pen Cancel	•

Select the file to be imported in the pop-up window and click Open. after the import is completed, the output window will show a message about the result.

Output				₽×
	Category	Description	Time	
Info		6 data successfully imported and 0 data failed imported.	16:45:09	
				_
Output	Properties			

For import and export of discrete alarms, you can double click Discrete Alarms and perform the above operations.

# 16.3.4 Importing and Exporting the Recipe

You can import and export the data logs of a recipe. Enter the data log workspace of recipe\_1, as shown in the following figure:

lumbe	r 1 🌻 Dis	splay name Rec	ipe_1	Synchronize	e Tags 🛛 🗹 Ta	gs offline		
lemen	ts Data record	s					Export	lm
+.	Name	Display name	Number	Element_1	Element_2	Eleme	nt_3	
1	DataRecord_1	DataRecord_1	1	1	2	3		
2	DataRecord_2	DataRecord_2	2	1	2	3		
3	DataRecord_3	DataRecord_3	3	1	2	3		

Then click the Export button in the upper right corner. Input the name of the exported file in the popup window.

Export Recipe					×
	oraries I	Documents	•	<b>∳</b> Search	Documents 🔎
Organize 🔻 Ne	w folder	·			!≡ ▼ 🔞
Desktop	^	Documents library Includes: 2 locations			Arrange by: Folder -
in Recent Places		Name	Date modified	Туре	Size
🥽 Libraries		퉬 InoTouchPad	12/28/2021 6:31 PM	File folder	
Documents	E	Textlist.csv	12/29/2021 5:34 PM	CSV File	0 KB
J Music					
Pictures					
🖳 Computer					
<b>•</b> ••••	-				
File name:	recipe	1			•
Save as type:	ANSI C	SV Files (*.csv)			•
Aide Folders				Sa	ve Cancel

Click Save to export the file in CSV format, which can be viewed and edited by Excel. At the same time, the output window will also show a message.

Output			e x
	Category	Description	Time
Info		3 DataRecord exported.	16:50:39
Output	Properties		

Import Recipe							x
Coo - E + Librari	es ▶ D	ocuments 🕨	•	<b>€</b> ∳ Searc	ch Documents		٩
Organize 🔻 New fo	older				!≡ ▼		0
ጵ Favorites 📃 Desktop		Occuments library			Arrange by:	Folder 🔻	
Downloads	N	ame	Date modified	Туре	Size	2	
🖳 Recent Places		InoTouchPad	12/28/2021 6:31 PM	File folder			
🥞 Libraries		recipe_1.csv	12/29/2021 5:34 PM	CSV File		0 KB	
Documents	=						
🎝 Music							
Pictures							
💾 Videos							
🖳 Computer							
👊 Network	-						
	e name:	recipe_1.csv			iles (*.csv) Open	Cancel	•

Likewise, you can click the Import button in the upper right corner to import a file.

Select the file to be imported in the pop-up window and click Open. after the import is completed, the output window will show a message about the result.

Output			ප ×
	Category	Description	Time
Info		3 DataRecord successfully imported and 0 DataRecord failed imported.	16:51:40
Output	Properties		

# 16.3.5 Importing and Exporting Text List

To import and export a text list, go to Status Lists→Text Lists, and then double-click Text Lists to open the text list editor. The workspace displays all the created text lists:

Project 🗗	× 🖾 0000	11:Screen_1	× 1≡ Text Lists	×					
E Screens(2/512)			Textli	sts		List entries(Text list_1)			
Communication	_								
⊕ Data Service	+.	Name	- Number •	Selection	Comment	+.	<ul> <li>Number</li> </ul>	Value 🝷	Entry
e- ▲ Alarm Management T Recipes(3/100)	1	Text list_1	1	Range ()		1	3	0	
■ <u>I</u> Recipes(3/100)	2	Text list_2	2	Range ()		2	4	1	
Historical Data	3	Text list_3	3	Range ()		3	5	2	
III	4	Textlist 4	4	Range ()		4	6	3	
■ [] Report(3/100)	5	Text list_5	5	Range ()			-	-	
🖻 📄 Status Lists	5	TEXCIIS(_5	5	Hange ()					
1≡ ⊤ext Lists									
🕀 🙆 Runtime User Administration	Text list_1 (								
🗈 🚸 Resource	Gener								Ge
🗄 🧔 HMI Settings	a riope	.1405	Settings						
			Name Te	xtlist_1					
			Select Ra	nge ()		-			

Right-click on the Text Lists:

### **Typical Functions**

	oject Edit Compiler View Options Hel Com The Part of the Compiler View Options (Compiler View Options)		୲ଢ଼୷୷ଡ଼	😽 击 📥 en_US	<b>*</b>							
ect	Project & X	🖾 000	01:Screen_1	× 1 Text Lists	×							
etails View P	Screens(2/512)     Gommunication			Text li	sts			List	List entries(Text list_1)			
		+	Name	- Number -	Selection	Comment	+	<ul> <li>Number</li> </ul>	Value 🔹	Entry		
	🟵 🔺 Alarm Management	1	Text list_1	1	Range ()		1	3	0			
õ		2	Text list_2	2	Range ()		2	4	1			
	🗈 🔝 Historical Data	3	Text list_3	3	Range ()		3	5	2			
	⊕  Eripts(0/400) ⊕ □ □ Report(3/100)	4	Text list_4	4	Range ()		4	6	3			
	E Status Lists	5	Text list_5	5	Range ()							
	I = Text Lists Copen editor     I = Graphics Li     Export     Import     Import	Гext list_1	(Text List)							त <b>२</b>		
	E 🚸 Resource	Gene ⊕ Prop		Settings						General		
	🖭 🔯 HMI Settings			Name Te Select Ra			•					

Click Export, and the export window pops up:

TP Export TextList						x
C V Lik	oraries	► Documents ►	•	✓ Search Do	ocuments	م
Organize 🔻 Ne	<ul> <li>▼ Libraries ► Documents ►</li> <li>▼ 49 Search Documents</li> <li>e ▼ New folder</li> <li>eektop</li> <li>boxnoor Second Secon</li></ul>	•	0			
Desktop	^	Includes: 2 locations		An	range by: Folder 🔻	
incent faces			Date modified	Туре	Size	
<ul> <li>∠ibraries</li> <li>Documents</li> <li>Music</li> <li>Pictures</li> <li>Videos</li> <li>Computer</li> </ul>					0 KB	
						•
Alide Folders				Save	Cancel	

Click Save to export the file in CSV format, which can be viewed and edited by Excel. Note that the data of text lists and list entries are merged. At the same time, the status bar shows the following message:

Output			ප ×
Category		Description	Time
Info	11 Data exported.		16:59:26
Output Properties			

For import, similarly, also right-click Text Lists:

	< 🖾 000	01:Screen_1	× 1≡ Text Lists	s ×					
E Screens(2/512)			TextI	ists			List	entries(Text list_1)	
Communication		N	n NL L	<ul> <li>Selection</li> </ul>	0		NI III		Entra
🗄 🍙 Data Service	+,	Name	<ul> <li>Number</li> </ul>	<ul> <li>Selection</li> </ul>	Comment	+,	<ul> <li>Number</li> </ul>	Value •	Entry
🗄 🛕 Alarm Management	1	Text list_1	1	Range ()		1	3	0	
	2	Text list_2	2	Range ()		2	4	1	
🗄 🛄 Historical Data	3	Text list_3	3	Range ()		3	5	2	
Scripts(0/400)	4	Textlist 4	4	Range ()		4	6	3	
₽- 🧾 Report(3/100)	5	Text list 5	5	Range ()				Ŭ	
🖻 📄 Status Lists	5	Text1st_5	5	Hange ()					
— 1 = Text Lists 😞 Open editor									
🗉 🛞 Runtime User / Import	l ext list_1	(Text List)							
🖻 🚸 Resource	Gene ⊕ Prop								Ger
🗉 🧔 HMI Settings	. Fiob	entes	Settings						
			Name_T	ext list_1					
			Select Re	ange ()		-			

Click Import, and the following message box pops up:

Impo	ort			×
?		oe overwrite th continue to im		same textlist name ,
		Yes	No	

Click No to cancel importing and Yes to continue: The import window pops up:

Import TextList						×
G V Lik	oraries 🕨	Documents 🕨	•	<ul> <li>✓</li> <li>Search E</li> </ul>	Documents	Q
Organize 🔻 Ne	w folder					
🔶 Favorites 📃 Desktop		Documents library Includes: 2 locations		A	rrange by: Fo	Folder V
Downloads		Name	Date modified	Туре	Size	
Recent Places		퉬 InoTouchPad	12/28/2021 6:31 PM	File folder		
🥞 Libraries		Textlist.csv	12/29/2021 5:34 PM	CSV File		0 KB
<ul> <li>Documents</li> <li>Music</li> <li>Pictures</li> <li>Videos</li> <li>Computer</li> <li>Network</li> </ul>	E .					
	File nam	e: Textlist.csv		CSV Files     Oper		▼ ancel

Select the file to be imported in the pop-up window and click Open. after the import is completed, the output window will show a message about the result.

Output				ē ×
	Category	Description	Time	
Info		11 data successfully imported and 0 data failed imported.	17:00:42	
Output	Properties			

# 16.3.6 Importing and Exporting Translation Text

The export function enables you to export project data for viewing, editing and modifying;

The import function enables you to import the modified exported data, and then apply these data in a project.

In the Project view, expand Resource and then double-click I18N to open the editor.

Project 27 1	× 🖼 000	01:Screen_1 × ઉ I18N ×				
Project and the second		T All Baidu Translate				
🗄 🌐 Communication						Export
Data Service     Data Service     Data Service     Data Service     Data Service     Data Service		Referenced by	en_US	zh_CN	zh_TW	
🕀 🗛 Alarm Management	1	ScreenList/40000/title	System Alarms	系统报警	系統報警	
	2	ScreenList/40001/title	Communication Alarms	ÍѶ±'%	ÍѶ±¾	
Historical Data	3	Groups/1/DisplayName	Operator group	操作员组	操作員組	
	4	Groups/2/DisplayName	Admin group	管理员组	管理員組	
e-   Report(3/100) e-   Status Lists	5	AlarmClasses/1/DisplayName	l l		E ALYON	
B Runtime User Administration	6	AlarmClasses/2/DisplayName	#	#	#	
⊨ I Resource	7	AlarmClasses/3/DisplayName	\$	\$	\$	
-{/} Project Language	8	Users/1/DisplayName				
- A Lang and Font	9	ScreenScene/13/write				
- 😌 I18N	10	TextEntry/7/Entry				
- 🔣 Global StyleSheet 	11	TextEntry/8/Entry				

#### Right-click on I18N.

🕒 🖾 Screens(2/512)						Export I	
🕀 🌐 Communication		All 🗾 Baidu Translate					Impor
🗈 🝙 Data Service		Referenced by	en US	zh CN	zh TW		
<ul> <li>⊕ A Alarm Management</li> <li>⊕ T Recipes(3/100)</li> </ul>	1	ScreenList/40000/title	System Alarms	系统报警	系統報警		
	· ·	Screen List 40000 alle	System Alumns				
⊕- 🔤 Historical Data	2	ScreenList/40001/title	Communication Alarms	ÍѶ±¾¯	ÍѶ±¾		
	3	Groups/1/DisplayName	Operator group	操作员组	操作員組		
🖻 📴 Report(3/100)	4	Groups/2/DisplayName	Admin group	管理员组	管理員組		
🗈 📄 Status Lists	5	AlarmClasses/1/DisplayName	I	I	I		
⊕	6	AlarmClasses/2/DisplayName	#	#	#		
E 🔶 Resource	7	AlarmClasses/3/DisplayName	\$	\$	\$		
{// Project Language	8	Users/1/DisplayName					
<ul> <li>A Lang and Font</li> </ul>	9	ScreenScene/13/write					
🐨 🕄 🕞 🕞 🕞 🕞	10	TextEntry/7/Entry					
- K Global Style Supert	10	rexulting granning					

Click Export in the context menu (or click the Export button in the upper right corner). Input the name of the exported file in the pop-up window.

TP Export I18n	100.0	r 1864/10"			X
	raries	Documents >	•	← Search Do	cuments 🔎
Organize 🔻 Ne	w folde	Bill •         Documents library ncludes: 2 locations         Iame       Date modified       Type         InoTouchPad       12/28/2021 6:31 PM       File folder         recipe_1.csv       12/29/2021 5:34 PM       CSV File	:== 🕶 🔞		
🔆 Favorites 📃 Desktop		Documents library Includes: 2 locations		Arra	ange by: Folder 🔻
Downloads		Name	Date modified	Туре	Size
🖳 Recent Places		퉬 InoTouchPad	12/28/2021 6:31 PM	File folder	
Computer	E	recipe_1.csv	12/29/2021 5:34 PM	CSV File	0 KB
File name:	118n				•
Save as type:	ANSI C	SV Files (*.csv)			•
Alide Folders				Save	Cancel

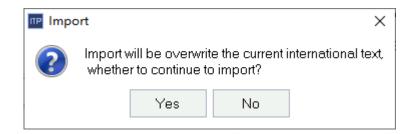
Click Save to export the file in CSV format, which can be viewed and edited by Excel. At the same time, the status bar shows the following message:

Output					æ×
	Category		Description	Time	
Info		34 Data exported.		17:10:08	
Output	Properties				

For import, similarly, also right-click I18N:

Project		CO00 🖾	11:Screen_1 × ઉ I18N ×					
	reens(2/512)		<ul> <li>Baidu Tri</li> </ul>	anslate			Export	Import
🕀 🌐 Co	ommunication							
	ata Service		Referenced by	en_US	zh_CN	zh_TW		
⊕ <mark>▲</mark> Ala ⊕ ⊼ Re	arm Management	1	ScreenList/40000/title	System Alarms	系统报警	系統報警		
🗉 📕 Re	ecipes(3/100)	-			ÍѶ±¾			
🕀 📶 His	storical Data	2	ScreenList/40001/title	Communication Alarms				
🖭 > Sci	cripts(0/400)	3	Groups/1/DisplayName	Operator group	操作员组	操作員組		
🕀 🚺 Re	eport(3/100)	4	Groups/2/DisplayName	Admin group	管理员组	管理員組		
🗉 📄 Sta	atus Lists	5	AlarmClasses/1/DisplayName	l	I.	ļ		
🗄 🙆 Ru	intime User Administration	6	AlarmClasses/2/DisplayName	#	#	#		
🖻 🔶 Re	esource	7	AlarmClasses/3/DisplayName	\$	\$	\$		
{//}	Project Language	8	Users/1/DisplayName					
	Lang and Font	9	ScreenScene/13/write					
	118N Open editor	10	TextEntry/7/Entry					
	Global Styles Export SoftKeyboard Import	11	TextEntry/8/Entry					

Click Import, and the following message box pops up:



Click No to cancel importing and Yes to continue: The import window pops up:

Import I18n	-	" 1864 N"			×
	oraries )	Documents >	•	✓ Search Do	cuments 🔎
Organize 🔻 Ne	w folder				:= - 🚺 🔞
ጵ Favorites 📃 Desktop		Documents library Includes: 2 locations		Arr	ange by: Folder 🔻
Downloads		Name	Date modified	Туре	Size
🔚 Recent Places		🌗 InoTouchPad	12/28/2021 6:31 PM	File folder	
🔚 Libraries		118n.csv	12/29/2021 5:34 PM	CSV File	0 KB
Documents	Ξ				
J Music					
Pictures					
Videos					
🍢 Computer					
🗣 Network	-				
	File nar	me: I18n.csv		CSV Files (*	.csv)  Cancel

Select the file to be imported in the pop-up window and click Open. after the import is completed, the output window will show a message about the result.

Output			dī ×
	Category	Description	Time
Info		34 data successfully imported and 0 data failed imported.	17:10:59
Output	Properties		

You can use the filter to only export translation text in a specific category:

All		-
All	•	
Screens	13	
AnalogAlarms		
DiscreteAlarms		
AlarmClasses		
Recipes		
TextListEntry		
Groups		
Predefined items		
Reports		

During importing, the imported text and the text displayed by the current filter must be of the same category. Otherwise, the import will fail. For example, if you import translation text in the Screens category while the filter condition is Recipes, warnings will display in the Output window and no item is imported.

# 16.3.7 Exporting Data Logs

If a project has configured data logging, after the runtime runs for a period of time, you can export the logged data in the control panel of HMI.

Insert a USB drive or SD card into the HMI, enter the download page of the control panel, and select the directory where the log to be exported, as shown in the following figure:

lownload								B	ack
Mount device:	SDC	AR	•	Export Co	ode Sele	ction: GBH	< -		
Name				Size	Туре	e l	Date Mo	dified	
history				Fold	ler	8 Dec 20	21 17:12:32		
⊜ path1					Fold	er	8 lan 201	9 17:14:45	
	rt:	COM1	-	RS485	•	PLC Devic	e Type:	AM600 Ser	ries
PLC Update Po	rt:	COM1 PLC F		RS485 HMI	•	PLC Devic		AM600 Sei Uploa	
PLC Update Po Update: Export:	rt:		'ro.		Ţ Pro.		nload		ad

Then click the Log button in the Export field, and the following dialog box will pop up:

Datalog -
Datalog
AlarmLog
OperationRecord

Select Data Log and click Yes.

Do you want t	o export file ?
Yes	No

Click Yes in the message box to start export. After the progress data reaches 100%, you will be prompted if the export is successful or failed. If the user did not select an export path, it is exported to the root directory by default. You can open the exported csv file with Excel.

# 16.3.8 Exporting Alarm Logs

If a project has configured alarm logging, after the runtime runs for a period of time, you can export the logged alarm data in the control panel of HMI.

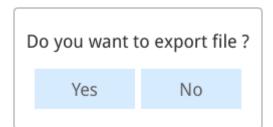
Insert a USB drive or SD card into the HMI, enter the download page of the control panel, and select the directory where the log to be exported, as shown in the following figure:

Download								Back	(
Mount device: SD	ICAR	v	Export Cod	e S	elec	tion: GBK	•		
Name			Size	Т	ype	Dat	e Mod	ified	*
history				F	old	er 8D	ec 202	1 17:12:32	
🖻 path1				ŀ	old	er 8 Ja	in 2019	17:14:45	
									-
PLC Update Port:	COM1	٠	RS485		٠	PLC Device 1	ype:	AM600 Series	-
Update:	PLC Pro.		HMI Pro	о.		Downloa	ad	Upload	
Export:	Record		SystemL	og		Recipe D	ata	LocalSreensh	iots
Import:	Recipe Data		Logo						

Then click the Log button in the Export field, and the following dialog box will pop up:



Select Alarm Log and click Yes.



Click Yes in the message box to start export. After the progress bar reaches 100%, you will be prompted if the export is successful or failed. If the user did not select an export path, it is exported to the root directory by default. You can open the exported csv file with Excel.

# 16.3.9 Exporting Operating Log

If a project has enabled operation logging, after the runtime runs for a period of time, you can export the logged operation data in the control panel of HM.

Insert a USB drive or SD card into the HMI, enter the download page of the control panel, and select the directory where the log to be exported, as shown in the following figure:

Download							Bac	k
Mount device: SD	CAR	*	Export Code	Sele	ction: G	BK -		
Name			Size	Тур	e	Date Mod	dified	-
history				Fol	der	8 Dec 20	21 17:12:32	
🖮 path1				Fold	ler	8 Jan 201	9 17:14:45	
								-
PLC Update Port:	COM1	•	RS485	*	PLC De	vice Type:	AM600 Serie	5 -
Update:	PLC Pro.		HMI Pro.		Dov	wnload	Upload	
Export:	Record		SystemLo	g	Reci	pe Data	LocalSreens	nots
Import:	Recipe Data		Logo					

Then click the Log button in the Export field, and the following dialog box will pop up:

Datalog	•
Datalog	
AlarmLog	
OperationRecord	

Select Operation Log and click Yes.

Do you want to export file ?									
	Yes	No							

Click Yes in the message box to start export. After the progress bar reaches 100%, you will be prompted if the export is successful or failed. If the user did not select an export path, it is exported to the root directory by default. You can open the exported csv file with Excel.

# 16.3.10 Exporting the Log

The log is some system output information recorded by runtime, which is stored in \*. txt format. The export steps are as follows:

Insert a USB drive or SD card into the HMI, enter the download page of the control panel, and select the directory where the log to be exported, as shown in the following figure:

Download							В	lack
Mount device: SD	CAR		Export Code	Sele	ction: GE	sk •		
Name			Size	Туре		Date Mo	dified	*
history				Fold	er	8 Dec 20	21 17:12:32	
🖻 path1				Fold	er	8 Jan 201	9 17:14:45	
								-
PLC Update Port:	COM1	٠	RS485	*	PLC Dev	ice Type:	AM600 Ser	ries 🔹
Update:	PLC Pro.		HMI Pro.		Dow	nload	Uploa	ad
Export:	Record		SystemLo	g	Recip	e Data	LocalSree	nshots
Import:	Recipe Data		Logo					

Then click the "Log" button in the Export field, and the following dialog box will pop up:

Do you want to export file ?										
Yes	No									

Click Yes to start export. After the progress bar reaches 100%, you will be prompted if the export is successful or failed. The export file is in \*. txt format and stored in the path specified by the user. The export file is as follows:

-		-
⊨ path1	Folder	8 Jan 2019 18:20:12
- HMIAutoRun.txt	2千字节 txt 文件	8 Jan 2019 18:57:00
- HMIRuntime.txt	25千字节 txt 文件	8 Jan 2019 18:57:00
- PLCProtocol.txt	120字节 txt 文件	8 Jan 2019 18:57:00
RuntimeUser.txt	98字节 txt 文件	8 Jan 2019 18:57:00
uptime.txt	1千字节 txt 文件	8 Jan 2019 18:57:00

When the user does not select a path, it is exported to the root directory by default.

# 16.3.11 Importing and Exporting the Recipe

You can export the data record of a configured recipe in the control panel of the HMI.

The steps are as follows:

Insert a USB drive or SD card into the HMI, enter the download page of the control panel, and select the directory where the log to be exported, as shown in the following figure:

Download							Back	
Mount device:	SDCAR		Export Cod	e Sele	ction:	GBK 👻		
Name			Size	Туре		Date Mo	dified	-
history				Fold	er	8 Dec 20	21 17:12:32	
⊜-path1				Fold	er	8 Jan 201	9 17:14:45	÷
PLC Update Por	t: COM1	*	RS485	*	PLC D	evice Type:	AM600 Series	•
Update:	PLC Pro.		HMI Pro	).	D	ownload	Upload	
Export:	Record		SystemL	og	Re	cipe Data	LocalSreensh	ots
Import:	Recipe Dat	a	Logo					

Then click the Recipe Data button in the Export field, and the following dialog box will pop up:

sele	ct recipe:	All Recipes	•
		All Recipes	
	Yes	Recipe_1	
		Recipe_2	

The dialog box will list all configured recipes. You can export the data record of a specified recipe, or all the recipes. Click Yes in the message box to start export. After the progress reaches 100%, you will be prompted if the The export is successful or failed. If the user did not select an export path, it is exported to the root directory by default. You can open and edit the exported csv file with Excel. You can also import the edited csv file back into the runtime.

The steps are as follows:

Insert a USB drive or SD card into the HMI, enter the download page of the control panel, and select the directory where the file to be exported, as shown in the following figure:

Download					Back	
Mount device: US	В	<ul> <li>Export Code S</li> </ul>	election: G	BK 🝷		
Name		Size T	ype	Date Mod	lified	•
PLC Update Port:		6 KB x 6 KB x 24 KB r		9 Dec 202 9 Dec 202	21 16:35:46 21 00:43:28 21 00:43:42 21 16:50:48 AM600 Series	•
Update:	PLC Pro.	HMI Pro.	Do	wnload	Upload	
Export:	Record	SystemLog	Reci	ipe Data	LocalSreensh	ots
Import:	Recipe Data	Logo				

Then click the Recipe Data button in the Import field to import the file. A popup window will prompt you if the import is successful or failed.



When importing recipes, if you select a directory, all recipe files in the selected directory will be imported into the project. This method can be used to import all modified recipe files at one time.

## 16.3.12 Exporting Local Screenshots

In the runtime, if you configured the screen printing system function, the printed screens will be saved to the local HMI path. At this time, the user can obtain these printed screens through local screenshot export. The steps are as follows:

Insert a USB drive or SD card into the HMI, enter the download page of the control panel, and select the directory where the screenshot to be exported, as shown in the following figure:

Download						Back	
Mount device: USI	B	Export Code	Sele	ction: GB	K 👻		
Name		Size	Туре	1	Date Moo	lified	•
<ul> <li>➡ path1</li> <li>_ usb_log.rdb</li> <li>➡ LogDatas</li> <li>➡ PLCProgram</li> </ul>		24 KB	Fold rdb Fold Fold	File er	8 Dec 202 15 Nov 2	21 16:35:46 21 16:50:48 021 15:32:00 21 23:37:46	•
PLC Update Port:	COM1 -	RS485	-	PLC Devi	ce Type:	AM600 Series	+
Update:	PLC Pro.	HMI Pro.		Dow	nload	Upload	
Export:	Record	SystemLog	g	Recip	e Data	LocalSreensh	ots
Import:	Recipe Data	Logo					

Then click the Local Screenshot button in the Export field, and the following dialog box will pop up:

Do	o you want t	to export file	?
	Yes	No	

Click Yes to start export. After the progress bar reaches 100%, you will be prompted if the export is successful or failed. If the user did not select an export path, it is exported to the root directory by default.

## 16.3.13 Importing a Startup Screen

If you want to change the startup screen of the HMI, you can import your own picture as the startup screen as follows:

Insert a USB drive or SD card into the HMI, enter the download page of the control panel, and select the image to be imported (only PNG format is supported), as shown in the following figure:

Download				Back
Mount device: USI	B	Export Code Sele	ection: GBK 🝷	
Name		Size Type	e Date Mod	lified _
<ul> <li>Inistory</li> <li>□ path1</li> <li>□ 1-1.jpg</li> <li>□ 16.png</li> </ul>		Fold Fold 16 KB jpg 16 KB png	der 8 Dec 202 File 9 Nov 202	21 17:12:32 21 16:35:46 21 15:00:04 21 15:00:26
PLC Update Port:	COM1 -	RS485 -	PLC Device Type:	AM600 Series 🝷
Update:	PLC Pro.	HMI Pro.	Download	Upload
Export:	Record	SystemLog	Recipe Data	LocalSreenshots
Import:	Recipe Data	Logo		

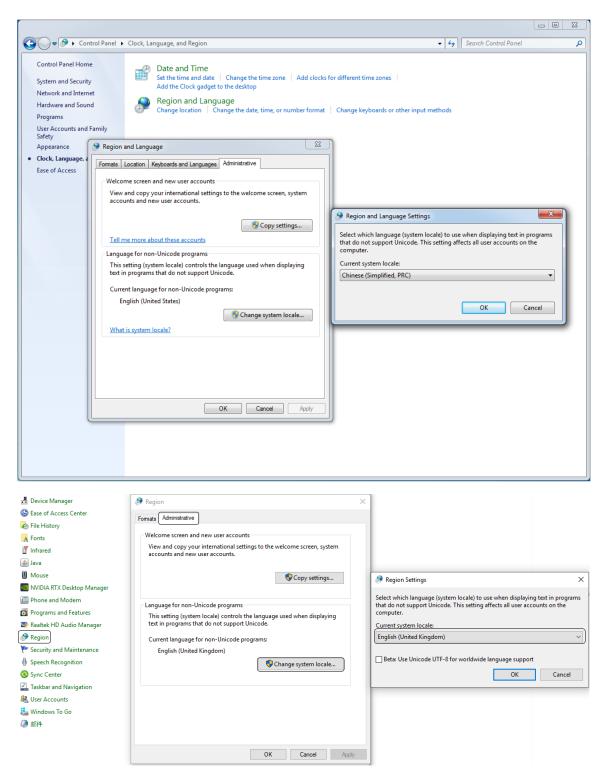
Then click the Startup Screen button in the Import field to import the startup screen. A popup window will prompt you if the import is successful or failed.

If you select a picture in a format other than PNG, the following prompt will pop up:

ERRO	R:must be pr	ng file!
	ОК	

## 16.3.14 Important Notes about Import and Export of Chinese Characters

In the software tool, you can export the file as UTF8 or ANSI encoded, but in a Chinese Windows OS, you should only choose ANSI (that is, GBK). Because when you open the exported file with Excel, UTF8 encoded Chinese characters become gibberish. If you perform import and export on an English Windows OS, you must change the time zone to China. Otherwise, the exported Chinese characters become gibberish. Because the default encoding of the system is ASCII, which does not support Chinese characters. Even if you export the file as UTF-8 encoded, it is still saved as ASCII encoded after you edit it with Excel. The steps of setting China time zone in an English system are as follows:



When importing and exporting edited text, special symbols are supported, including: /, //, ', '', [, /[, ], /], %, /%,  $_{,, /}$ , (, /(, ), /), "", <.

## 16.4 Printing

### 16.4.1 InoTouch Spooler

### 16.4.1.1 Printable Items

The printer can print the following:

- 1. The current screen.
- 2. Alarms in the Alarm view.
- 3. Recipe data in the Recipe view.
- 4. Data records in the Data view.

### 16.4.1.2 Requirements on the Printer

- With USB ports.
- HP LaserJet series printers (HP LaserJet 1000, HP LaserJet 1005, HP LaserJet 1018, HP LaserJet 1022nw, HP LaserJet 1022n, HP LaserJet 1020, HP LaserJet 1022) are recommended.
- Support for A4 paper.

### 16.4.1.3 Printing Format

You can print information in reports and images.

- 1. Report printing includes:
  - a. Alarms in the Alarm view.
  - b. Recipe data in the Recipe view.
  - c. Data records in the Data view.

Printing format:

For the top line of the header, such as "Alarm", use 16 point regular font formatting.

For the second line of the header, such as the recipe name or log name, use 14 point regular font formatting.

For the attribute names of the recipe (such as Name, Path, Entry name, Value), use 10 point non-bold italic font formating; for the value of the recipe attribute name, use 10 point regular font formatting.

Only the Droid Sans Fallback font can be used.

2. Image printing: You can print the current screen.

### 16.4.1.4 Report Printing

### Printing alarm view data

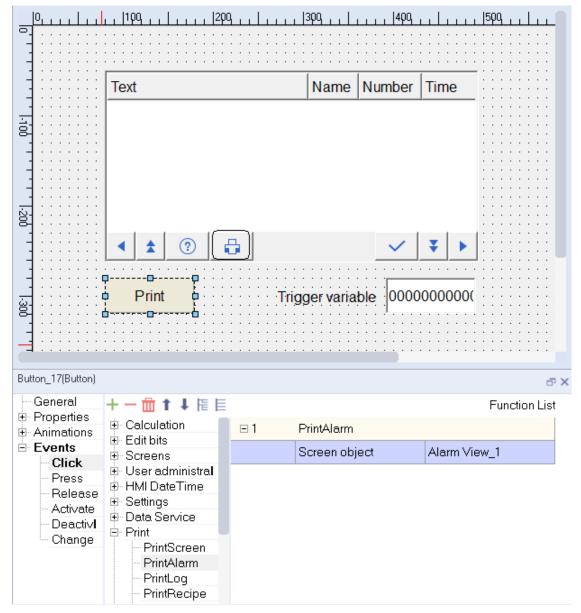
You can use the system function PrintAlarm to print an alarm view in the screen.

It prints the alarm information or alarm record of the alarm view, starting from the latest alarm or the line where the cursor is.

Since a USB drive must use the same USB port as the printer, you can only print the alarm record stored in a USB drive by simulation.

During simulation, if the computer is not connected with a printer, you can print the current alarm information and alarm records with the virtual printer and store them in a directory in the form of printing files, and the printing format is basically the same as that printed by the target device.

1. Create a new project, and configure an alarm view, a print button and numeric IO field in the screen. You can also use the print button on the alarm view, as shown in the figure:



2. The simulation is as follows:

Text		Name	Number
analog_1		1	1
analog_1		!	1
analog_1		1	1
▲ ⑦ 🖶	<b>1</b>		¥ 🕨
Print	Trigger varia	ble 🛛	

#### 3. The printing view is as follows:

14	RowCount	Text	Number	Time	Date	State	Category	ClassId	GroupId	ConnectName
15	1	analog_1	1	17:29:07	2021/12/8	1	1	1	-1	Connect_1
16	2	analog_1	1	17:29:16	2021/12/8	0	1	1	-1	Connect_1
17	3	analog_1	1	17:29:21	2021/12/8	1	1	1	-1	Connect_1
18	4	analog_1	1	17:29:51	2021/12/8	0	1	1	-1	Connect_1
19	5	analog_1	1	17:29:55	2021/12/8	1	1	1	-1	Connect_1
20	6	analog_1	1	17:31:08	2021/12/8	1	1	1	-1	Connect_1
21	7	analog_1	1	17:34:41	2021/12/8	0	1	1	-1	Connect_1

### Printing data view data

You can use the system function PrintLog to print an data view in the screen.

Since a USB drive must use the same USB port as the printer, you can only print the alarm record stored in a USB drive by simulation.

During simulation, if the computer is not connected with a printer, you can print the current data log with the virtual printer and store them in a directory in the form of printing files, and the printing format is basically the same as that printed by the target device.

1. Create a new project, and configure a data view, a print button and numeric IO field in the screen. You can also use the print button on the data view, as shown in the figure:

	100    200	30	Q.,, ,,,, 40Q.,,	509
<b>_</b> : : : : : : : :	□ _Select dataLog			
		Start Tim	ie: 1-12-01 17:49:4	8 🕒 : : : : : : : : : : : : : : :
-	:	End Time	e: 1-12-01 17:49:4	8 🖲
<u>_</u>			·	
<b>a</b>	Q Go ←	Prev	→ Next 🛛 🔂 🤂 Р	rint
	:			
<b>_</b> : : : : : : : :				
	· · · • • · · · · · · · · · · · · · · ·	· · · · · · · · ·		
	Print 60000			
8	· · • • • • • • • • • • • • • • • • • •			
Button_17(Button)				
				ē×
General ⊕ Properties	+ - 曲 ↑ ↓ 悟 目			Function List
Animations		⊡1	PrintLog	
Events	⊕ User administration		Screen object	Data View_2
Click Press	HMI DateTime     ■		1	
Release	E Settings			
Activate				
⊡ DeactivI Change	PrintScreen			
Change	PrintAlarm			
	PrintLog PrintRecipe			
	PrintBitMap			
	🕀 Alarms			
	🗄 Logs 👘 👘			

2. The simulation is as follows:

Se	Select dataLog				me: 021-12-08	8 19:28:29 🖲
D	Data cecording_1  End Time: 021-12-08 19:28:48					
	0	Go	← Pi	ev	$\rightarrow$ Next	🔒 Print
		TagName	Value	Validity	Date	Time 🔺
1	1	Variable_1	10	1	2021-12-08 1	9:28:29.29
2	2	Variable_1	10	1	2021-12-08 1	9:28:30.04
3	3	Variable_1	10	1	2021-12-08 1	9:28:31.04
4	1	Variable_1	10	1	2021-12-08 1	9:28:32.04 🖵
		1	1			▶
Op	Operation succeed!Current Page is 1!					
	Print Trigger variable 10					

3. The printing view is as follows:

10	RowCount	TagName	Value	Validity	DateTime	Valld
11	1	Variable_1	10	1	2021/12/8 19:28	1
12	2	Variable_1	10	1	2021/12/8 19:28	1
13	3	Variable_1	10	1	2021/12/8 19:28	1
14	4	Variable_1	10	1	2021/12/8 19:28	1
15	5	Variable_1	10	1	2021/12/8 19:28	1
16	6	Variable_1	10	1	2021/12/8 19:28	1
17	7	Variable_1	10	1	2021/12/8 19:28	1
18	8	Variable_1	10	1	2021/12/8 19:28	1
19	9	Variable_1	10	1	2021/12/8 19:28	1
20	10	Variable_1	10	1	2021/12/8 19:28	1
21	11	Variable_1	10	1	2021/12/8 19:28	1
22	12	Variable_1	10	1	2021/12/8 19:28	1
23	13	Variable_1	10	1	2021/12/8 19:28	1
24	14	Variable_1	10	1	2021/12/8 19:28	1
25	15	Variable_1	0	1	2021/12/8 19:28	1
26	16	Variable_1	0	1	2021/12/8 19:28	1
27	17	Variable_1	10	1	2021/12/8 19:28	1
28	18	Variable_1	10	1	2021/12/8 19:28	1
29	19	Variable_1	10	1	2021/12/8 19:28	1
30	20	Variable_1	10	1	2021/12/8 19:28	1
31	21	Variable_1	10	1	2021/12/8 19:28	1
32	22	Variable_1	10	1	2021/12/8 19:28	1
33	23	Variable_1	10	1	2021/12/8 19:28	1
34	24	Variable_1	10	1	2021/12/8 19:28	1
35	25	Variable_1	10	1	2021/12/8 19:28	1
36	26	Variable_1	10	1	2021/12/8 19:28	1

### Printing recipe view data

You can use the system function PrintRecipe to print an recipe view in the screen.

During simulation, if the computer is not connected with a printer, you can print the current recipe data with the virtual printer and store them in a directory in the form of printing files, and the printing format is basically the same as that printed by the target device.

1. Create a new project, and configure a recipe view and a print button. You can also use the print button on the recipe view, as shown in the figure:

	0, , , , , , , , , , , , , , , , , , ,	1		500	600	700	800	900
1.100	· · · · · · · · · · · · · · · · · · ·			Number		· · · · · · · · · · · · · · · · ·		
	· · · · · · · · · · · · · · · · · · ·	Recipe name:	•	Number		· · · · · · · · · · · · · · · · · · ·		
1.1.		Data record name:		Number	•	· · · · · · · · · · · · · · · · · · ·		
200			<b>•</b>			· · · · · · · · · · · · · · · · ·		
		Entry name	Value			· · · · · · · · · · · · · · · ·		
1.300		•			· · · · · · · · · · · ·	· · · · · · · · · · · · · · · · ·		
			s‡r	<b>*</b> 8	The Print b on the Reci	utton pe view		
1.400						· · · · · · · · · · · · · · · · · · ·		
0.1.1		e Print e						
But	ton_1(Button)							a x
		┼──前↑↓帰目						Function List
		Data Service	= 1	Print	Recipe			
	Click	Print PrintScreen		Scree	n object		Recipe View_1	
	Press Release	PrintAlarm PrintLog				Configuring th	e system function	1
	Activate Deactivate	PrintRecipe PrintBitMap						
	Change	+ Alarms						

2. The simulation is as follows:

Recipe name:			Number:
Porridge		•	1
Data record name:			Number:
Mung Bean Porridge		-	1
Entry name		Value	
Water	<mark>65</mark>		
Mung Bean	20		
Sugar	10		
	·		
			<u>*</u>
The data record is read			

3. The printing view is as follows:

А	В
Recipe name	
Recipe_1	
Data record name	
Datarecord_1	
Entry name	Value
water	50
sugar	20
spice	30
	Recipe name Recipe_1 Data record name Datarecord_1 Entry name water sugar

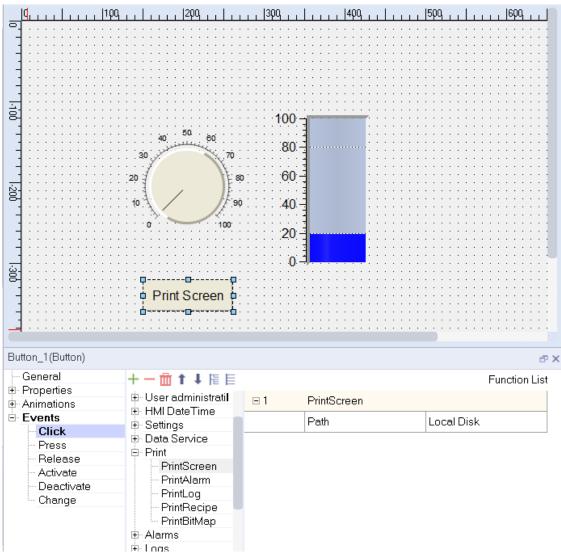
"Synchronize tags" and "Tags offline" in the above table are the properties of the recipe view. The values of the two properties are both True.

### 16.4.1.5 Image Printing

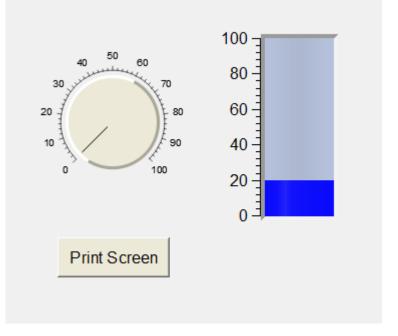
You can use the system function PrintScreen to print the current screen.

Title and time will not be added to the image; The print size of the image is adaptive to the width of the paper. In simulated printing, the printed image is stored in PNG format under the path C:\Users \<user name>\Documents\InoTouchPad\ ScreenShots, and the printing format is basically the same as that in the target machine.

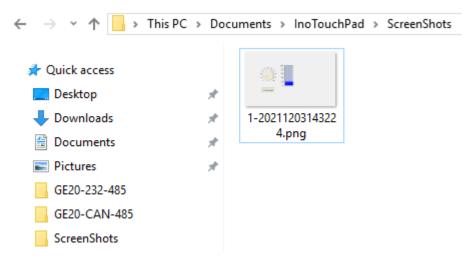
1. Create a project and configure a bar diagram, knob and a Print Screen button in the screen to print the current screen, and set the storage location to local HMI, as shown in the following figure:



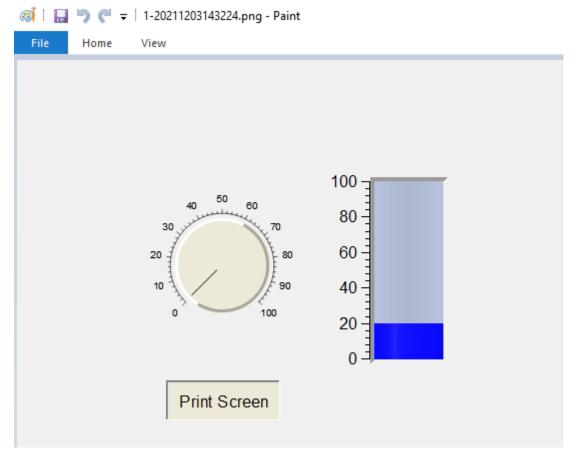
2. The simulation is as follows:



3. The printed image is saved in the following directory:



The screenshot is as follows:



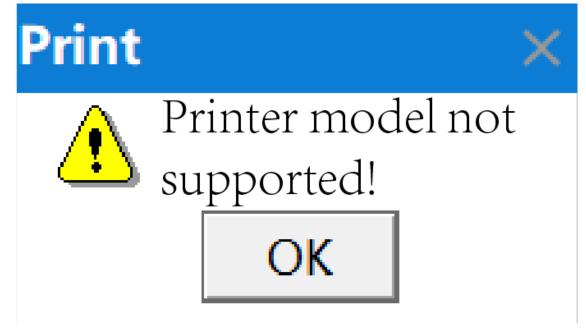
If the screen is printed on the target machine, the screenshot image is stored in the screenshots folder under the root directory of the storage medium (local drive, USB drive or SD card).

#### 16.4.1.6 Messages

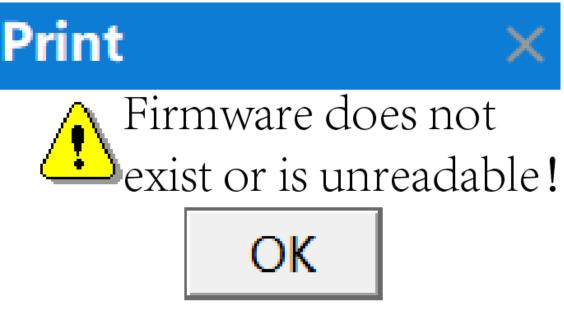
1. When you print a report, if the printer is not connected, the following window will pop up:



2. When you print a report, if the printer is incompatible, the following window will pop up:



3. When you print a report, if access to the printer firmware failed, the following window will pop up:

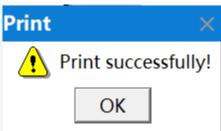


4. When you print a report, if nothing is provided for printing, the following window will pop up:

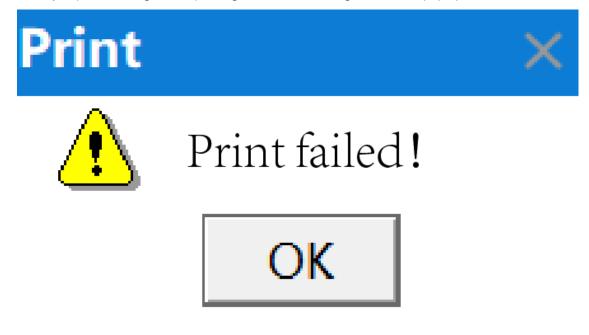


5. When you print a report, if the process is interrupted, the following window will pop up:





7. When you print an image, if the printing failed, the following window will pop up:



## 16.4.2 HMI Screen Printing

### 16.4.2.1 Printing Mode

To print QR codes and bar codes, IT7000 allows you take a screenshot of the screen and print it. You can configure a QR code output control in the screen, set the printing function according to the screen coordinates of the control, and then set the printing mode. Note that the screenshot is taken from the current screen. If you switch the screen, the printing result will not be what you want.

- 1. Auto printing: The printing function is bound to a tag and is triggered through the PLC.
- 2. Manual printing: The printing function is bound to a button in the screen, and you can press the button to trigger the printing.

### 16.4.2.2 Configuration of the Printer

On the left tree view of the software, click HMI Settings→Printer Settings. As shown in the following figure.

Print Settings		
Device Name	XD-100	+
Port Type	СОМ	•
Label Wide	0 mm	*
Label High	0 mm	*
Scale Ratio	Auto	-

Serial Port Settings

Serial Port	COM2	•
Baud Rate	38400	+
Data Bits	8	+
Parity	None	+
Stop Bits	1	+

Attribute	Description
Device Name	Supported printer
Port type	Printer connection method
Label Width	The width of the label paper
Label Height	The height of the label paper
Scale ratio	The screen size to be printed will be scaled according to the size of label paper, which is not enabled by default
Serial Port	The serial port you want to use
Baud rate	Baud rate: 4800/9600/19200/38400/57600/115200
Data Bits	Data bit: 7 or 8

Attribute	Description
Parity	Parity check type: none/odd/even
Stop Bits	Stop bit: 1 or 2

### 16.4.2.3 Print Function

As shown in the following figure, the button is bound to the printing system function PrintBitMap. For details, see *"12.3.9 Printing" on page 257*.

	Button	
		Function List
⊡ 1	PrintBitMap	
	Image_X	<no value=""></no>
	Image_Y	<no value=""></no>
	Image_Width	<no value=""></no>
	Image_Height	<no value=""></no>
	Label_X	<no value=""></no>
	Label_Y	<no value=""></no>
	Processing status(Out.ol	<no value=""></no>

## 16.5 Setting and Application of SCADA

The SCADA system is a computer-based DCS and power automated monitoring system. It is widely used in fields like electric power, metallurgy, petroleum, chemical industry, gas, and railway, for data acquisition, supervision, and process control. InoTouchPad runs on a PC and can used as a SCADA system application.

The following steps instructs you to configure a SCADA system with InoTouchPad:

First, go to HMI Settings $\rightarrow$ Project Settings, and set the device type as ITPC (800x600), that is, to configure a runtime project running on a PC.

Project Edit Compiler View Options Help		4 4 <b>5</b> 00 110	1		
	00001:Screen_1 ×				
Project       Image: Screens(5/256)         Image: Screens(5/256)     <	HMI Settings Device Type TT7 Project Password Start Logo Default User Comment Screen Saver & Bla Screen Saver & Bla Screen Saver reen Saver Activat Black Light Wai Security Settings Local passwo upload passwo download passwo upload history passwo Alarm Settings Beep for unACK al Show AlarmWindo	070E(800x480) Device type IT7070S(800x480) IT7070E(800x480) IT707E(800x480) IT706E(800x480) IT7100S(1024x600) IT7100E(1024x768) IT7100E(1024x768) IT7150E(1024x768) It Time 5 min ord 111111 ord arms continuely ww low is Closed Manually indow	Start Screen Sc Settings Rotate0°	when connection is off ad s when tag has no limit oadPage when mount SD/UDisk Devi olution(only for PC/IPC HMI mboBox Enabled :var block	ice
Resource	<ul> <li>Beep for unACK all</li> <li>Show AlarmWindo</li> <li>SystemAlarm wind</li> <li>Separate Alarm Wi</li> <li>Alarm sort by time</li> </ul>	low is Closed Manually indow	Enable OperationRecord     Circular Record(full stop re		

Then, in Other Settings, check Adaptive Resolution (only for PC/IPC HMI), so that the configured runtime can be displayed in full screen on the PC.

HMI Settings				
Device Type	IT7070E(800x480)		Start Screen	Screen_1
Project Password			Start Language	zh_CN 🔹
Start Logo	default_logo.png		Start Style	<undefined></undefined>
Default User	admin	•	Author	10004950
Comment				
Screen Saver & Bla	ick Light Settings		Other Settings	
Screen Saver	Wait Time 3 min	*	Beep for c	licked
reen Saver Activat	ted Screen <undefined></undefined>	-	Cursor Vis	ible
	Wait Time 5 min	*	Draw Focu	IS
DIACK LIGHT	Wait fime 5 min	÷.	Display ze	ro when connection is off
Security Settings			Enable pre	
, ,	ssword 111111			tips when tag has no limit
upload pa	ssword			vnloadPage when mount SD/UDisk Device
download pa				Resolution(only for PC/IPC HMI
				ComboBox Enabled
upload history pa	ssword		Enable Sci	ipt var block
Alarm Settings		Operatior	Record Settings	
Beep for unAC	K alarms continuely	- Ench	la OperationPacer	4
Show AlarmWi	indow		le OperationRecor	d
-	window is Closed Manually	🗹 Circu	ılar Record(full sto	p record when Unchecked )
Separate Alarn				· · · · ·
Alarm sort by		Operation	onRecord Counts	10000 ‡
SystemAlarm Dur	ation 2 s			

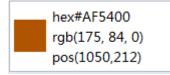
After that, you can configure the functions required by users. After the project is completed, the runtime runs on the PC and the PC is connected with field devices through buses, forming a SCADA system with which you can monitors and controls field devices on the PC.

## 16.6 Color Picker

The color picker can obtain the screen coordinates and color value of the position where the cursor is. You can start it from the toolbar.

Tool	
	VNC
×	ColorPicker

As shown in the following figure, a floating window will show when the tool is running.



Right-clicking this window will pop up the Close button.

hex#FFFFFF		
rgb(255, 255, 255	5)	
pos(1234,780)		
		Close

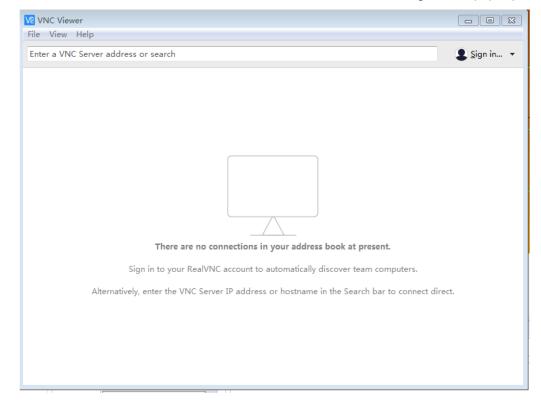
Parameter	Description
Hex#AF5400	HEX value of the color, which is converted from the RGB value
Rgb(175,84,0)	RGB value of the color
Pos(1050, 212)	Screen coordinates of the position where the cursor is

## 16.7 VNC Tool

IT7000 comes with a VNC tool to help you monitor the HMI easily. In the same LAN, you can log in to the IP address of an HMI through a PC or mobile device, and then view the screen of the HMI and control it.

To use the VNC tool, follow the steps as follows:

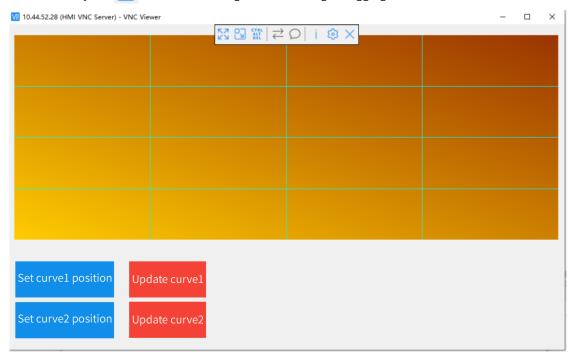
1. Click on the toolbar of the IT7000 software tool, select VNC, and the following window pops up.



2. Ensure that the HMI in the same LAN as the PC. Enter the IP address of the HMI to be monitored in the input box, and then press Enter, as shown in the following figure.

VE VNC Viewer File View Help		
10.44.52.75		🙎 Sign in 👻
	V2 10.44.52.75 - VNC Viewer	
	V <del>C</del>	
	Connecting to 10.44.52.75	
Sign		
Alternatively, e	Stop	

3. After logging into the HMI, you can view the screen and click on the screen for control. Click this button to enter full screen. The window size is adapted to the screen size by default. You can unlock



the window by the 😒 button and change its size through dragging.

## 16.8 Global Style

You can use the css-based global style to customize the user interface. Go to Resource $\rightarrow$ Global Style, and you can customize the style of buttons and interfaces.

-		-	11.07
名称	^	编号	• 注释
style1	1		
style2	2		
style3	3		

The software provides three default styles: Style1, Style2 and Style3, which can be edited and duplicated. The styles can be switched through variable configuration and scripting.

## 16.9 Soft Keypad

Similar to "16.8 Global Style" on page 418, the soft keypad can also be styled.

2 3 4 5 6 7 8 9 10 11 12 13 14 5 16 17 18 19	<pre>PNumberInputPanel {     background: #a8b0bc; } /*Context book display*/ QLabel#limitLabel {     border: 0px;     margin: 0px;     background: #ffffdc;     font:16px; } /*Input box*/ QLineEdit#inputEdit {     border: 0px;     margin: 0px;     background: #ffffff;     font:21px; }</pre>
20 21	/**/
<b>22</b> 9	KeyButton {
23	
24 25	margin: 0px; background: #ffffff:
operties	

SoftKeyboard		
- Number String	Number	
	StyleSheet style1 Test	

There are three default styles:

Min:0 Max:10	0			Min:0 Max:100				Min:0 Max:100			
1	2	3	$\langle \times \rangle$	1	2	3	$\langle \times \rangle$	1	2	3	$\langle \times  $
4	5 8	6 9	$\otimes$	4	5	6	$\otimes$	4	5	6	$\times$
0	o +/-	•	<b>↓</b>	7	8	9	←	7	8	9	<b>←</b>

You can use css to develop your own style.

#### 16.10 **HMI Control Panel**

After starting the IT7000 HMI, long press the screen to enter the control panel. You can use the control panel to maintain the HMI. Major functions:



Time/Date: You can view and set the local time of the HMI.

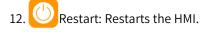
- 2. Security: You can set the local password, upload password, download password and upload history password.
  - a. The local password is used to access the setting page locally.
  - b. The upload password is required when you upload a project.
  - c. The download password is required when you download a project or firmware.
  - d. The upload history password is used to access historical upload data.
- 3. Backlight: You can set the backlight brightness of the HMI. The default value is 90.
- 4. Buzzer: You can enable/disable button press sound and continuous beep alarm for an unacknowledged alarm.
- 5. Download: When a USB drive or SD card is connected with the HMI, you can press the Download icon to manage project files. Generally, it takes about 2 seconds to recognize an inserted external device. If the project page is active, the download page will pop up automatically. The download page is described as follows:

#### a. Upgrade

ltem	Description
PLC program	You can update PLC programs
HMI program	You can upgrade HMI user projects and firmware. Note that the file name of the user project must be project.zip and that of the firmware must be firmware.zip.
Gcode	You can d upgrade the PLC program in Gcode

- b. Export: You can export system logs, recipe data, local screenshots, and logs (data logs, alarm logs, and operation logs). For details, see section 16.3 Import and Export.
- c. Import: You can import recipe data and boot screen. The imported boot screen image will be automatically scaled to the resolution of the screen.
- 6. Factory reset: This restores the HMI, including the firmware and user projects, to the original state, and clears all user files and log files. The buzzer will beep at the beginning of reset, and will long beep again after reset is completed.
- 7. Start screen: You can set the start screen of a user project.
- 8. EA Language: You can set the display language of the HMI, including Simplified Chinese, Traditional Chinese and English.
- 9. 🖳 Calibrate: You can calibrate the screen in the Calibrate page.
- 10. Screen saver: You can set the screen saver timeout which ranges from 0 to 255 minutes. 0 means the screen saver is disabled, and 3 is the default value. You can set the the backlight timeout which ranges from 0 to 255 minutes. 0 means the backlight is disabled, and 5 is the default value.
- 11. Wetwork: You can view and set the IP address of the HMI. The IP address can be obtained automatically or static. When the IP address is set to be obtained automatically, the HMI obtains the

current network environment information and assigns an available IP address. Otherwise, you can set a fixed IP address as needed.



## 16.11 Status List

### 16.11.1 Overview

The status list is divided into text list and graphic list, which is used to make controls and options more recognizable. For example, for the button for controlling motors, "OFF" or "ON" is more readable than "0" or "1". The status list associates the control with the corresponding list. When the control performs a switching action and the state changes, if the variable value has been assigned a specific entry, the control will be displayed as readable text or graphics.

### 16.11.2 Text List

The text list can be configured in the control symbol IO field/button. Example:

1. Bit (0.1): True when	tag value is 1, and fa	lse when tag value is 0;
1. Dit (0,1). Hue when	tug vulue is ±, unu iu	ise when tag value is o,

Text lists			List entries(TextList_1)				
+.	Name	<ul> <li>Number *</li> </ul>	Selection	+.	<ul> <li>Number</li> </ul>	Value	Entry
1	TextList_1	1	Bit (0, 1)	1	8	0	false
2	Text list_2	2	Bit number (	2	9	1	true
3	Text list_3	3	Range ()				

2. Bit number (0-31): Use the 0-31 bits of the tag, and display entries with a value of 0 when the 0-th bit of the tag is 1 and only the 0-th bit is 1, and so on.

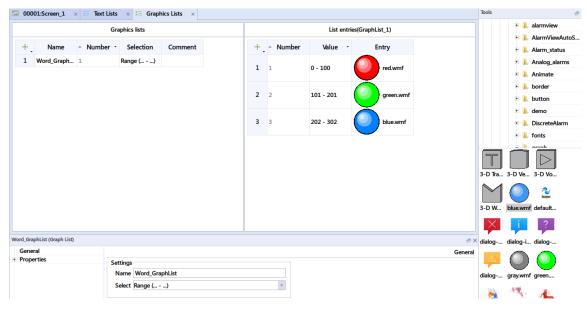
Text lists				List entries(Text list_2)				
_	Name	<ul> <li>Number -</li> </ul>	Selection	-	+ Ţ	<ul> <li>Number</li> </ul>	Value -	Entry
1	TextList_1	1	Bit (0, 1)	1	L	1	0	а
2	Text list_2	2	Bit number (	2	2	5	1	b
3	Text list_3	3	Range ()	3	3	6	2	c
				4	1	7	3	d

3. Range (...-...): Displays the corresponding entry when the range of tag value falls within the range.

Text lists				List entries(Text list_3)				
-	Name	<ul> <li>Number *</li> </ul>	Selection	+.	<ul> <li>Number</li> </ul>	Value -	Entry	
1	TextList_1	1	Bit (0, 1)	1	2	0 - 59	Failure	
2	Text list_2	2	Bit number (	2	3	60 - 79	Good	
3	Text list_3	3	Range ()	3	4	80 - 100	Excellent	

## 16.11.3 Graphic List

The graphic list can be configured in the control graphic IO field/button. For the usage of the items "selected" in the list, refer to the above text list. In the following figure, the range (...-...) is configured, and you can drag items from the gallery on the right into the table entry.



# 17 Data Service

## 17.1 MQTT

### 17.1.1 MQTT Server

MQTT, fully known as Message Queuing Telemetry Transport, is a lightweight, publish-subscribe network protocol that transports messages between devices. MQTT can be interpreted as a low overhead instant messaging protocol with low bandwidth occupation. It can provide real-time reliable message service for connecting remote devices with a small code footprint and minimal network bandwidth. It is suitable for remote devices with low hardware performance and bad network environment. Therefore, MQTT protocol has a wide range of applications in IoT (Internet of Things), small device applications, and mobile applications. At present, the HMI is only used as a client, which can subscribe or publish JSON data. The HMI can be both a subscriber and a publisher. The topic, which is the key for MQTT, is a tag that connects to an application message and matches a subscription on the sever. The server sends message to each client that subscribes to the matching tag.

When the HMI is used as a client connecting to the specified server, the settings are as follows:

Connection Property		
Comment	MQTTServer	
Enabled 🗸	LW 100 -	
IP		
Port	-<	
RegistrationId	123 - MQTTTest2_Inovance	
Verification	LW 127 -	
Username	123- admin	
Password	123 - password	
Heartbeat Cycle	5s ‡	
Auto Connect		
Reconnection Time	1s 📫	
Status Address	LW 112 -	
Error Address	LW 122 -	

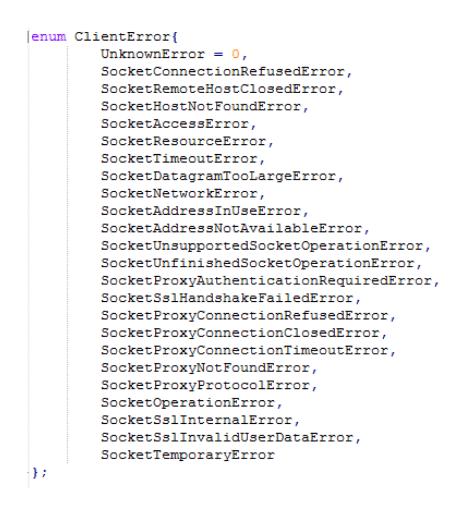
Certification	
Server Certification	
CA Certificate : Import	
Client Certification	
Client Certificate :	
Import	
Client Key :	
Cherrencey .	
Import	

#### 1. Description of settings

Name	Description	Limits	Supported Data Types
Comment	Description of the configuration	128 characters	/
Enabled	Enables/disables MQTT protocol connection		Int16,UInt16,Int32,UInt32 0: Disabled non-0: Enabled
IP	MQTT server IP	IP or domain name, up to 256 characters, automatically recognized	String
Port	MQTT server port number		Int16,UInt16,Int32,UInt32
Registration ID	The name of the HMI when it logs on to the server	Up to 256 characters	String

Name	Description	Limits	Supported Data Types
Verification	Enables logon verification	If you have enabled logon verification on the server, you must also enable verification on the HMI. Otherwise the connection will fail	Int16,UInt16,Int32,UInt32 0: Disabled non-0: Enabled
User name	The user name used to log on the server	Up to 256 characters	String
Password	The password used to log on the server	Up to 256 characters	String
Heartbeat Cycle	Use this to send a heartbeat message to the server regularly. If the server does not receive a message from the client within one and a half heartbeat cycle, it will disconnect from the client	2s-32767s	/
Auto Connect	If you check this, the client will be disconnected automatically if the reconnection time is reached, and will not be connected until the next time the data needs to be updated		/
Reconnection Time	The idle time before automatic disconnection	1s-32767s	/
Status Address	Indicates the connection state, which can be null	0: Stopped, 1: Connected, 2: Disconnected	Int16,UInt16,Int32,UInt32
Error Address	Error code output address, which can be null	0: No error, non-0: error is present (for details on the error code, see the following text)	Int16,UInt16,Int32,UInt32

2. Error messages



## 17.1.2 Publishing MQTT Topics

The publisher integrates the specified address data into json data and published to the server. As shown in the following figure, you can create up to 256 new topic publications. You can edit the properties in a table.

		Topic Publisher						Tags(Publisher_1)				
Vublisher_0       1       Cyclic continuous       5s       No       At least once       1       7       < Undefined	+.	Name	<ul> <li>Number •</li> </ul>	Topic	SendMode	Cycle	Retain	Qos	+	Number	Name	Tag
ublisher_1     2     Cyclic continuous     5s     No     At least once	1	Publisher_0	1		Cyclic continuous	5s	No	At least once				< Undefined
	2	Publisher_1	2		Cyclic continuous	5s	No	At least once				

1. The properties are described as follows:

Property	Description	Remarks
Name	The name of this topic publication, which cannot be duplicate	Up to 128 characters
Торіс	The topic received by the server (For topic configuration, see <i>"17.1.4 Topic Wildcards" on page 428</i>	Up to 512 characters
Send Mode	Sets the mode of topic publishing, which is cyclic continuous by default	
Cycle	Effective when the send mode is cyclic continuous	1s–32767s, default is s
Retain	If you select Yes, the MQTT server will retain the last message in the topic, which can be received after the subscriber client connects to the server	Default is No
		"At most once": Message delivery depends entirely on the underlying TCP/IP network. There is no definition of reply and retry in the protocol, and the message will either only arrive at the server once or not at all.
Qos	Message quality	"At least once": The message received by the server is confirmed by PUBACK message. If the communication link or sending device fails, or the confirmation message is not received within the specified time, the sender will resend the message with DUP bit set in the message header.
		"Exactly once": This is the highest level. Message loss and duplication are unacceptable, and there is additional overhead to use this level.

#### 2. Add tag addresses.

If you have configured tag addresses, during publishing, the addresses added in the topic will be integrated into json data and sent to the server. One topic allows up to 1024 rows of tags.

Property	Description	Remarks
Name	The name used in json data format during publishing. You can use a tag name. It will be automatically changed to the tag name when you select a tag.	Up to 128 characters
Tag	The tag used in json data	

## 17.1.3 MQTT Topic Subscription

The receiver receives the data published by the publisher and parses the data to the specified address. If the name in the data does not exist in the subscribed tag, the data is discarded. As shown in the following figure, you can create up to 256 new topic subscriptions. You can edit the properties in a table.

+ . 1 s	Name Subscribe_0	Number 1	Topic	Qos At least once	+	Number	Name	Tag
1 S	Subscribe_0	1		At least once				

#### 1. The properties are described as follows:

Attribute	Description	Description
Namo	he name of the topic subscription, which cannot be duplicate	Up to 128 characters
Topic c	he subscribed topic (For topic onfiguration, see <i>"17.1.4 Topic Vildcards" on page 428</i> )	Up to 512 characters
Qos M	Aessage quality	"At most once": Message delivery depends entirely on the underlying TCP/IP network. There is no definition of reply and retry in the protocol, and the message will either only arrive at the server once or not at all. "At least once": The message received by the server is confirmed by PUBACK message. If the communication link or sending device fails, or the confirmation message is not received within the specified time, the sender will resend the message with DUP bit set in the message header. "Exactly once": This is the highest level. Message loss and duplication are unacceptable, and there is additional

### 2. Add tag addresses

After you configure the tag addresses for topic subscription, the received data is parsed into each address in json data format. The value of the corresponding tag is updated when a name in the tag address table matches the name in the json data. One topic subscription allows up to 1024 lines of tags.

Attribute	Description	Description
Name	The name used in json data format during publishing. You can use a tag name. It will be automatically changed to the tag name when you select a tag.	Up to 128 characters
Tag	The tag used in json data	N/A

3. For details, see the example projects "MQTTPublisher" and "MQTTSubscriber" that come with InoTouchPad:

InoTouchPad			- 🗆 ×
Project Edit Compiler View			
♀ Projects	Fonts Fonts application example	graph graph application example	Graph list Graph list application example
	IO IO application example	math math application example	MQTTPublisher MQTT Publisher application exampl e
	MQTTSubscriber MQTT Subscriber application exam ple	Navigation Navigation application example	Navigation2 Navigation application example
	QRCode QRCode example	recipe recipe application example	Recipt_function Recipt related to system function a pplication example

### 17.1.4 Topic Wildcards

When establishing a connection, especially in the application which involves a server and multiple clients, you need to subscribe to the topics of all devices. Then you need to know how to use the MQTT wildcards. A subscription may contain special characters and allow multiple topics to be defined at once. The topic level separator is used to introduce hierarchies into topics. Multi-level wildcard and single-level wildcars can be used, but they cannot be used for publisher messages.

1. Topic level separator "/"

"/" is used to divide each level of the topic tree and provide a hierarchical structure for the topic space, so that you can know which levels of messages you can receive according to the separator in the wildcard characters.

2. Multi-level wildcard "#"

"#" is used to match multiple levels in a topic. For example, if a client subscribes to "finance/stock/ ibm/#", it can receive the following topic messages.

finance/stock/ibm

finance/stock/ibm/closingprice

finance/stock/ibm/currentprice

As described above, the "#" wildcard character can represent the topic at the current or next level, so "finance/#" can also match the "finance" level. Note that the "#" must be the last character in the topic tree. For example, "#" and "finance/#" are valid, but "finance/#/closingprice" and "finance#" are invalid.

3. Single-level wildcard "+"

"#" is used to match a level in a topic. For example, "finance/stock/+" can match "finance/stock/ ibm" and "finance/stock/xyz", but not "finance/stock/ibm/closingprice" and "finance/stock". A single-level wildcard can be used in combination with a multi-level wildcard, but it must be used only after the topic-level separator unless it matches itself. So "+", "finance/+" and "finance/+/ibm" are all valid, while "finance+" is invalid.

4. Notes

- a. The topic must have at least one character.
- b. The topic name is case sensitive. For example, ACCOUNTS and Accounts are two different topics.
- c. A topic name can contain spaces. For example, "Accounts Payable" is a valid topic.
- d. A topic beginning with "/" will become a new topic. For example, "/finance" is different from "finance", that is, "/finance" can match "+/+" and "/+".
- e. Do not include characters such as null (Unicode\ x0000) in topic names.



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