Mainly to introduce the new functions of this version

Delta SCADA Software

DIAView SCADA Rev4.3.0

Delta Electronics,Inc.

Content

Upgrading Function Introduction

1.New Free Port Driver

The DIAView configuration software supports free ports. Free port protocol is a communication protocol based on the free port mode, which supports multiple data formats and transmission methods, such as serial communication, network communication, etc. The free port protocol allows users to customize communication rules through programming or configuration tools to meet specific data transmission needs.

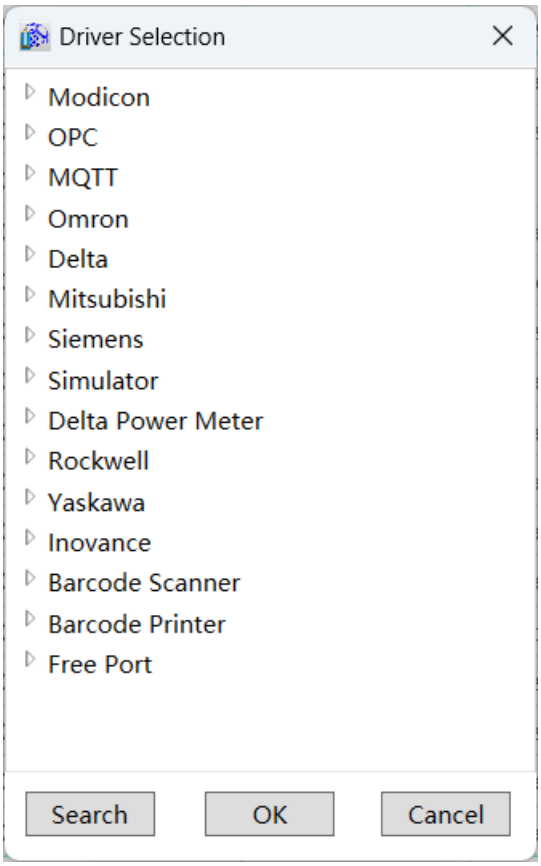
Communication interface support ethernet and serial port.

Free Port Socket TCP Client

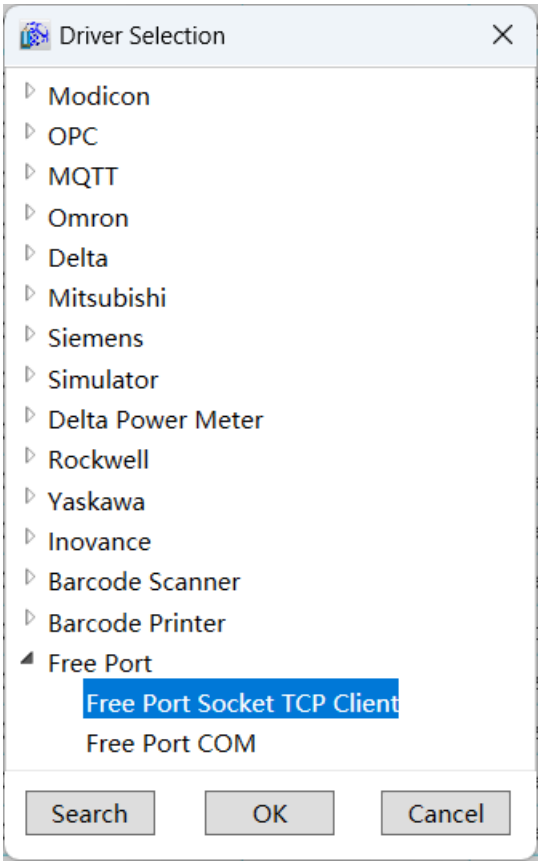
An example of configuring IO communication with Modbus Eth. TCP/IP PLC-Simulator in DIAView configuration software is as follows:

Establish communication between DIAView configuration software and Modbus Eth. TCP/IP PLC-Simulator via Ethernet.

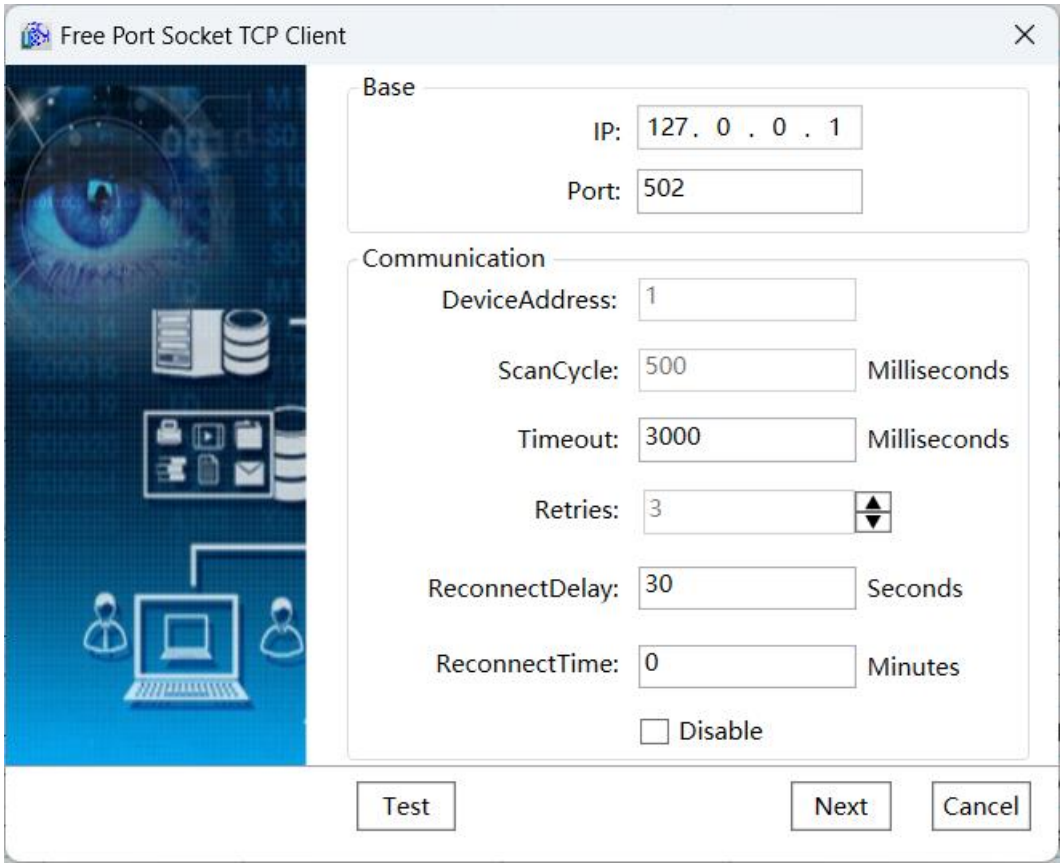
Step 1: Right click on ***New Device*** in the ***IO Device*** node of the project window tree directory, and a selection menu will pop up as shown in the following figure:



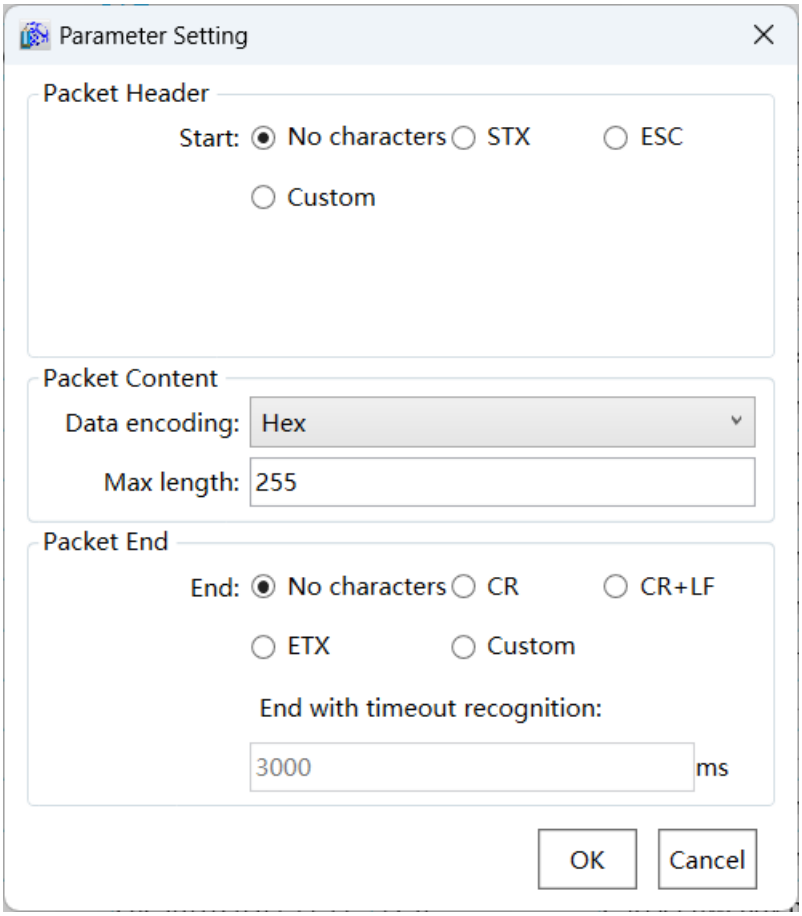
Step 2: In the ***Driver Selection*** window, select ***Free Port*** → ***Free Port Socket TCP Client***, as shown in the following figure:



Step 3: Configure the ***Free Port Socket TCP Client*** communication parameters by entering the correct IP address and port number, as shown in the figure below:



Step 4: Configure the ***Packet Header***, Packet Content, and ***Packet End*** to be consistent with the actual device, as shown in the figure below:



Packet Header: The frame header of the data message, marking the starting position of the data message, which is divided into two categories: without characters and with characters.

No characters: No packet header, no starting position, starting from any byte.

With characters: There is a packet header with a starting position. The entire received packet is first verified. The first few characters of the packet are compared with the packet header to check if they match. If they match, the verification passes; if not, the verification fails, indicating an abnormal message. In this case, the packet is no longer parsed and is discarded.

Packet Content: The data content, which is the essential part of the data message. The main information is placed in the packet content, and its length is variable. It is divided into ASCII and Hex based on the encoding method.

Max length: The maximum number of bytes in a packet.

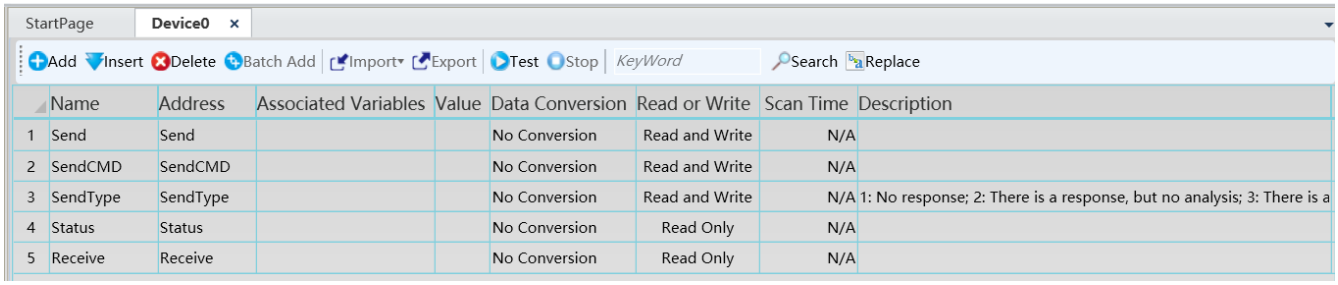
Packet End: The frame tail of the data packet, marking the end of the data packet. It is divided into two main categories: without characters and with characters.

No characters: There is no packet end, and thus no explicit end position for the data packet. When there is no packet end, there are two conditions for determining the end of the data packet, either the receiving timeout is exceeded, or the packet length exceeds the maximum length.

With characters: There is a packet end, indicating the end position of the data packet. Upon receiving

the packet, it is first verified by comparing the last few characters of the packet with the predefined packet end. If they match, the verification passes; if not, the verification fails, indicating an abnormal packet. In this case, the packet will not be further parsed and will be discarded.

Step 5: After configuring all the parameters, click the ***OK*** button to generate a device with a default name. The address table will automatically generate 5 register addresses, as shown in the figure below:



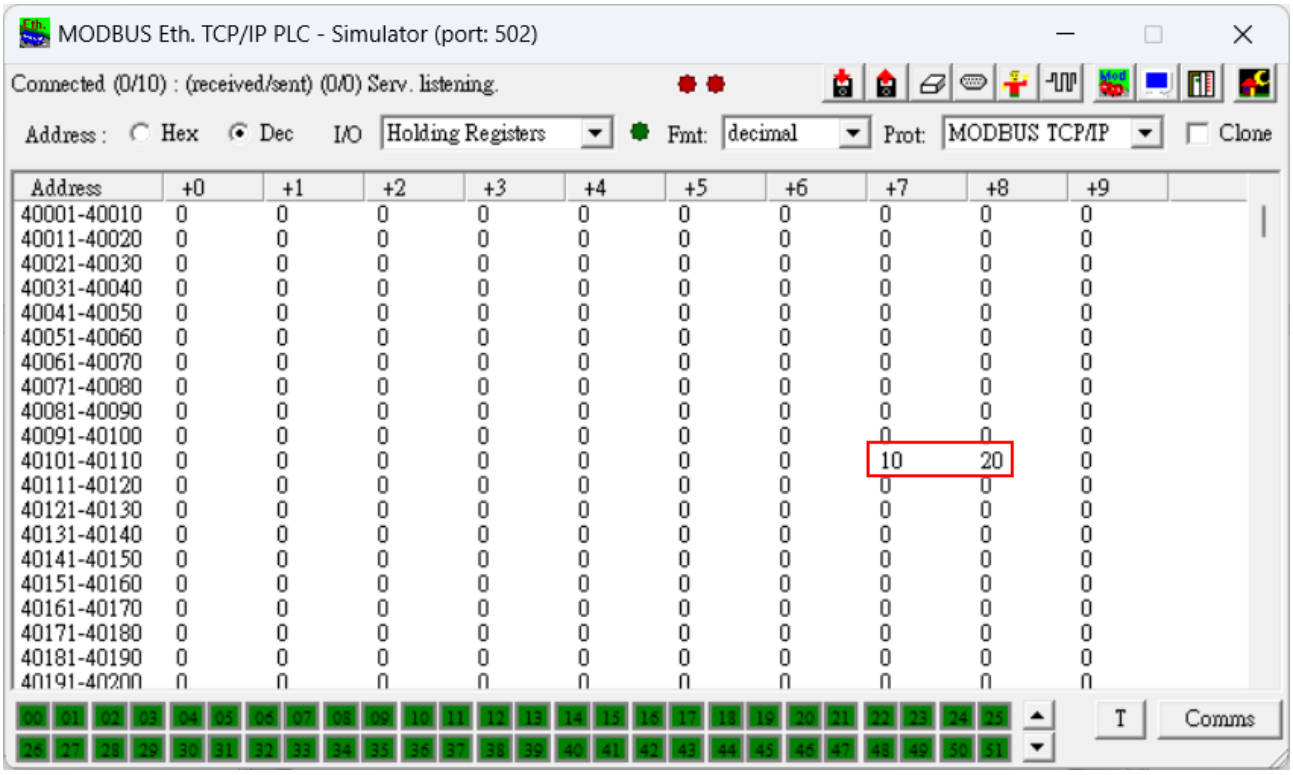
	Name	Address	Associated Variables	Value	Data Conversion	Read or Write	Scan Time	Description
1	Send	Send			No Conversion	Read and Write	N/A	
2	SendCMD	SendCMD			No Conversion	Read and Write	N/A	
3	SendType	SendType			No Conversion	Read and Write	N/A	1: No response; 2: There is a response, but no analysis; 3: There is a
4	Status	Status			No Conversion	Read Only	N/A	
5	Receive	Receive			No Conversion	Read Only	N/A	

Register address list:

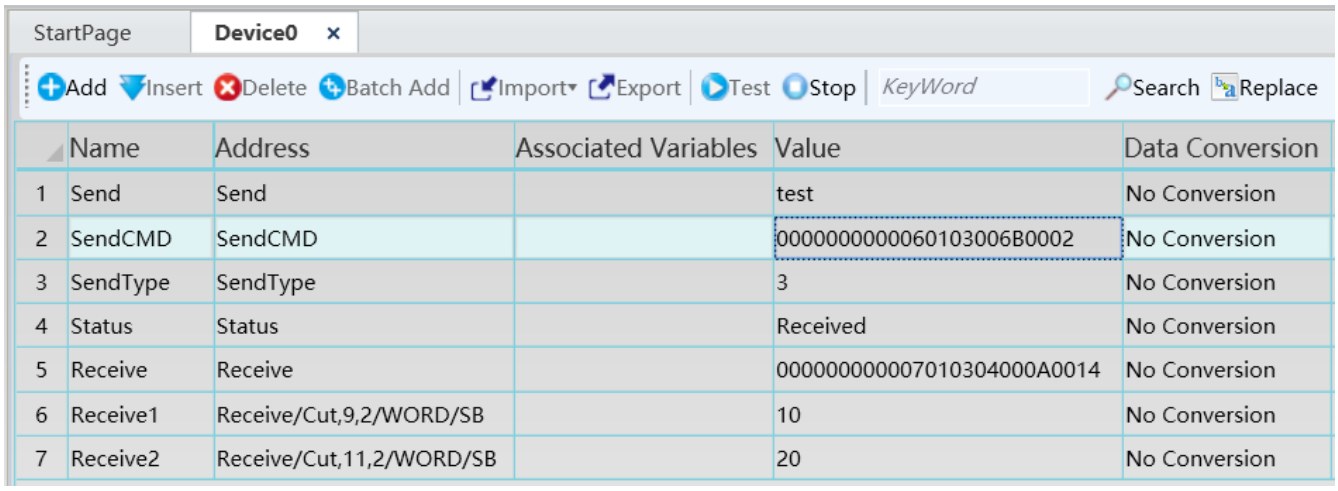
Register name	Read/Write Mode	Description
Send	Read/Write	Trigger source for sending command, execute sending when the bound variable value changes.
SendCMD	Read/Write	The packet to be sent has a fixed header and footer during development, with the intermediate parameters obtained from the bound variables.
SendType	Read/Write	Sending Type: 1 - No response; 2 - There is a response, but no analysis; 3 - There is a response and analysis; 4 - Only receive, with analysis
Status	Read-Only	Obtain device connection status. Sending Sending data SendingDataException Abnormal data sending. Sended Data sending completed. Receiving Receiving data Received Data reception completed. ReceiveValidateException Data reception verification error. ReceiveConvertException Data reception conversion error. Stop Communication stopped. Exception Abnormal status. OK Status normal.
Receive	Read-Only	Reply packet parsing, supporting data segment extraction

Send, SendCMD, SendType, Status cannot delete. When clicking the address table add button again, only add Receive (read-only) to support multiple interception methods for reply data.

Step 6: Configure the values of registers 40108 and 40109 on the Modbus Eth. TCP/IP PLC-Simulator:

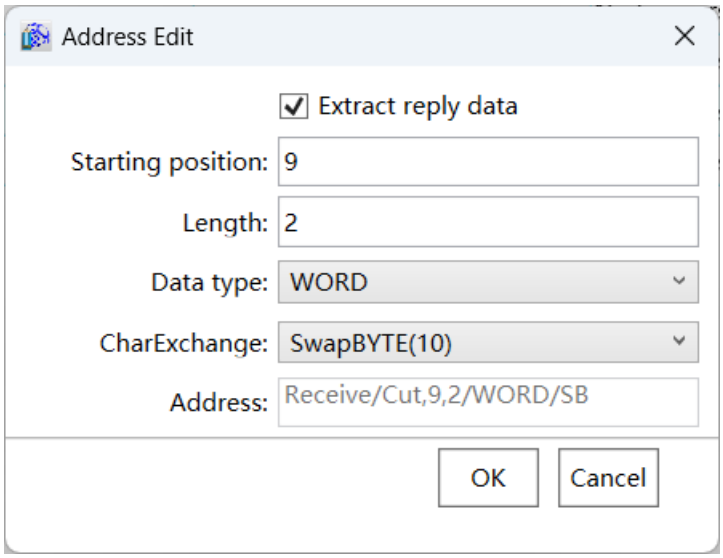


Step 7: Add two registers, Receive1 and Receive2, to the address table to intercept the values of registers 40108 and 40109 in the reply data respectively. Click ***Test***, enter a command in ***SendCMD***, set ***SendType*** to 3 (with reply and parsing), modify the ***Send*** value, and trigger the send command. ***Receive*** will receive the complete reply data, while Receive1 and Receive2 will receive the values of registers 40108 and 40109 respectively:



	Name	Address	Associated Variables	Value	Data Conversion
1	Send	Send		test	No Conversion
2	SendCMD	SendCMD		000000000006010300 6B0002	No Conversion
3	SendType	SendType		3	No Conversion
4	Status	Status		Received	No Conversion
5	Receive	Receive		000000000007010304000A0014	No Conversion
6	Receive1	Receive/Cut,9,2/WORD/SB		10	No Conversion
7	Receive2	Receive/Cut,11,2/WORD/SB		20	No Conversion

The configuration for ***Receive*** to intercept reply data is shown in the figure below. The ***Starting position*** indicates the starting position for intercepting the reply data, the ***Length*** indicates the length of the reply data to be intercepted, and the ***Data Type*** and ***CharExchange*** should be selected:



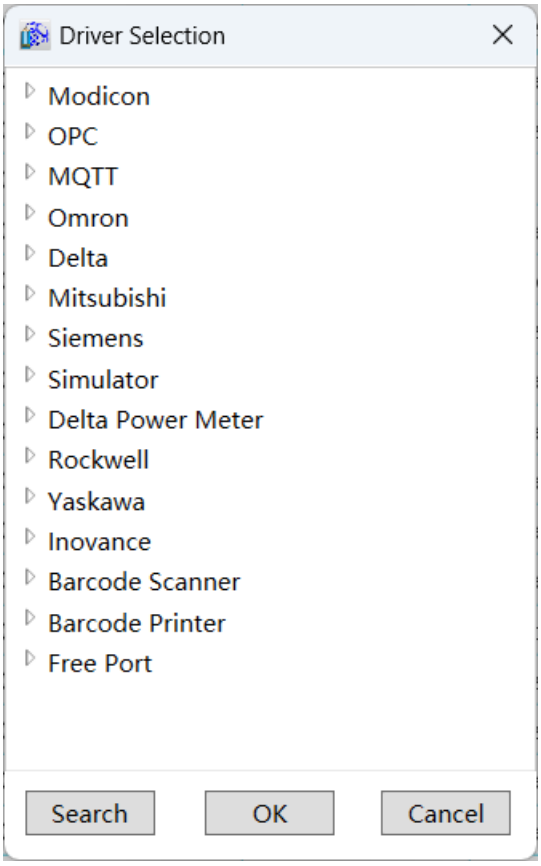
Send, SendCMD, SendType, and ***Status*** are each associated with variables, obtaining parameters from the bound variables to enable runtime modification of the data request to be sent, changing the sending method, and triggering the sending of the data request.

Free Port COM

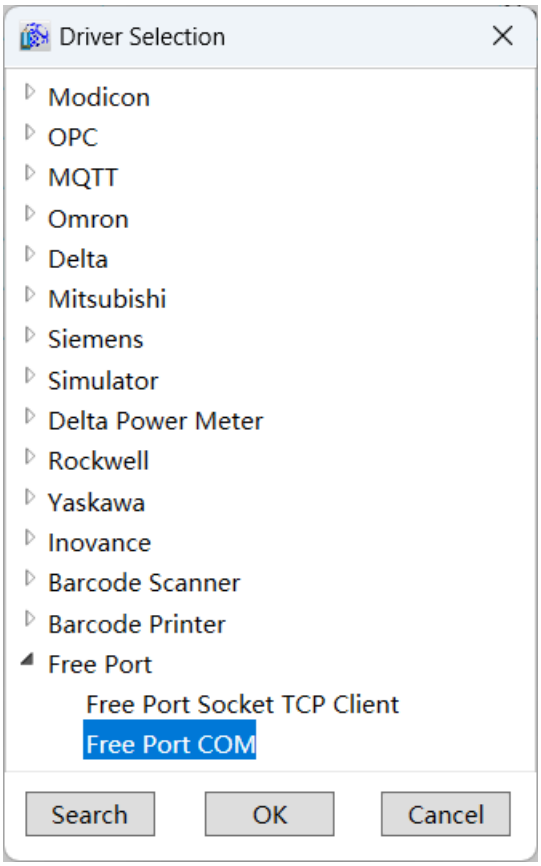
An example of configuring IO communication with Modbus Slave in DIAView configuration software is as follows:

Establish communication between DIAView configuration software and Modbus Slave via serial port.

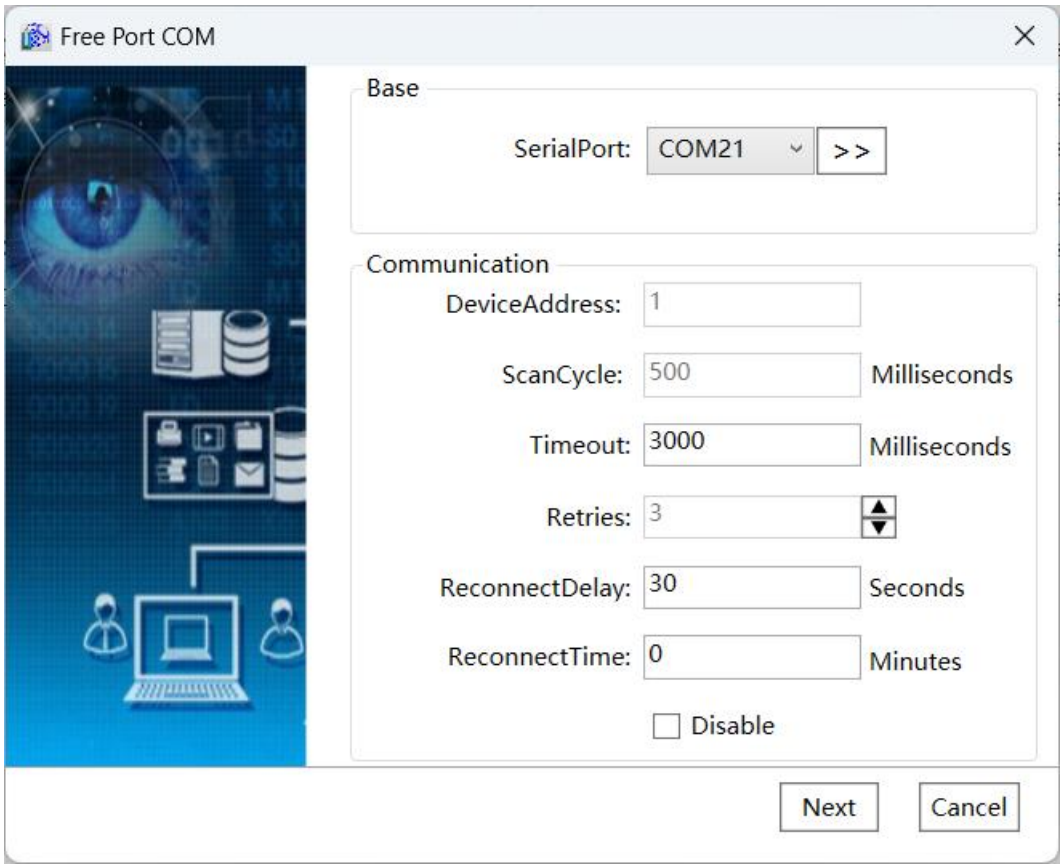
Step 1: Right click on ***New Device*** in the ***IO Device*** node of the project window tree directory, and a selection menu will pop up as shown in the following figure:

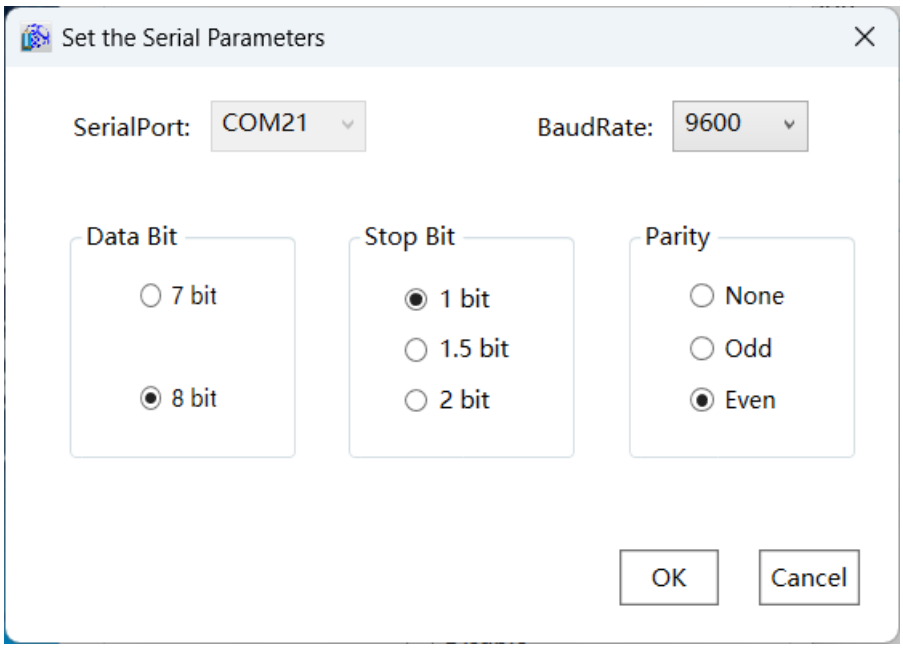


Step 2: In the ***Driver Selection*** window, select ***Free Port*** → ***Free Port COM***, as shown in the following figure:

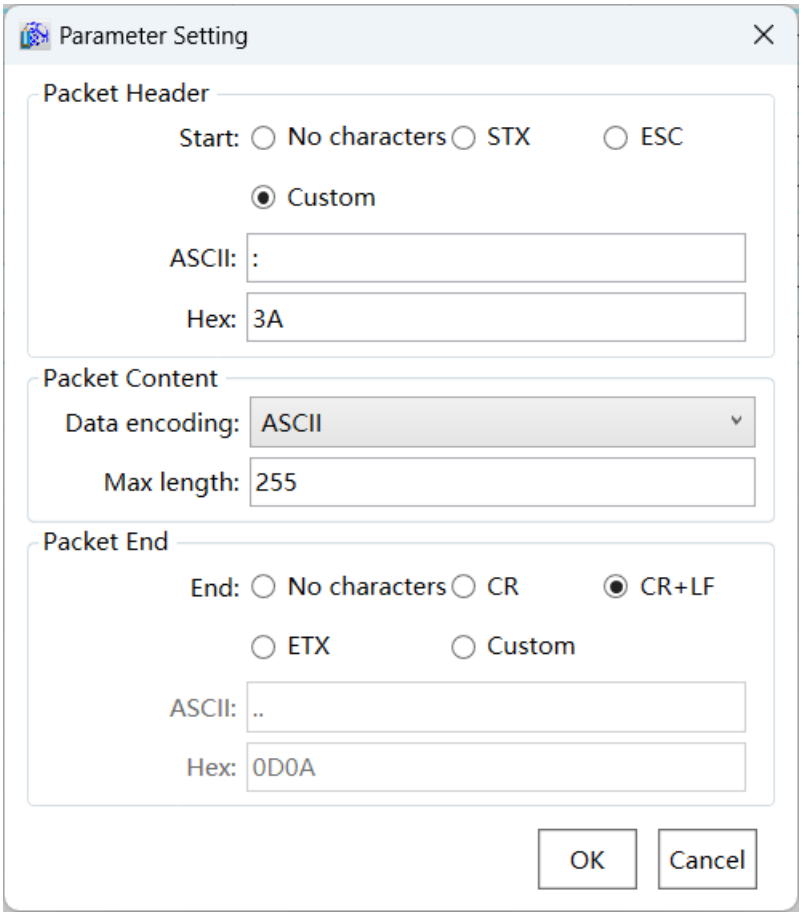


Step 3: Configure the ***Free Port COM*** communication parameters by entering the correct serial port parameters, as shown in the figure below:





Step 4: Configure the ***Packet Header, Packet Content, and Packet End*** to be consistent with the actual device, as shown in the figure below:



Packet Header: The frame header of the data message, marking the starting position of the data message, which is divided into two categories: without characters and with characters.

No characters: No packet header, no starting position, starting from any byte.

With characters: There is a packet header with a starting position. The entire received packet is first verified. The first few characters of the packet are compared with the packet header to check if they match. If they match, the verification passes; if not, the verification fails, indicating an abnormal message. In this case, the packet is no longer parsed and is discarded.

Packet Content: The data content, which is the essential part of the data message. The main information is placed in the packet content, and its length is variable. It is divided into ASCII and Hex based on the encoding method.

Max length: The maximum number of bytes in a packet.

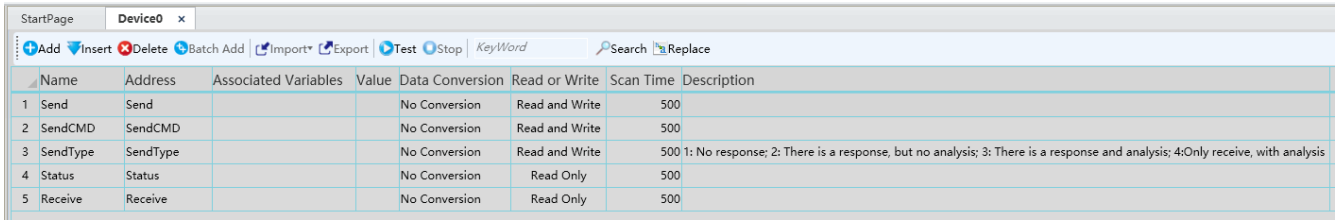
Packet End: The frame tail of the data packet, marking the end of the data packet. It is divided into two main categories: without characters and with characters.

No characters: There is no packet end, and thus no explicit end position for the data packet. When there is no packet end, there are two conditions for determining the end of the data packet, either the receiving timeout is exceeded, or the packet length exceeds the maximum length.

With characters: There is a packet end, indicating the end position of the data packet. Upon receiving the packet, it is first verified by comparing the last few characters of the packet with the predefined packet end. If they match, the verification passes; if not, the verification fails, indicating an abnormal packet. In

this case, the packet will not be further parsed and will be discarded.

Step 5: After configuring all the parameters, click the ***OK*** button to generate a device with a default name. The address table will automatically generate 5 register addresses, as shown in the figure below:

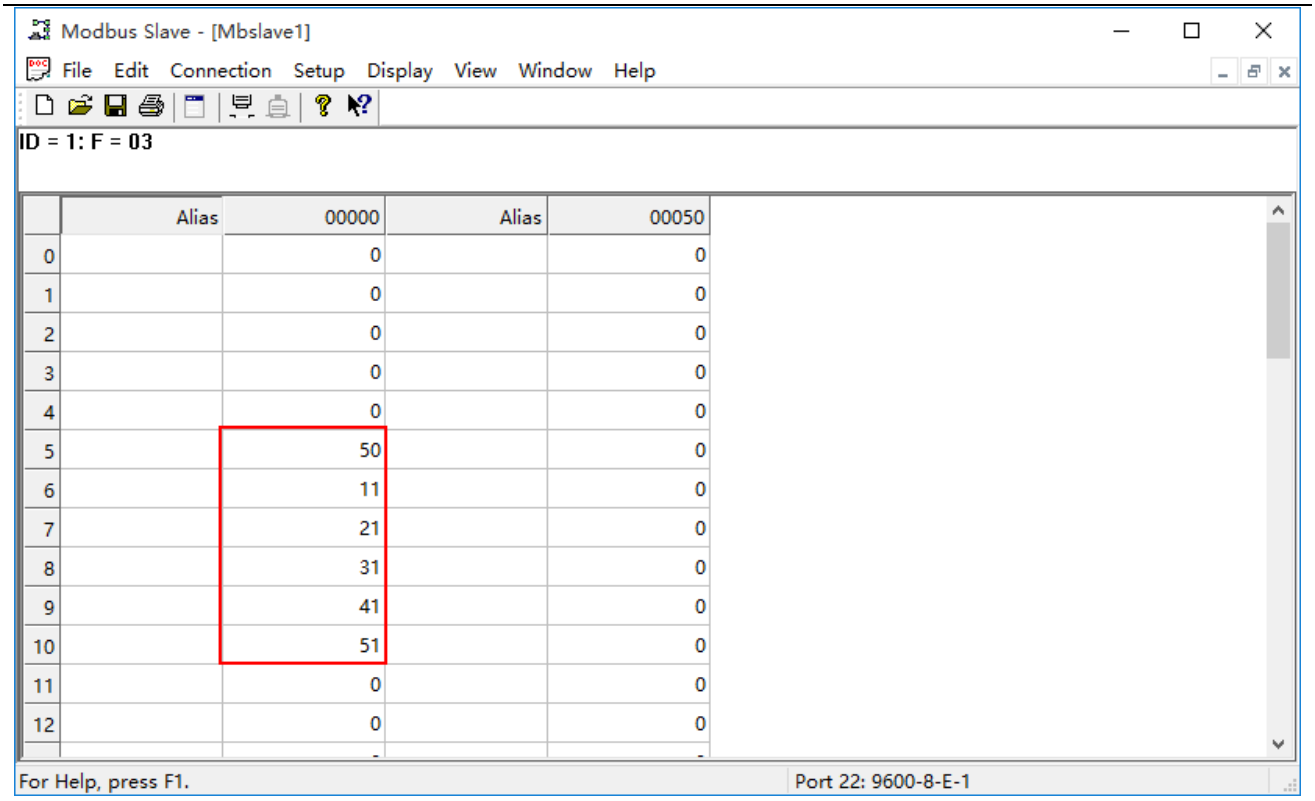


Register address list:

Register name	Read/Write Mode	Description
Send	Read/Write	Trigger source for sending command, execute sending when the bound variable value changes.
SendCMD	Read/Write	The packet to be sent has a fixed header and footer during development, with the intermediate parameters obtained from the bound variables.
SendType	Read/Write	Sending Type: 1 - No response; 2 - There is a response, but no analysis; 3 - There is a response and analysis; 4 - Only receive, with analysis
Status	Read-Only	Obtain device connection status. Sending Sending data SendingDataException Abnormal data sending. Sended Data sending completed. Receiving Receiving data Received Data reception completed. ReceiveValidateException Data reception verification error. ReceiveConvertException Data reception conversion error. Stop Communication stopped. Exception Abnormal status. OK Status normal.
Receive	Read-Only	Reply packet parsing, supporting data segment extraction

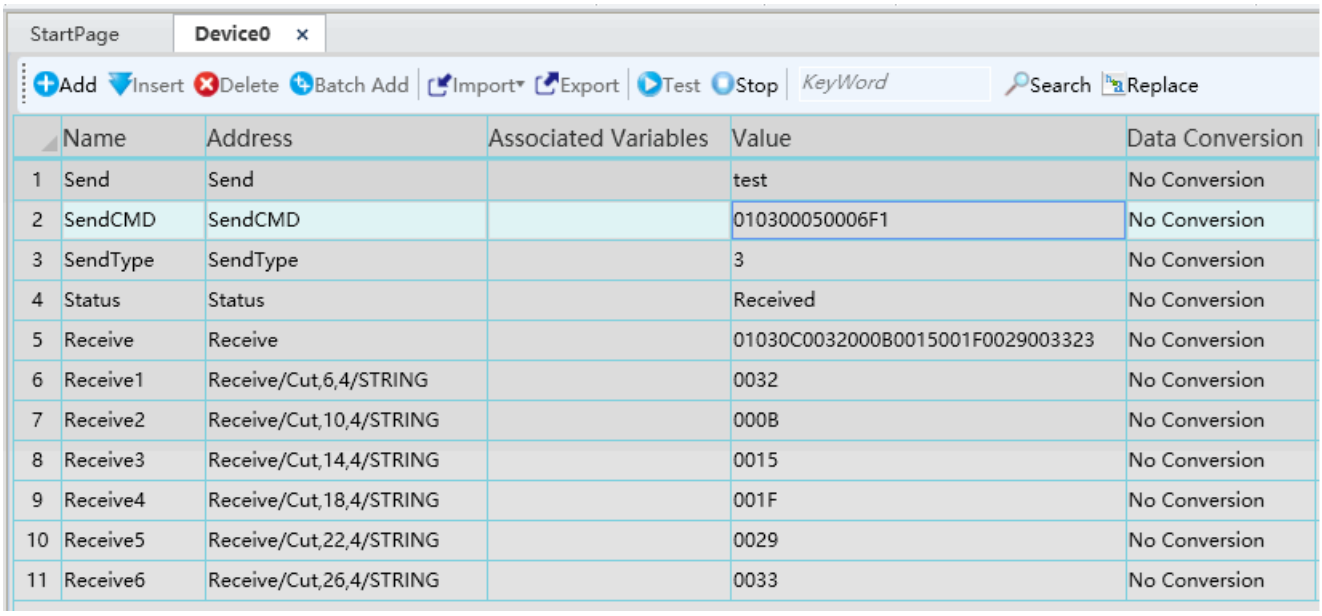
Send, SendCMD, SendType, Status cannot delete. When clicking the address table add button again, only add Receive (read-only) to support multiple interception methods for reply data.

Step 6: Configure the values of registers 40006 to 40011 on the Modbus Slave:



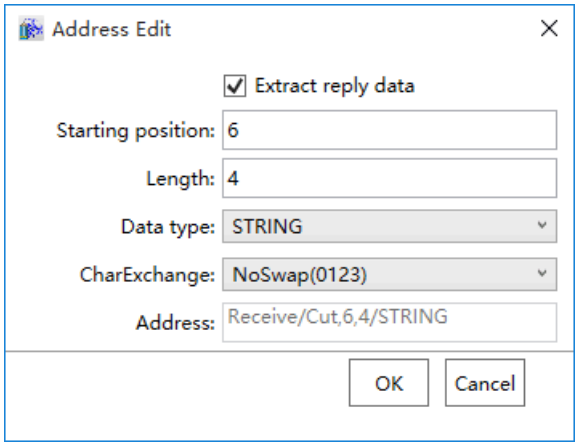
	Alias	00000	Alias	00050
0		0		0
1		0		0
2		0		0
3		0		0
4		0		0
5		50		0
6		11		0
7		21		0
8		31		0
9		41		0
10		51		0
11		0		0
12		0		0

Step 7: Add six registers, Receive1 to Receive6, to the address table, and extract the values from registers 40006 to 40011 in the response data respectively. Click "Test", enter a command in ***SendCMD***, set ***SendType*** to 3 (with response and parsing), modify the ***Send*** value, and trigger the send command. ***Receive*** will receive the complete response data, while Receive1 to Receive6 will receive the values from registers 40006 to 40011 respectively:



	Name	Address	Associated Variables	Value	Data Conversion
1	Send	Send		test	No Conversion
2	SendCMD	SendCMD		010300050006F1	No Conversion
3	SendType	SendType		3	No Conversion
4	Status	Status		Received	No Conversion
5	Receive	Receive		01030C0032000B0015001F0029003323	No Conversion
6	Receive1	Receive/Cut,6,4/STRING		0032	No Conversion
7	Receive2	Receive/Cut,10,4/STRING		000B	No Conversion
8	Receive3	Receive/Cut,14,4/STRING		0015	No Conversion
9	Receive4	Receive/Cut,18,4/STRING		001F	No Conversion
10	Receive5	Receive/Cut,22,4/STRING		0029	No Conversion
11	Receive6	Receive/Cut,26,4/STRING		0033	No Conversion

The configuration for ***Receive*** to intercept reply data is shown in the figure below. The ***Starting position*** indicates the starting position for intercepting the reply data, the ***Length*** indicates the length of the reply data to be intercepted, and the ***Data type*** and ***CharExchange*** should be selected:



Send, SendCMD, SendType, and ***Status*** are each associated with variables, obtaining parameters from the bound variables to enable runtime modification of the data request to be sent, changing the sending method, and triggering the sending of the data request.

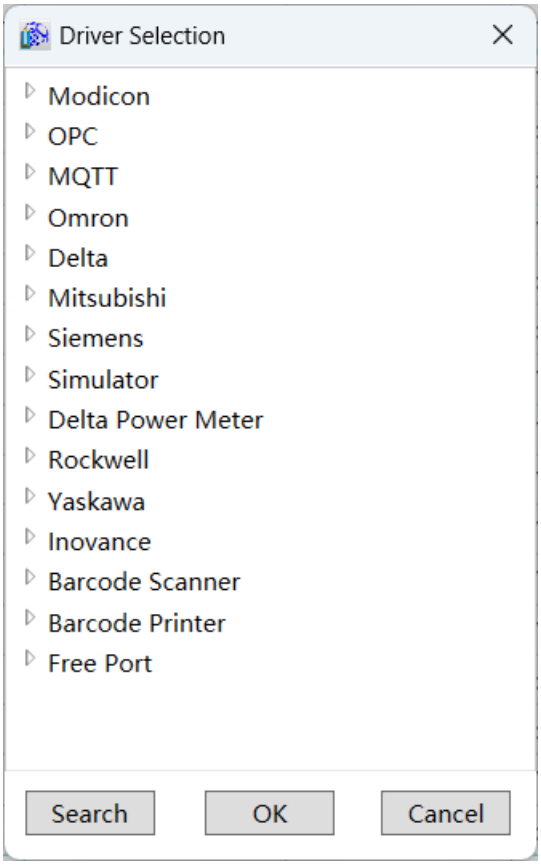
2. New Inovance H3u TCP Driver

The DIAView configuration software supports communication with Inovance H3u series PLCs via Ethernet.

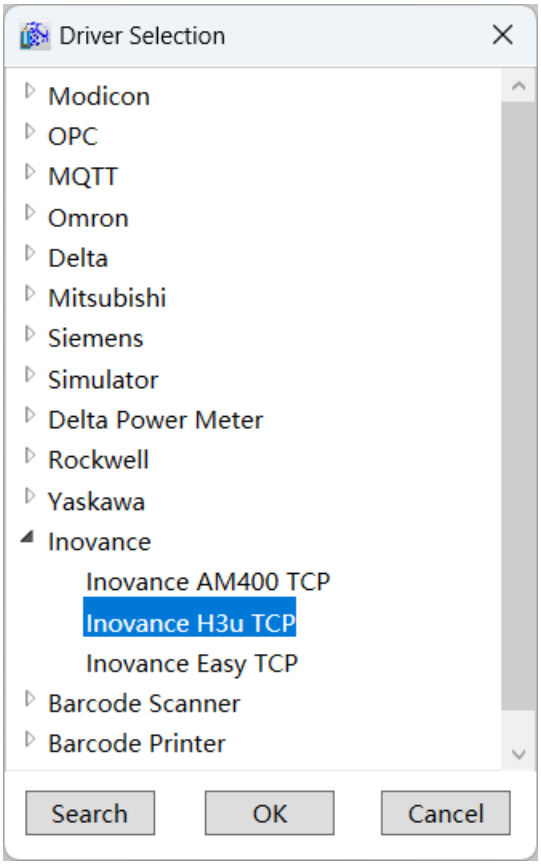
An example of configuring IO communication through Ethernet connected devices in the DIAView configuration software is as follows:

Establish DIAView configuration software to communicate with Inovance H3u TCP through Ethernet:

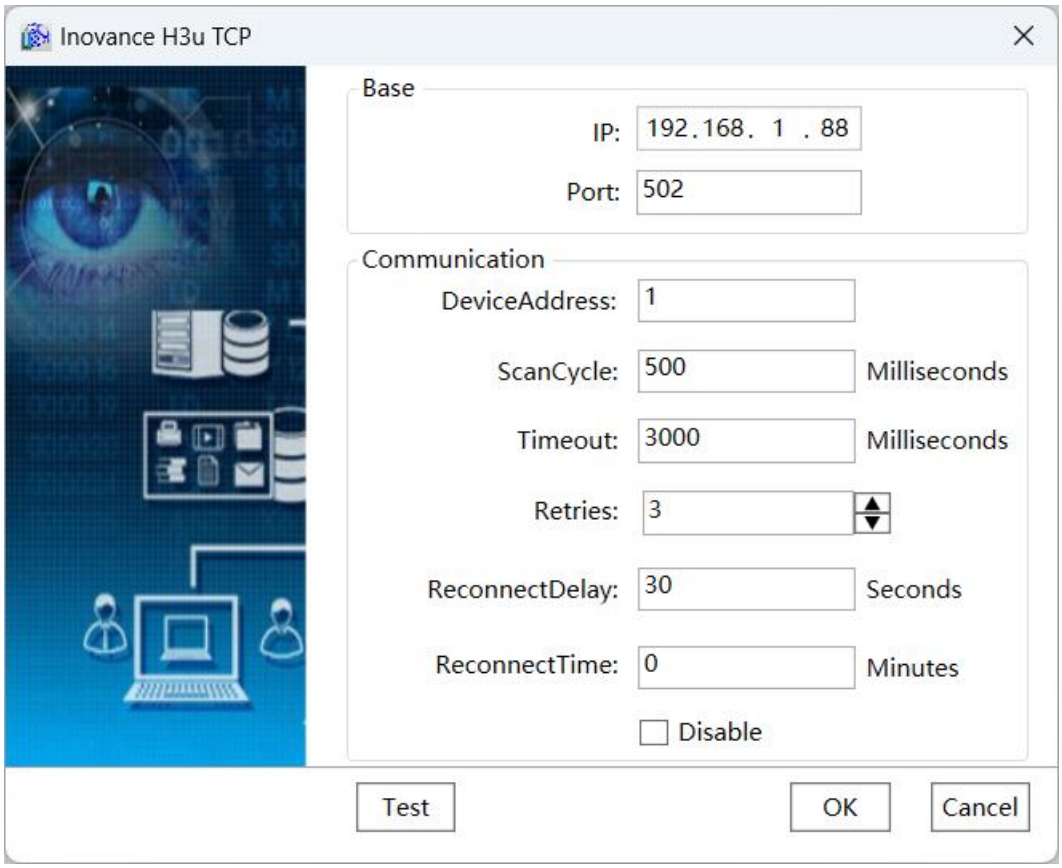
Step 1: (keep PLC and the computer in the same LAN) Right-click on the "IO Device" node in the project management area and select "Add device":



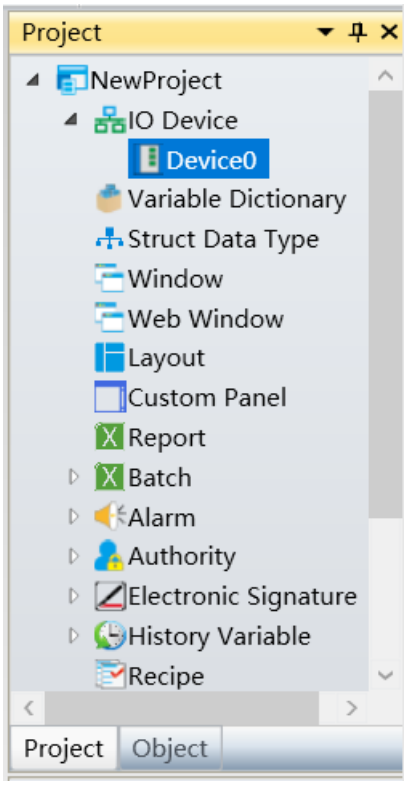
Step 2: Select "Inovance" → "Inovance H3u TCP" in the menu selection, as shown in the figure below:



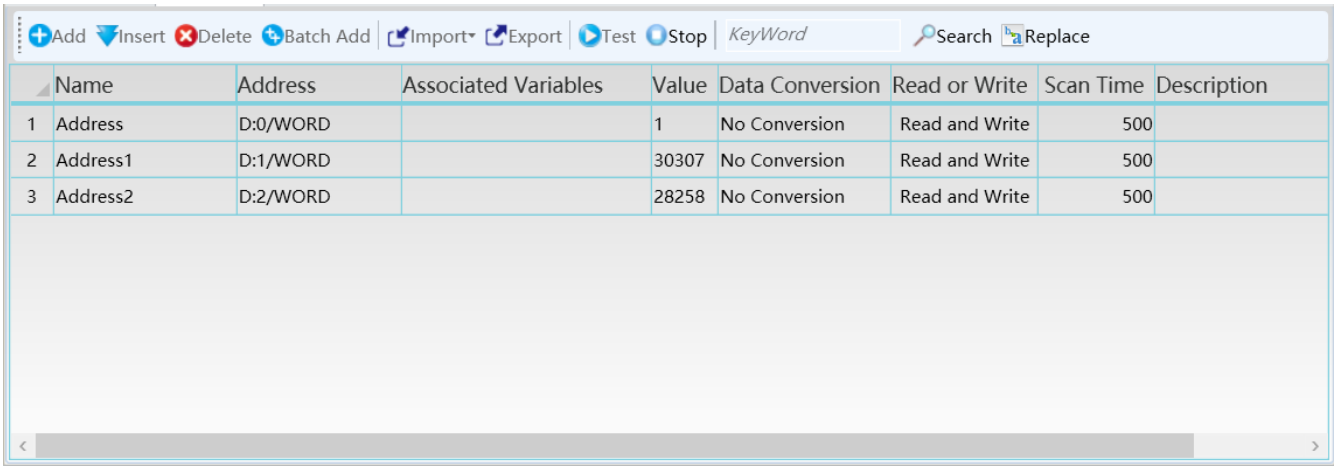
Step 3: Configure Inovance H3u TCP communication, as shown in the figure below:



Step 4: Click the OK button when all parameters have been configured and the device with default name Device will appear under IO Device node of the project tree directory and complete Ethernet driver communication configuration, as shown in the figure below:



Step 5: On DIAView, add the register address, click Test to read the data, as shown in the figure below:



	Name	Address	Associated Variables	Value	Data Conversion	Read or Write	Scan Time	Description
1	Address	D:0/WORD		1	No Conversion	Read and Write	500	
2	Address1	D:1/WORD		30307	No Conversion	Read and Write	500	
3	Address2	D:2/WORD		28258	No Conversion	Read and Write	500	

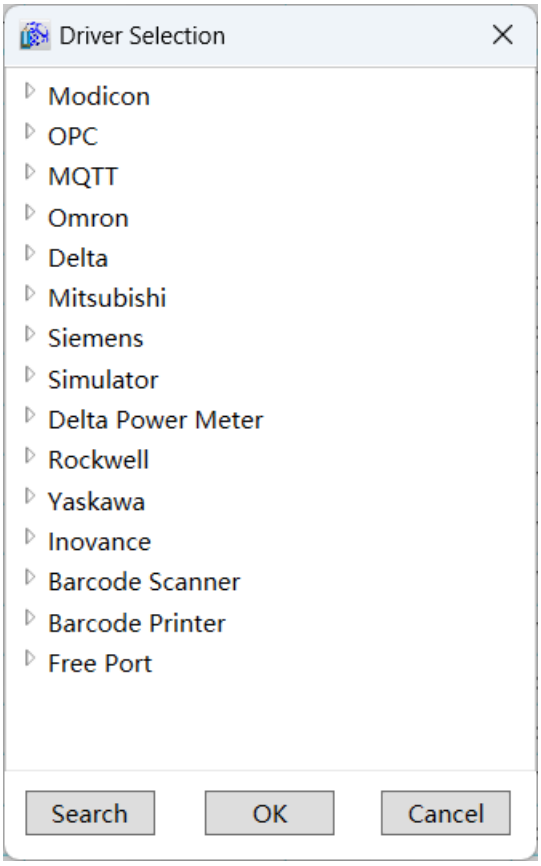
3. New Inovance Easy TCP Driver

The DIAView configuration software supports communication with Inovance Easy series PLCs via Ethernet.

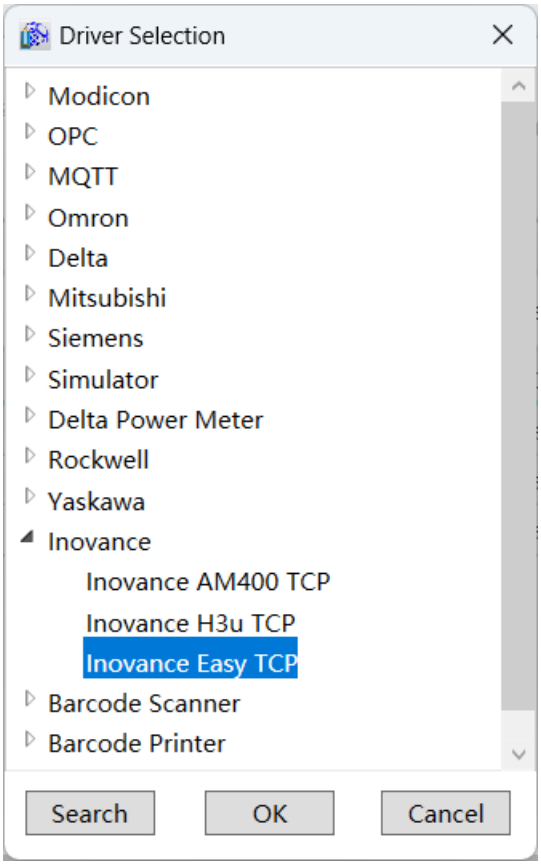
An example of configuring IO communication through Ethernet connected devices in the DIAView configuration software is as follows:

Establish DIAView configuration software to communicate with Inovance Easy TCP through Ethernet:

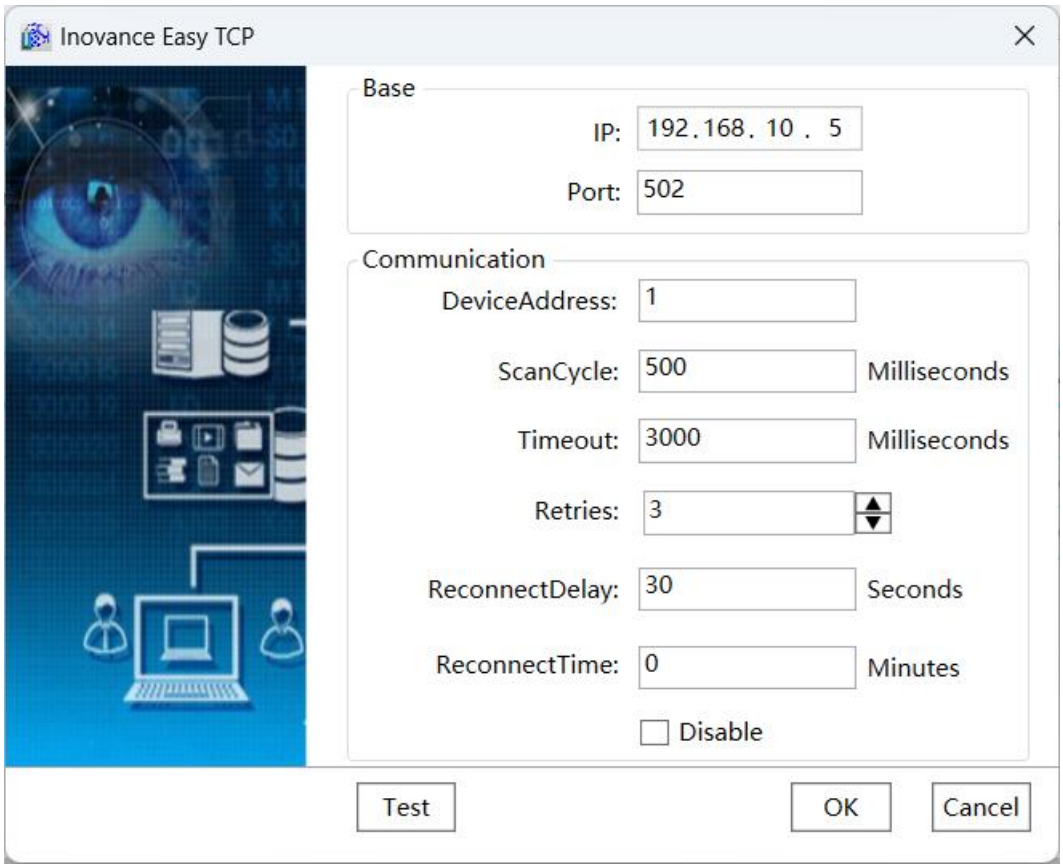
Step 1: (keep PLC and the computer in the same LAN) Right-click on the "IO Device" node in the project management area and select "Add device":



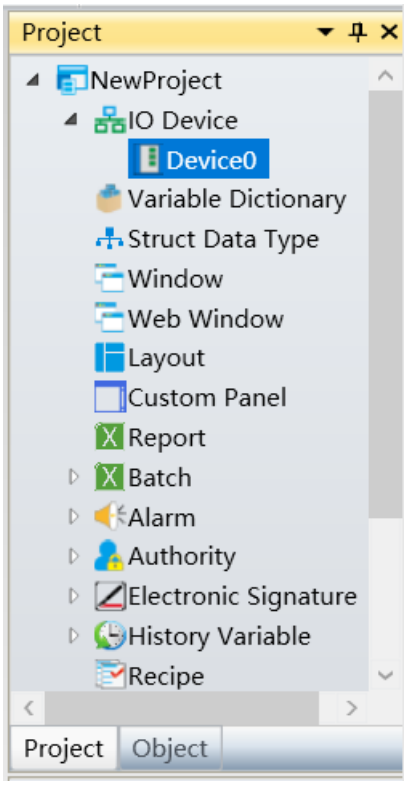
Step 2: Select "Inovance" → "Inovance Easy TCP" in the menu selection, as shown in the figure below:



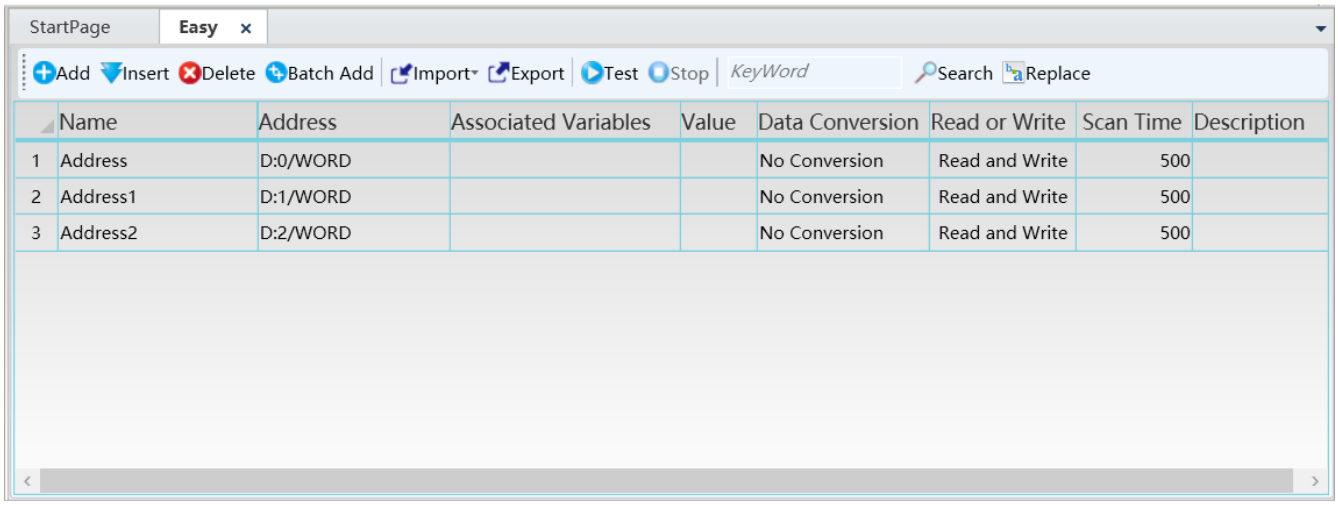
Step 3: Configure Inovance Easy TCP communication, as shown in the figure below:



Step 4: Click the OK button when all parameters have been configured and the device with default name Device will appear under IO Device node of the project tree directory and complete Ethernet driver communication configuration, as shown in the figure below:



Step 5: On DIAView, add the register address, click Test to read the data, as shown in the figure below:



	Name	Address	Associated Variables	Value	Data Conversion	Read or Write	Scan Time	Description
1	Address	D:0/WORD			No Conversion	Read and Write	500	
2	Address1	D:1/WORD			No Conversion	Read and Write	500	
3	Address2	D:2/WORD			No Conversion	Read and Write	500	

4. Rockwell MicroLogix Ethernet

DIAView software supports the communication of the equipment based on Rockwell communication protocol standard by EtherNet/IP.

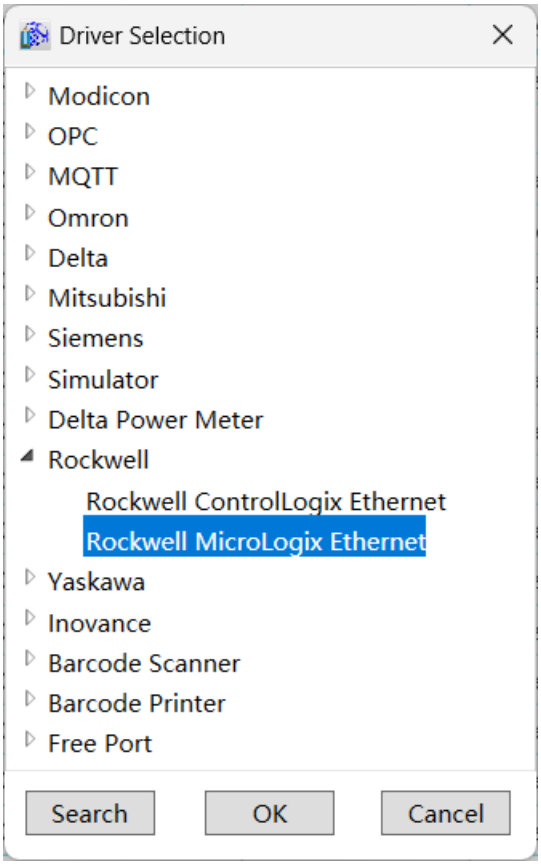
Supporting devices: MicroLogix Ethernet 1400

Creating communication between DIAView software and Rockwell-MicroLogix by Ethernet:

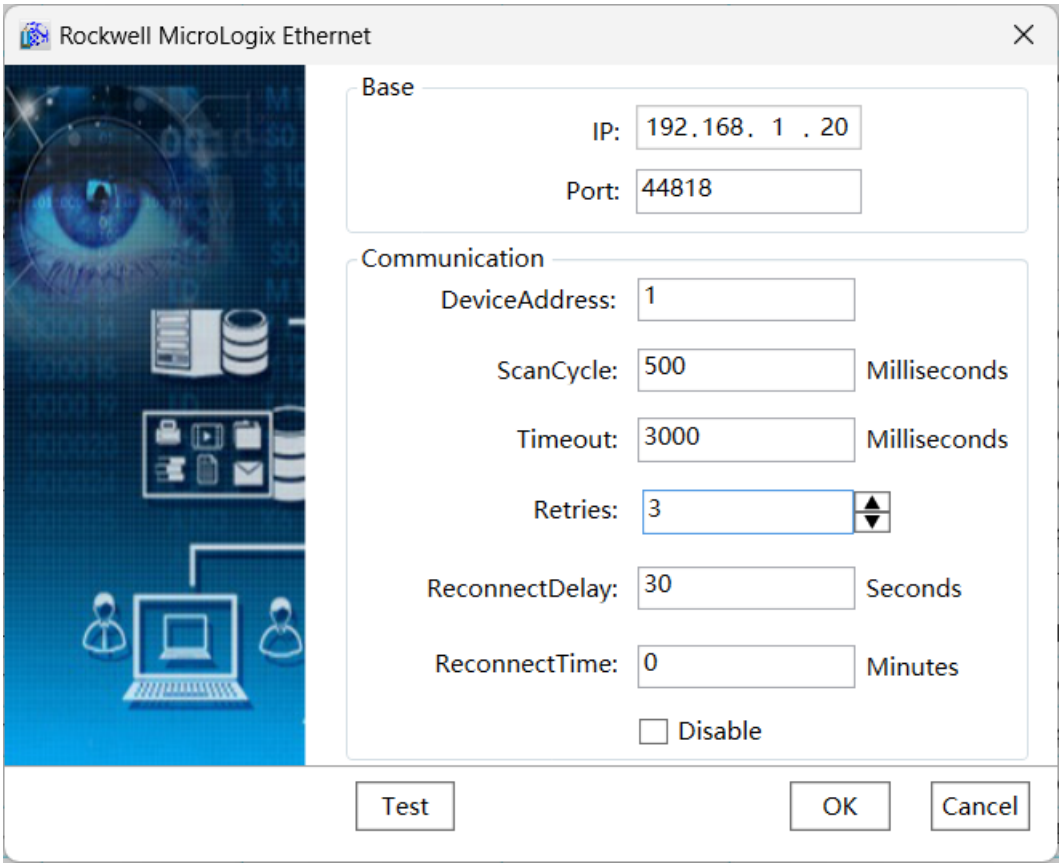
Example 1: Taking ***MicroLogix Ethernet*** driver as an example

Step 1: Create the following hardware framework, set the IP address as 192.168.1.20, the computer IP address is 192.168.1.200 (keep the PLC and the computer in the same LAN):

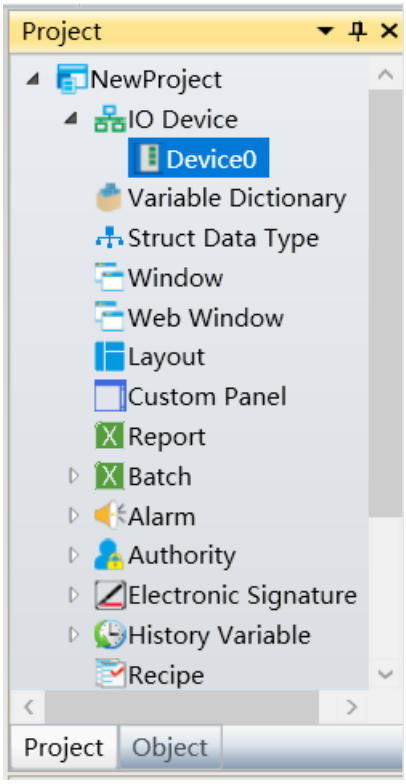
Step 2: In the project management area, right click on ***IO Device*** node and select ***New Device***, select ***Rockwell*** → ***Rockwell MicroLogix Ethernet*** in the driver selection window, as shown in the figure below:



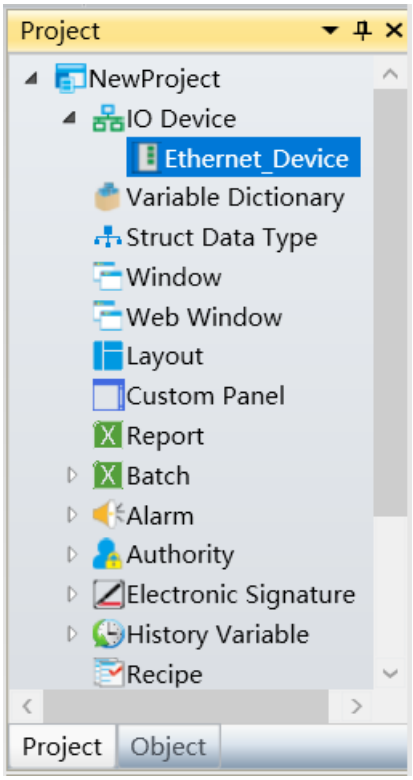
Step 3: Configure the ***MicroLogix Ethernet*** communication parameters and set the ***IP*** in the base settings as 192.168.1.20, set the port number to: 44818, as shown in the figure below:



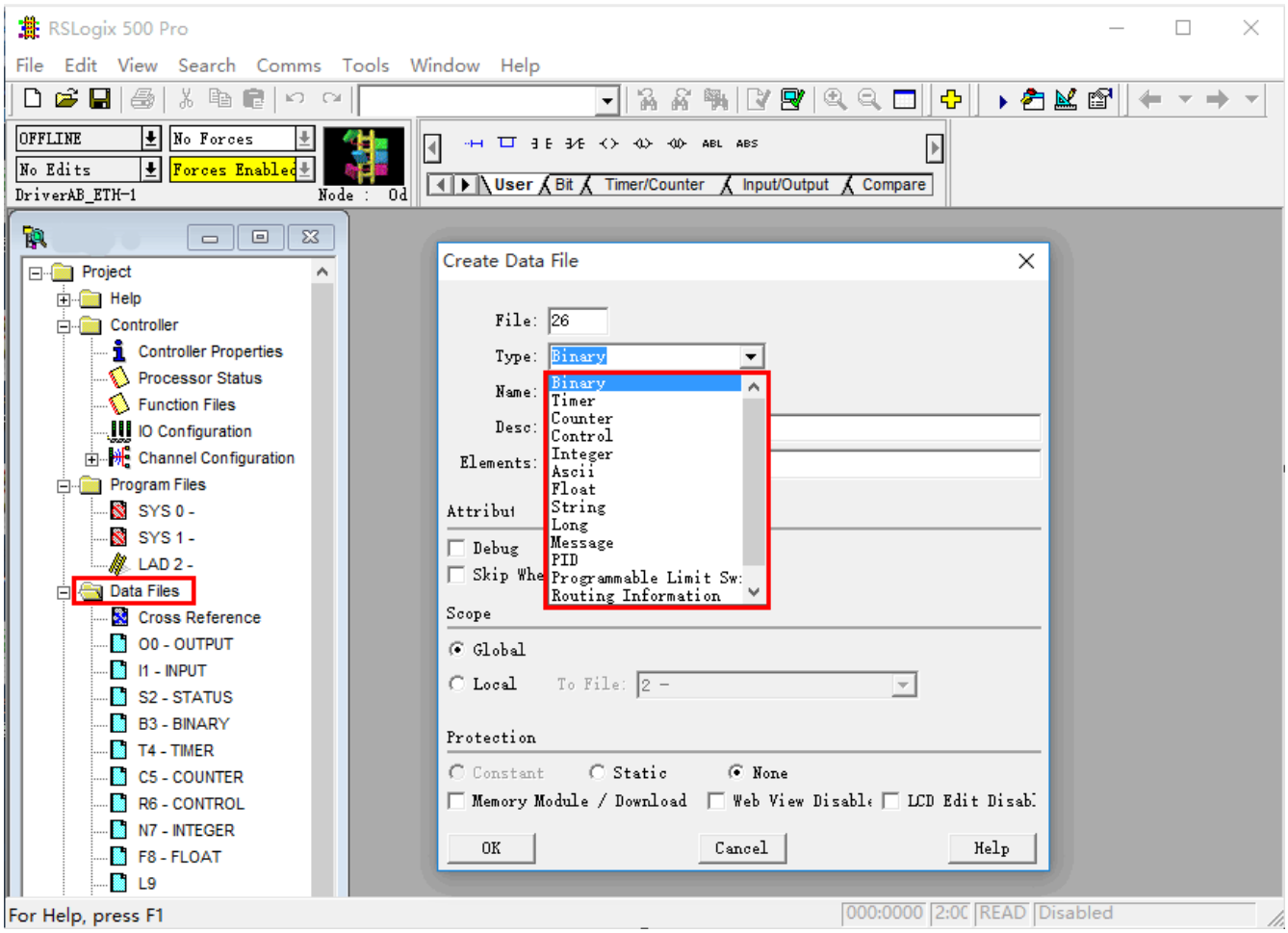
Step 4: Click the ***OK*** button when all parameters have been configured and the device with default name ***Device*** will appear under ***IO Device*** node of the project tree directory:



Step 5: Rename the newly-built IO communication device as ***Ethernet_Device*** and complete Ethernet driver communication configuration, as shown in the figure below:



Step 6: There is some default register address in Rockwell equipment, supports user-incremented register addresses, as shown in the figure below:



Step 7: On DIAView, add the register address, click ***Test*** to read the data, as shown in the figure below:

StartPage | Ethernet_Device ×

Add | Insert | Delete | Batch Add | Import | Export | Test | Stop | KeyWord | Search | Replace

	Name	Address	Associated Variables	Value	Data Conversion	Read or Write	Scan Time	Description
1	地址	O_0:0/WORD		1365	No Conversion	Read and Write	500	
2	地址1	I_1:0/WORD		0	No Conversion	Read and Write	500	
3	地址2	S_2:0/WORD		0	No Conversion	Read and Write	500	
4	地址3	B_3:11/WORD		42	No Conversion	Read and Write	500	
5	地址4	T_4:6.PRE/WORD		96	No Conversion	Read and Write	500	
6	地址5	C_5:5.ACC/WORD		60	No Conversion	Read and Write	500	
7	地址6	R_6:0.EN/BOOL		True	No Conversion	Read and Write	500	
8	地址7	N_7:100/WORD		8193	No Conversion	Read and Write	500	
9	地址8	F_8:32/FLOAT		23.229999542	No Conversion	Read and Write	500	
10	地址9	L_9:25/DWORD		512	No Conversion	Read and Write	500	
11	地址10	ST_23:0/STRING		test_abc	No Conversion	Read and Write	500	
12	地址11	A_11:7.H/BYTE		12	No Conversion	Read and Write	500	

5. New Batch Function

Batch is used to record production process data and automatically generate batch reports. DIAView combines batches and formulas to record production process data, perform statistical analysis on process data, automatically generate batch reports, and achieve quality traceability.

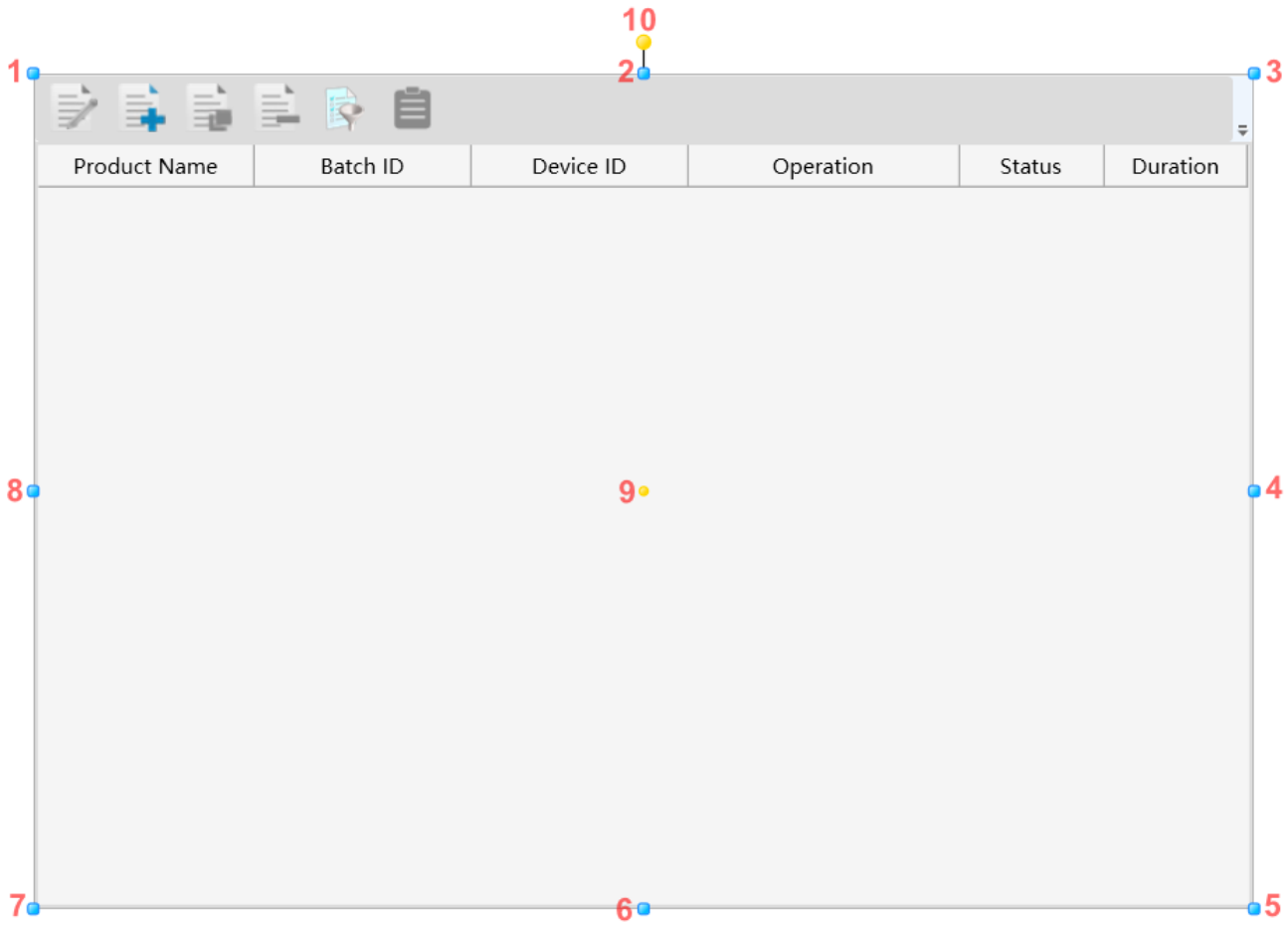
5.1 New BatchManagement Control

Open the window interface and click on ***Toolbox*** →***Extended controls*** →***BatchManagement*** in the tools window to the left, the toolbar is as shown in the figure above.

Move the mouse to the working area of the window, select a starting point and press the left mouse button and drag the mouse towards the bottom-right, after releasing the left mouse button, the drawing ends and a ***BatchManagement*** is generated.

Just repeat the steps above if another ***BatchManagement*** needs to be drawn

Graphic introduction:



The figure above is a selected ***BatchManagement***, click on the ***BatchManagement*** to enter selected status.

There are two points on 1 in the figure above: the tensile point and the center, 2-8 are the tensile points and 9 is the rotation point.

Above point 2 and below point 6 in the figure are the horizontal distortion points. The right of point 4 and the left of point 8 are the vertical distortion points, 10 is the center.

The upper part of the figure shows the toolbar, which is used to query, print, export, and back up the ***BatchManagement.***

BatchManagement→Column:

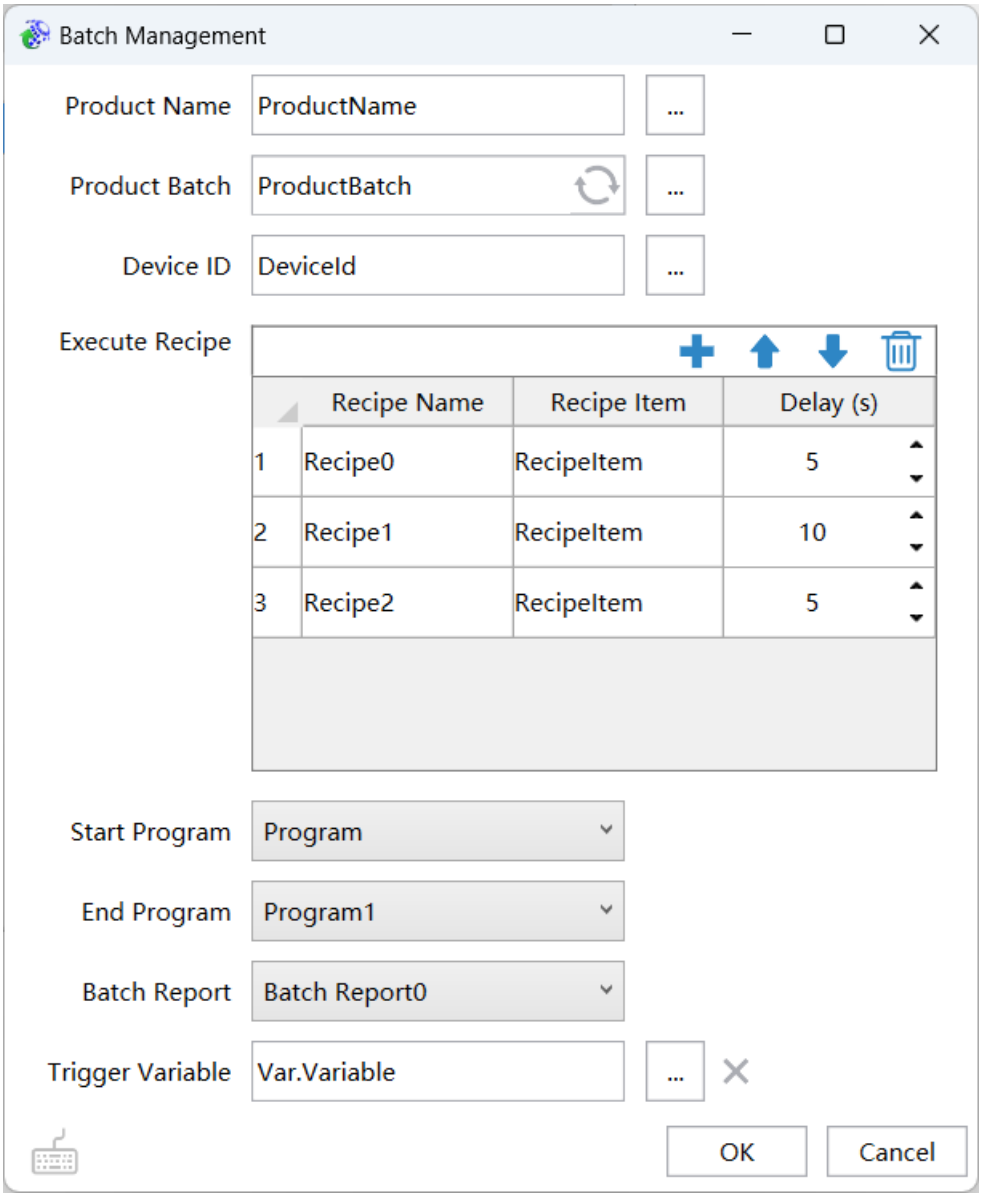
Each ***BatchManagement*** includes six columns, with detailed explanations for each column as follows:

ColumnName	Description
Product Name	Product name of BatchManagement
Batch ID	Batch id of BatchManagement
Device ID	Device id of BatchManagement
Operation	Batch management executable operations include: Start, Pause, Stop
Status	The statuses of batch management include: Running, Pause, Stop

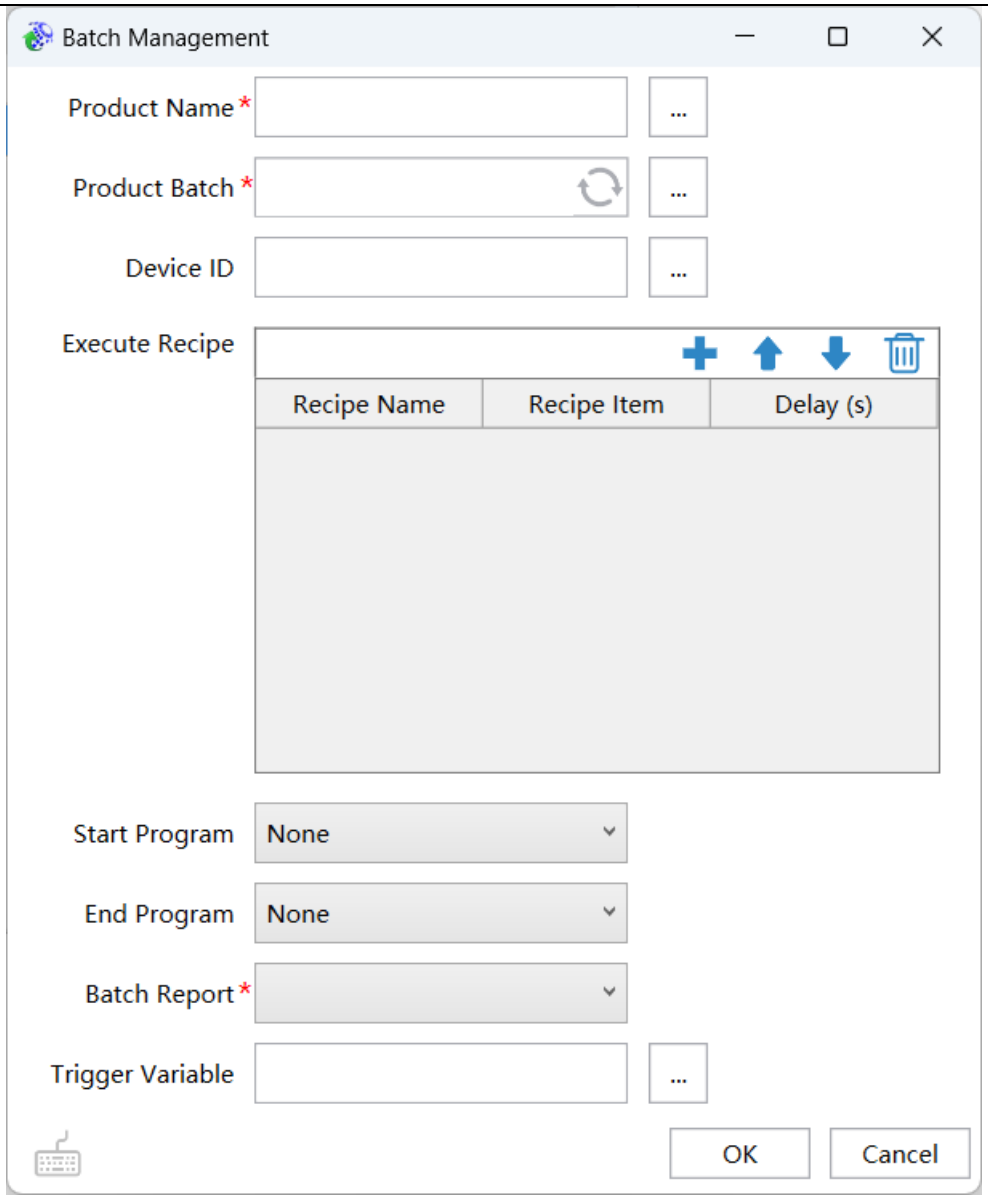
Duration	Displays the duration during the batch management operation.

Usage of the toolbar:

Edit:  Edit the selected batch management, click to open the "Batch Management" window.



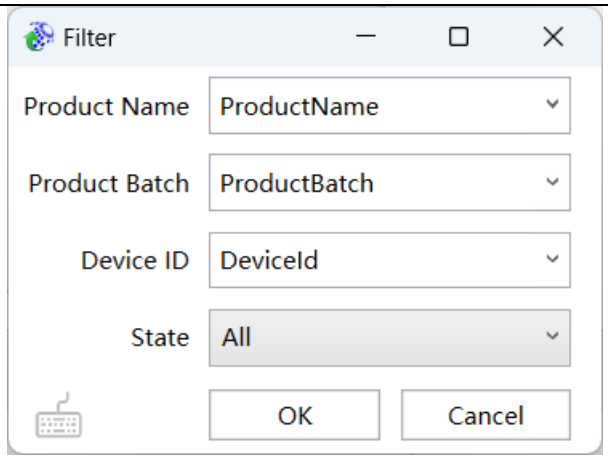
Add:  Add batch management, click to open a blank 'Batch Management' window.



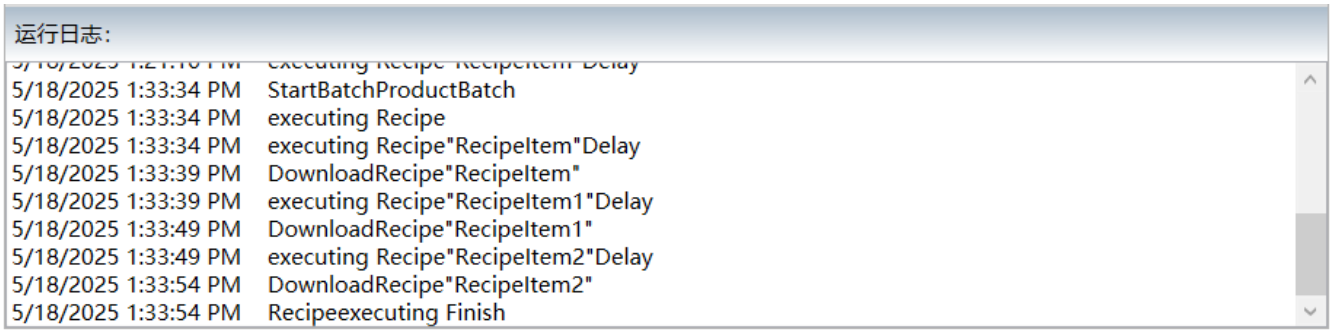
Copy: Copy the selected batch management

Delete: Delete batch management

Filter: Query batch management by filtering with product name, product batch, device id, and state.

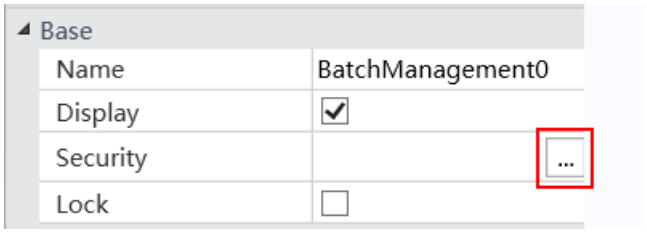


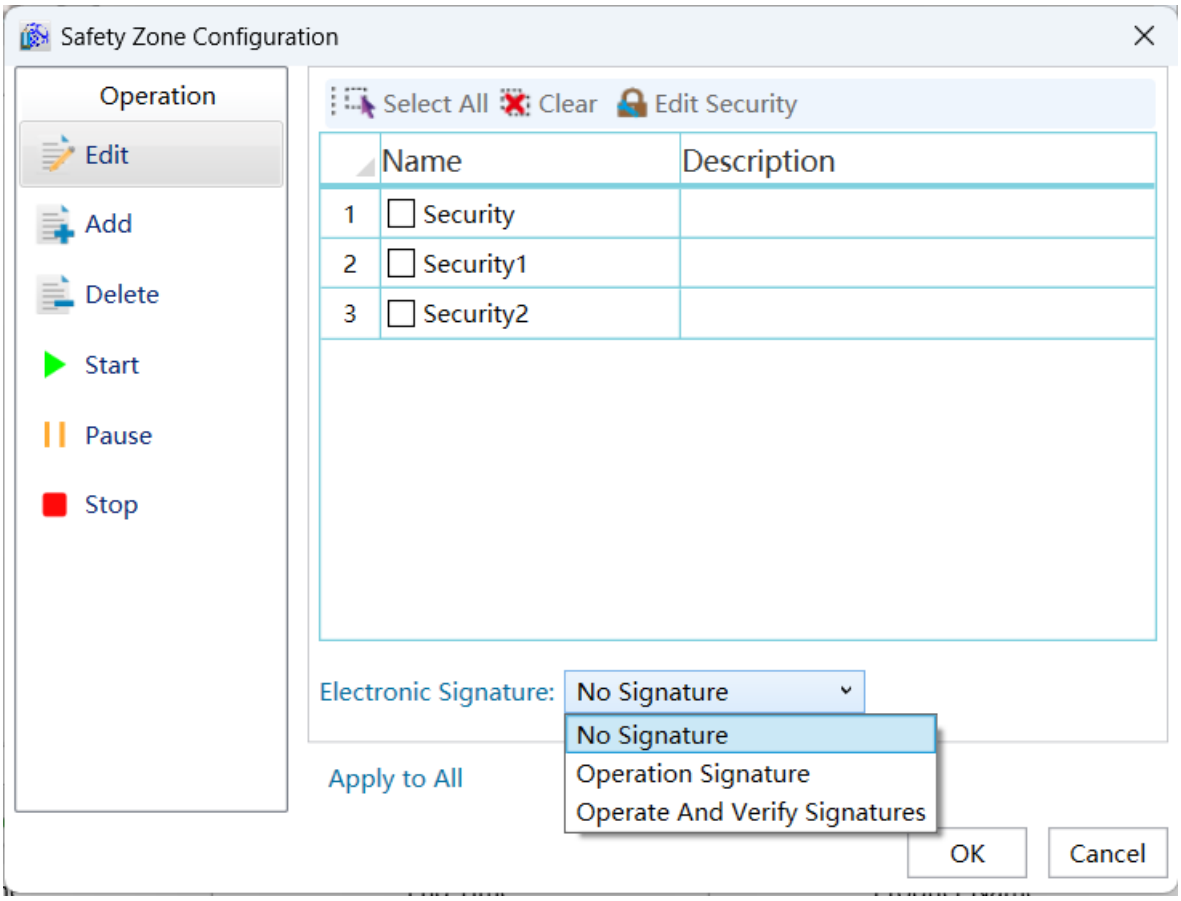
Log:  View batch management execution process information



Batch management properties:

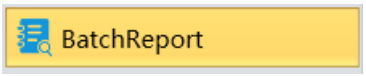
Property window → Security:





Security Zone Configuration: Set up security zones and electronic signatures for batch management and batch operations. Only users with security zone permissions and electronic signature authorization can perform batch management and batch operations.Batch management includes edit, add, delete. Batch operations include start, pause, stop.

5.2 New BatchReport Control

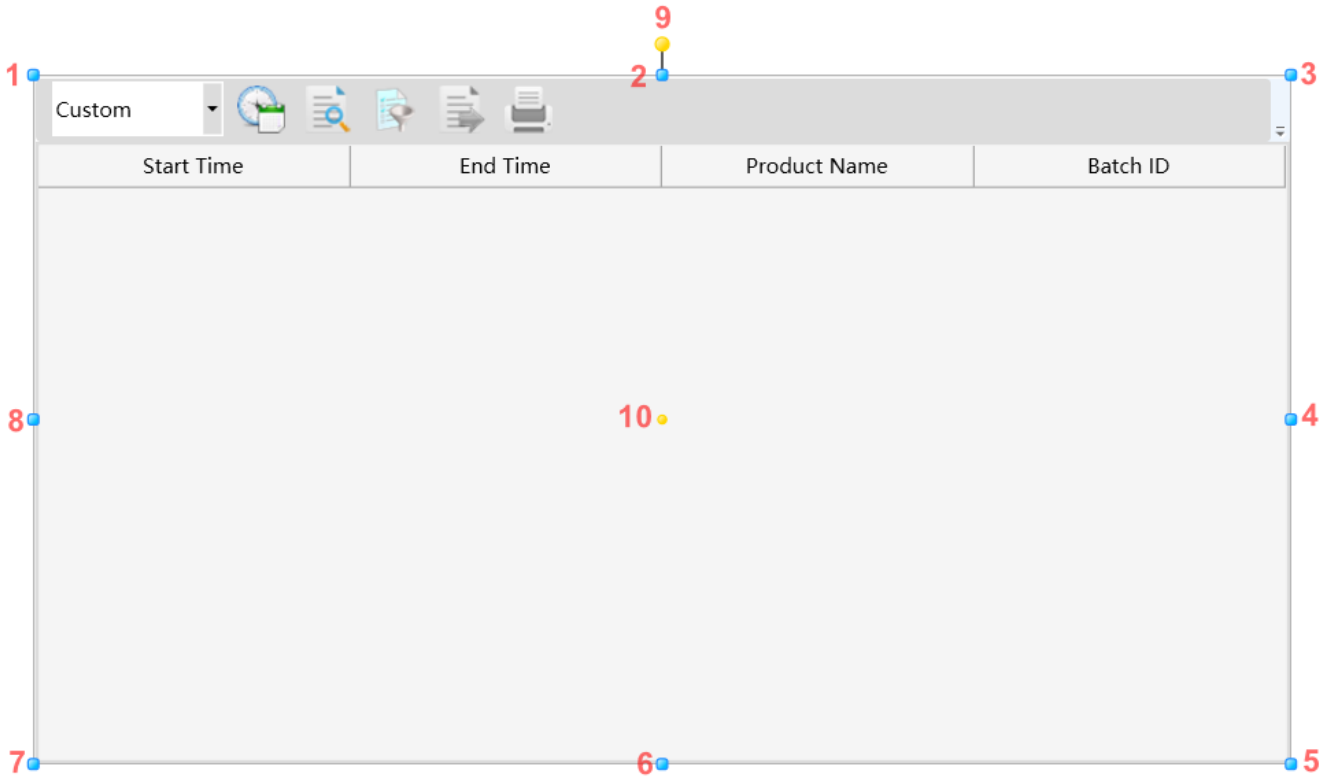


Open the window interface and click on ***Toolbox →Extended controls →BatchReport*** in the tools window to the left, the toolbar is as shown in the figure above.

Move the mouse to the working area of the window, select a starting point and press the left mouse button and drag the mouse towards the bottom-right, after releasing the left mouse button, the drawing ends and a ***BatchReport*** is generated.

Just repeat the steps above if another ***BatchReport*** needs to be drawn

Graphic introduction:



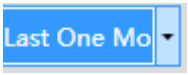
The figure above is a selected ***BatchReport***, click on the ***BatchReport***to enter selected status.

There are two points on 1 in the figure above: the tensile point and the center, 2-8 are the tensile points and 9 is the rotation point.

Above point 2 and below point 6 in the figure are the horizontal distortion points. The right of point 4 and the left of point 8 are the vertical distortion points, 10 is the center.

The upper part of the figure shows the toolbar, which is used to query, filter, export print the batch report.

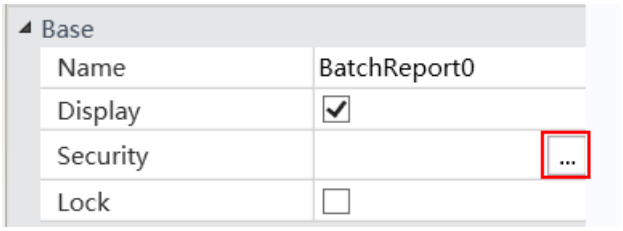
Usage of the toolbar:

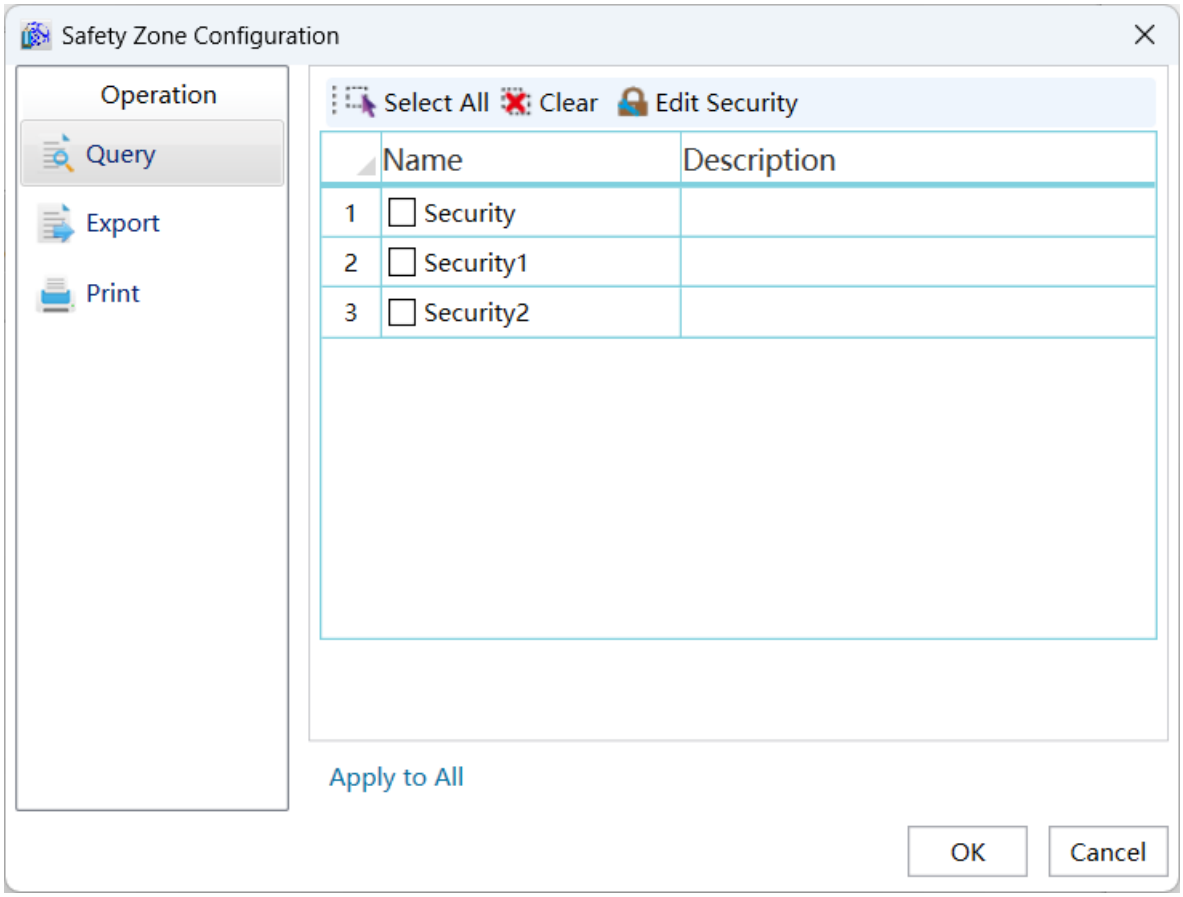
Element	Description
Set nearest query time	 Set the query time range: ***recent one hour***, ***recent one day***, ***recent one week***, ***recent one month***, ***recent three months***, ***recent six months***, ***recent one year***, ***recent three year***, ***custom***.
Custom Time	 When ***set recent alarm query time*** is ***all alarm***, user can set self-defined query range.
Query	 Query the batch report based on the current configuration.
Filter	 Set query filter condition
Export	 Export current page data

Print	Print batch report

Batch report properties:

Property window → Security:





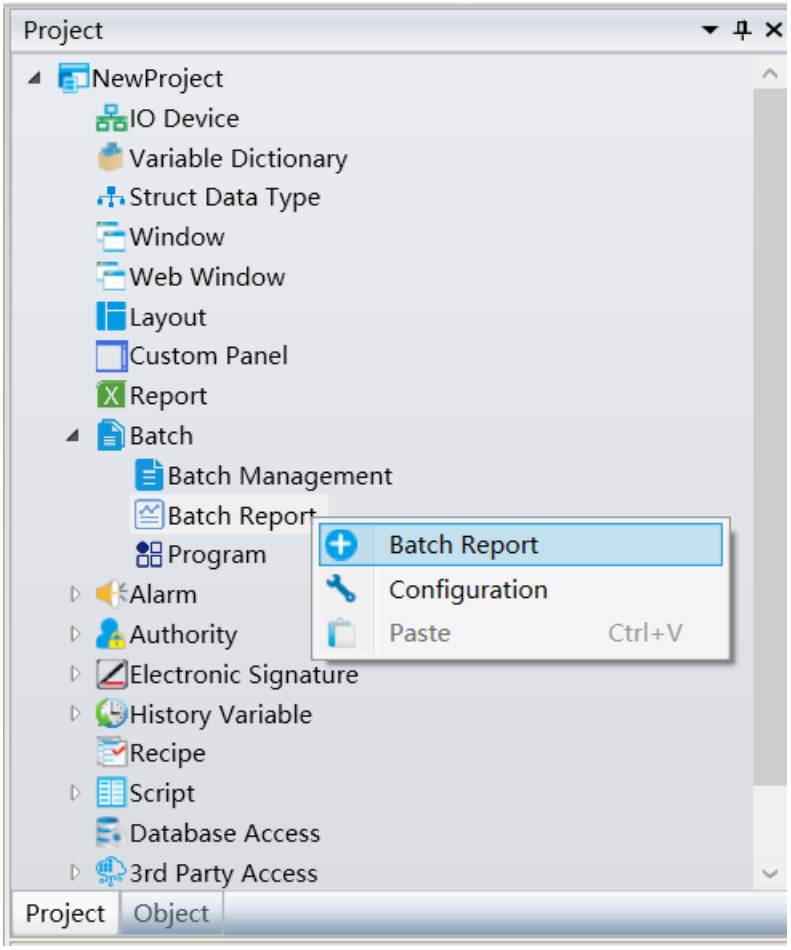
Security Zone Configuration: Set up security zones for operations in batch reports. Only users with security zone permissions can perform actions such as query, export, and print.

5.3 Development Batch Report

Enter the screen window interface, click on "NewProject" → "Batch" → "Batch Report" in the right-hand window, then

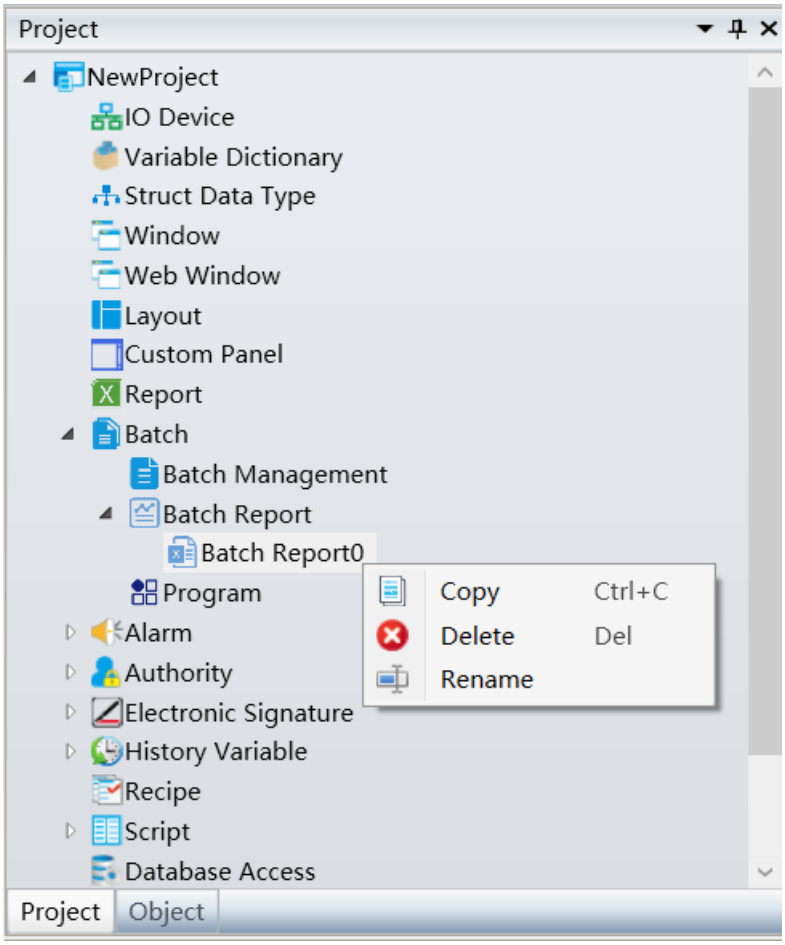
right-click on "Batch Report" to create a batch report template, as shown in the figure below.

Repeat the above steps to generate the report template again.

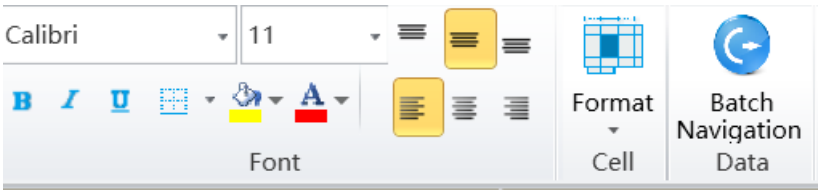


Right-click the new batch report node to ***copy, delete, or rename*** it, as shown below:

Batch report names follow the window naming rules.



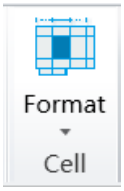
Batch Report Menu Description:



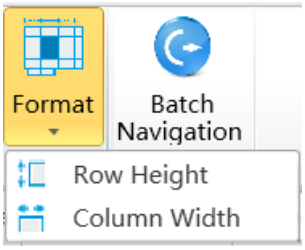
The image above shows the batch report's Excel-like menu interface, allowing users to design batch reports.

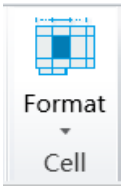
Menu Bar Usage Instructions

Common font settings: Set font style, size, bold, italic, underline, cell border style, cell fill color, font color and alignment.

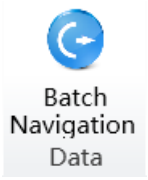
Click the 

button to pop up the cell format settings options as shown in the following figure:

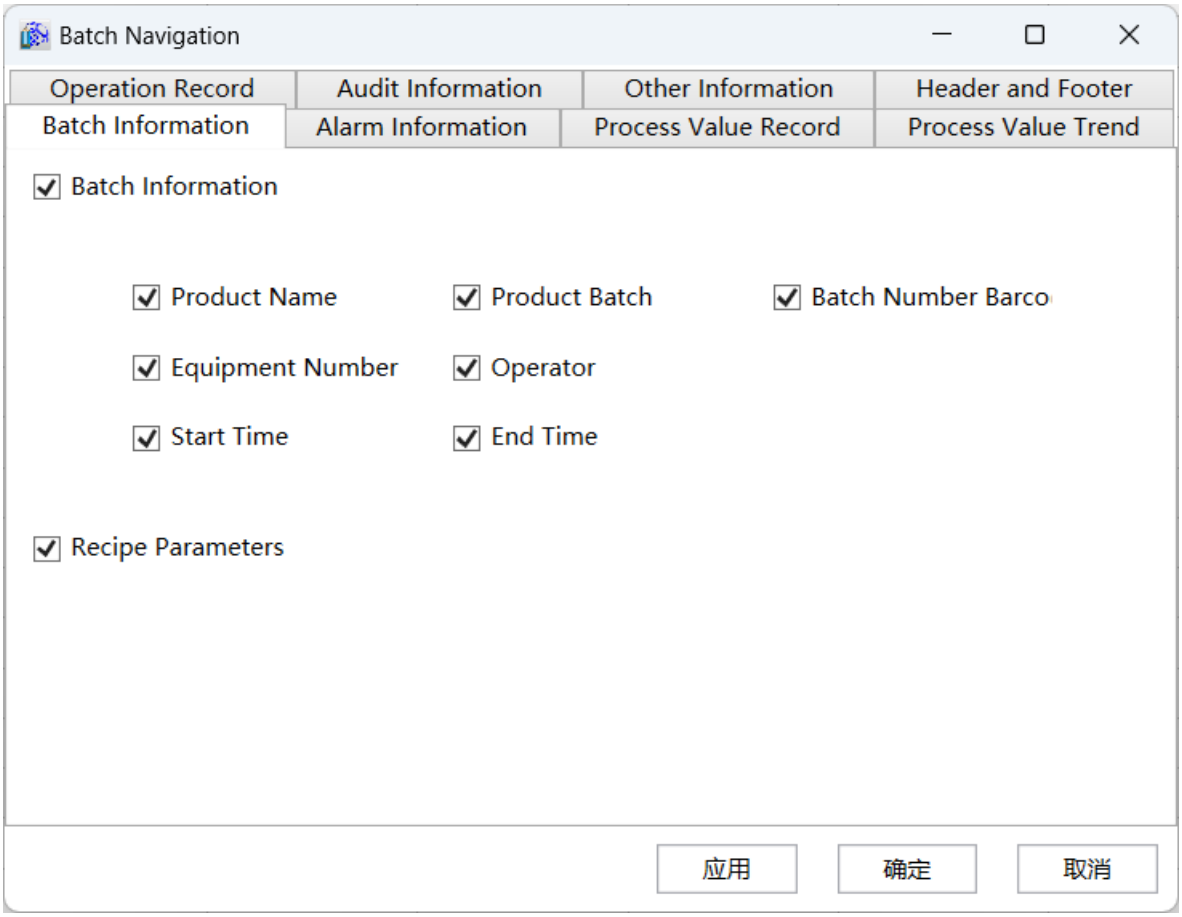


Set the row height and column width of the selected cell through the 

button.

Click the 

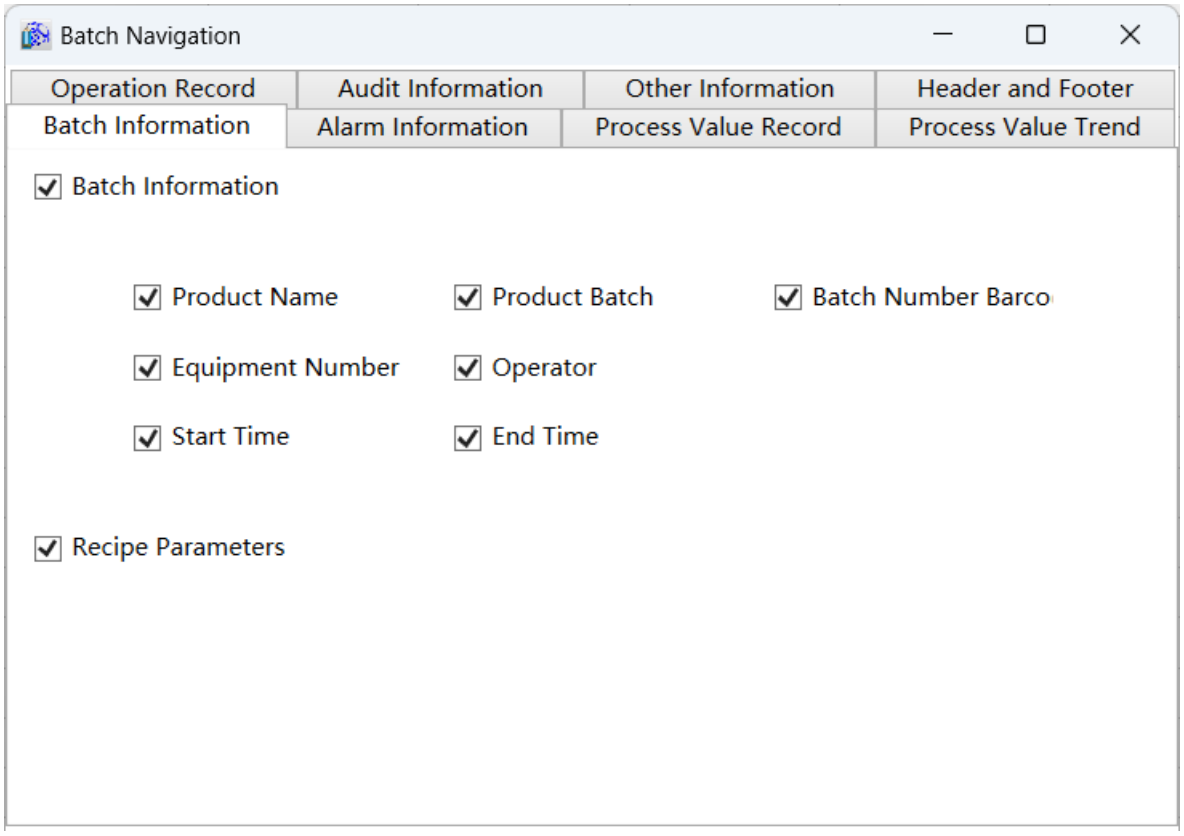
button to pop up the batch navigation configuration window, as shown below:



The user designs a batch report template in the batch navigation configuration window and clicks "OK" to generate the batch report template.

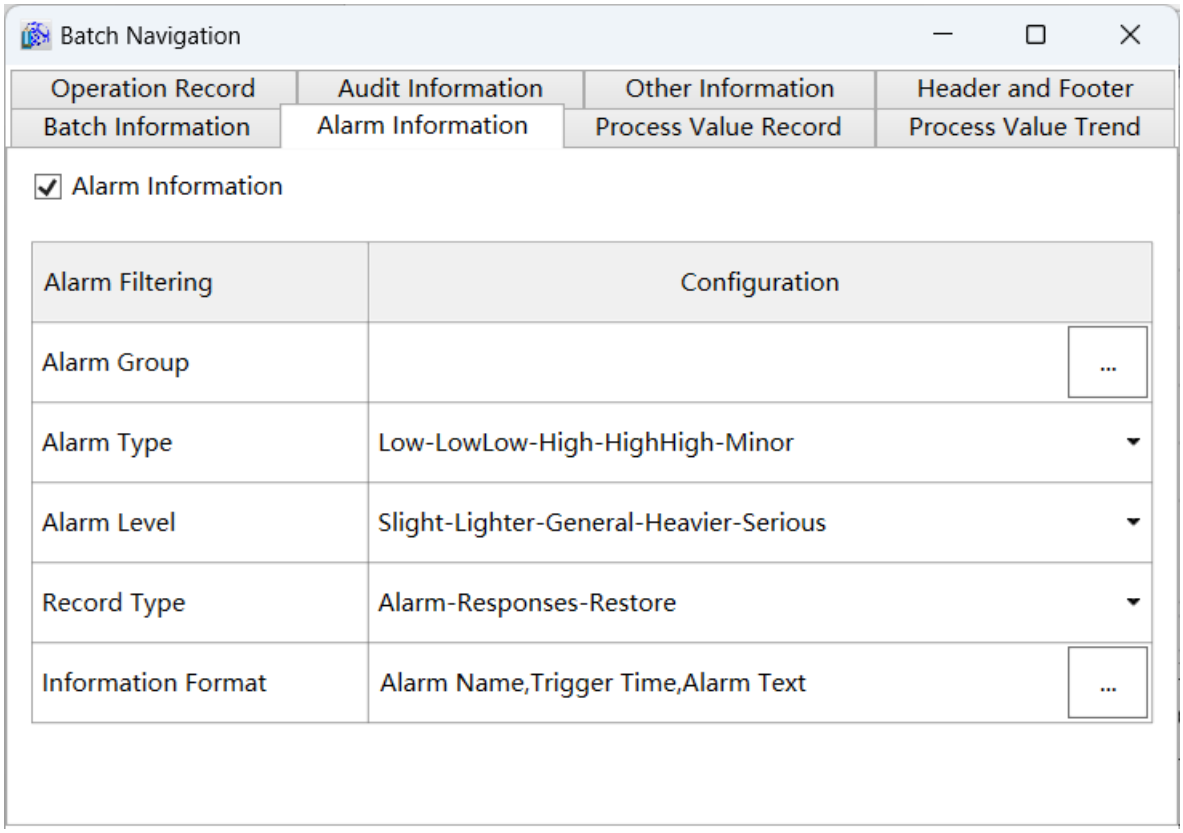
Introduction to each tag page in the batch navigation configuration window

Batch Information



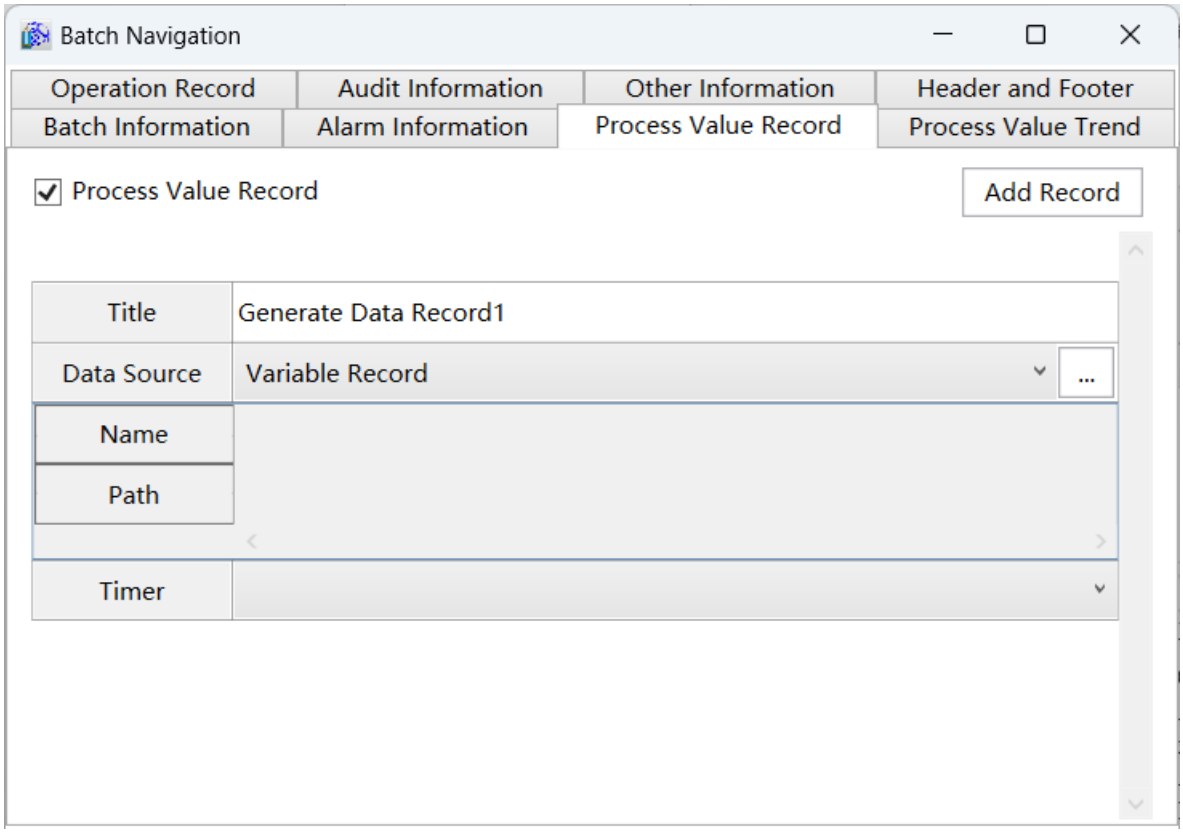
Element	Description
Batch Information	Batch information is displayed in the batch report template.
Product Name	Product name is displayed in the batch report template.
Product Batch	Product batch is displayed in the batch report template.
Batch Number Barco	Batch number barco is displayed in the batch report template.
Equipment Number	Equipment number is displayed in the batch report template.
Operator	Operator is displayed in the batch report template.
Start Time	Start time is displayed in the batch report template.
End Time	End time is displayed in the batch report template.
Recipe Parameters	Recipe parameters is displayed in the batch report template.

Alarm Information



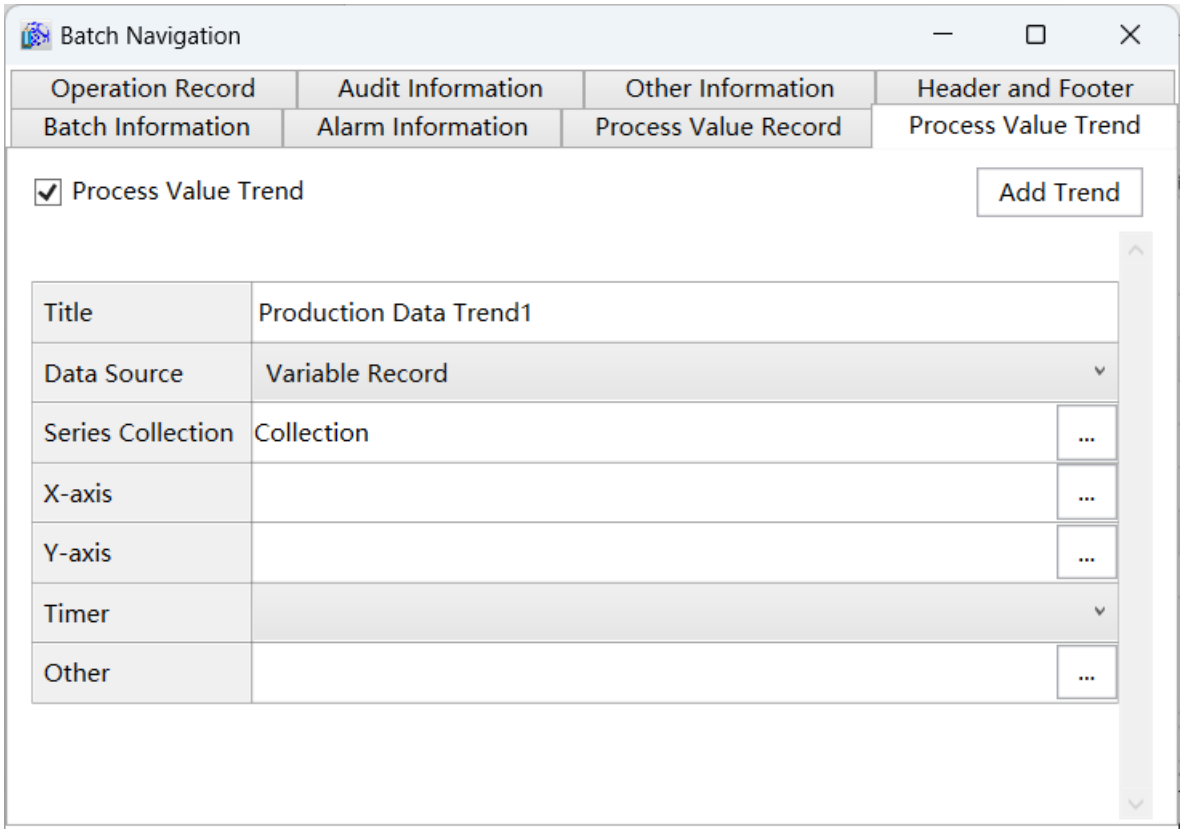
Element	Description
Alarm Information	Alarm Information is displayed in the batch report template.
Alarm Group	Select alarm group
Alarm Type	Config alarm type
Alarm Level	Config alarm level
Record Type	Config record type
Information Format	Config information format

Process Value Record



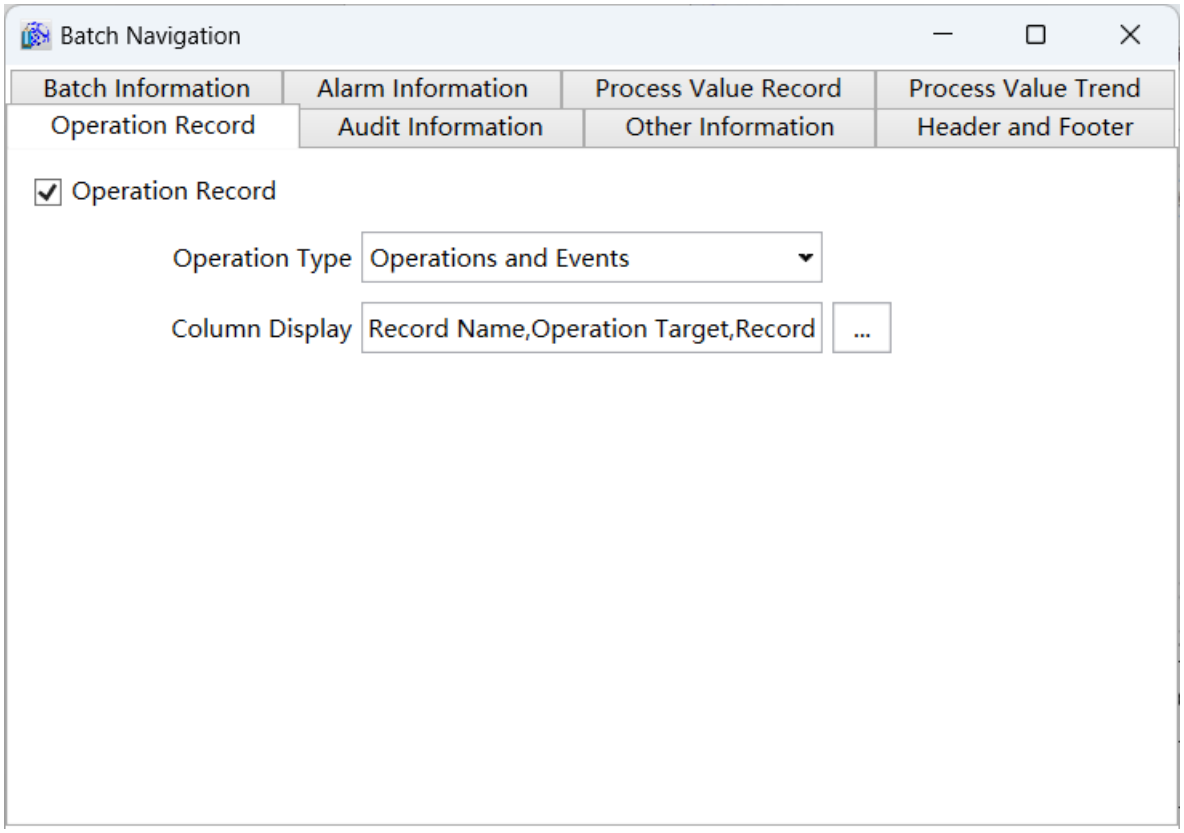
Element	Description
Process Value Record	Process value record is displayed in the batch report template.
Add Record	Click ***Add Record*** to display multiple process value records, with a maximum of 5 supported.
Title	The title of process value records in the batch report template
Data Source	Data source of process value records, options include: variable records, history records, database access.
Name	Name of the selected data source for process value records
Path	Path of the selected data source for process value records
Timer	When the data source of process value records is variable timed recording, the available timers are listed

Process Value Trend



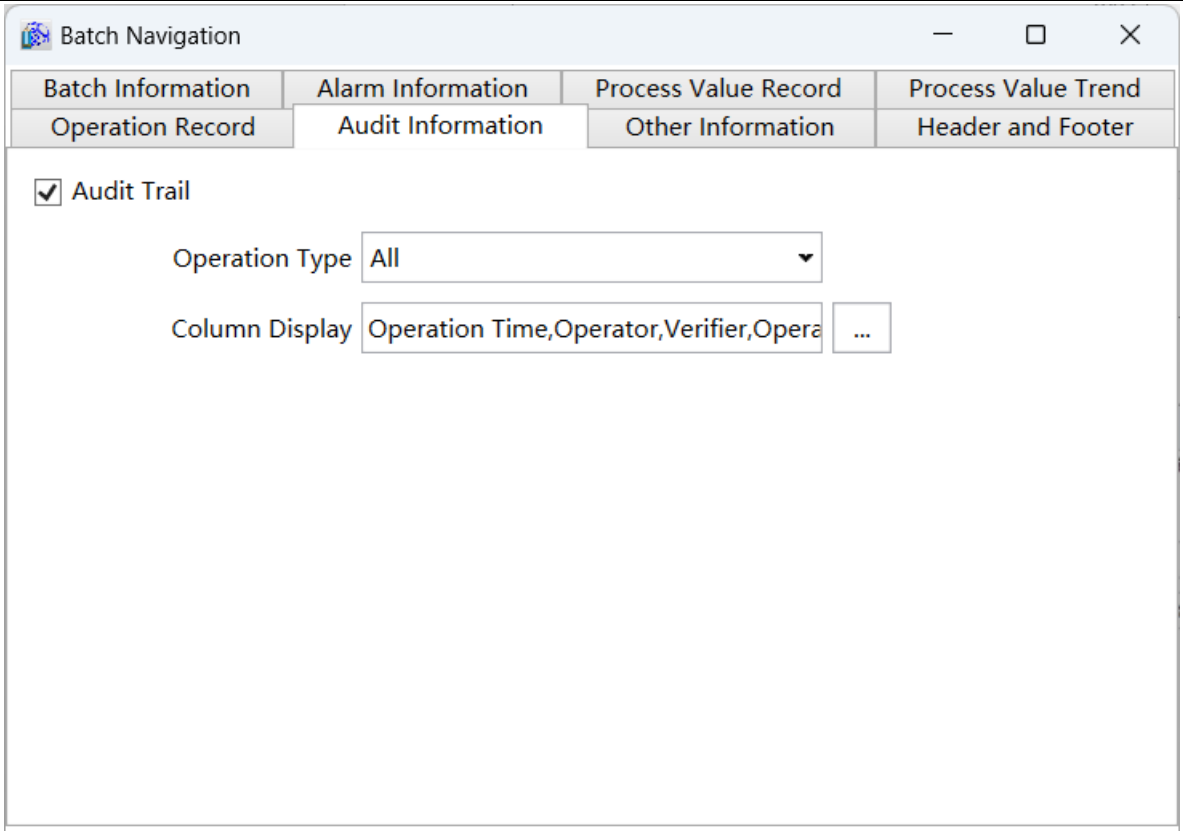
Element	Description
Process Value Trend	Process value trend is displayed in the batch report template.
Add Trend	Click ***Add Trend*** to display multiple process value trends (up to 5 supported).
Title	Title of process value trends in the batch report template
Data Source	Data source of process value trend, options include: variable records, history records, database access.
Series Collection	Configure the curve of process value trends.
X-axis	Configure the X-axis of the process value trend, including title, title font, title color, axis position
Y-axis	Configure the Y-axis of the process value trend, including: title, title font title color, axis position, maximum, minimum, tick
Timer	When the data source of process value trend is variable timed recording, the available timers are listed

Operation Record



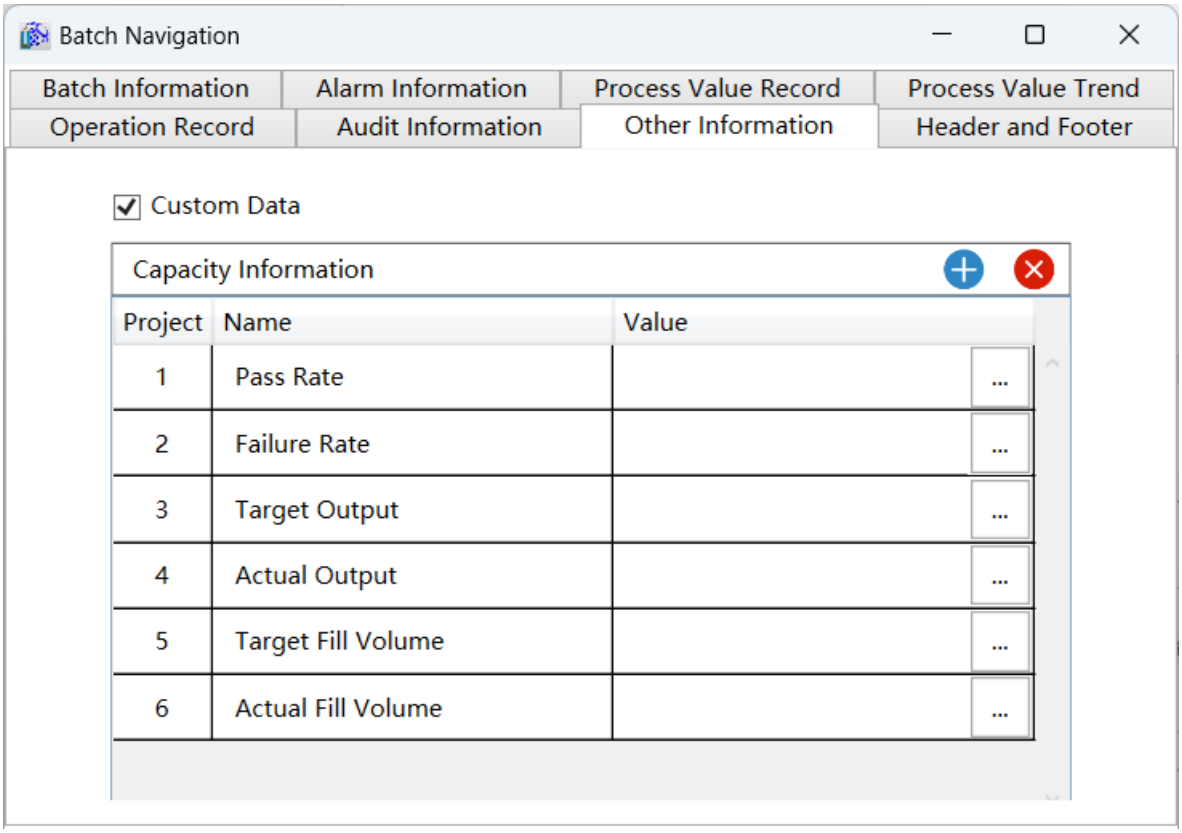
Element	Description
Operation Record	Operation record is displayed in the batch report template.
Operation Type	Config operation type
Column Display	Config column display

Audit Information



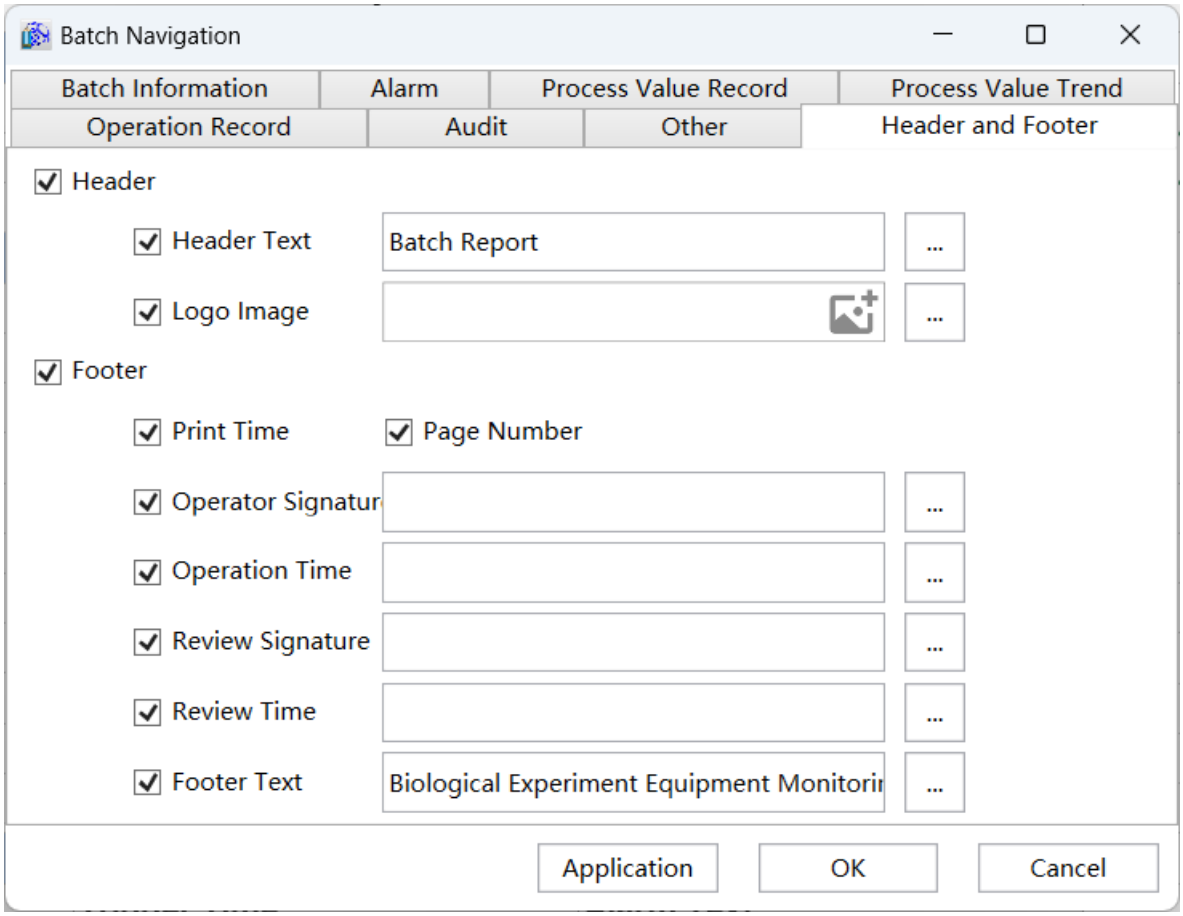
Element	Description
Audit Information	Audit information is displayed in the batch report template.
Operation Type	Config operation type
Column Display	Config column display

Other Information



Element	Description
Custom Data	Other information supports user-defined data. The title is fixed as ***Capacity Information***. Users can add/delete project s, and modify project names and values. When Custom Data is checked, the batch report template will display the capacity information.
	Add project
	Delete project

Header and Footer



Element	Description
Header	Header is displayed in the batch report template.
Header Text	Header text displayed in the batch report, editable
Logo Image	Logo Image displayed in the batch report, editable
Footer	Footer is displayed in the batch report template.
Print Time	Print time is displayed in the batch report template.
Page Number	Page number is displayed in the batch report template.
Operation Signature	Operation signature is displayed in the batch report template.
Operation Time	Operation time is displayed in the batch report template.
Review Signature	Review signature is displayed in the batch report template.
Review Time	Review time is displayed in the batch report template.

Foot Text	Foot text displayed in the batch report, editable

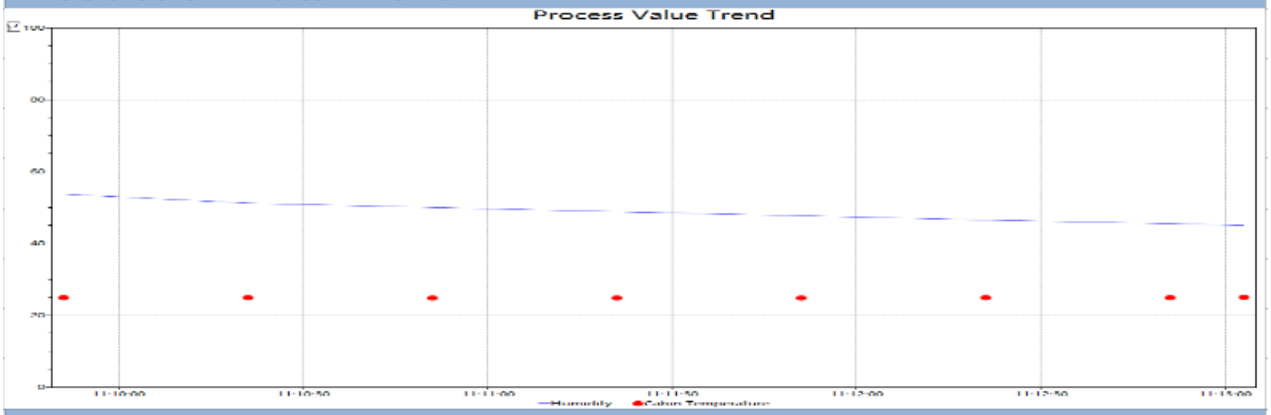
Generate Batch Report

Batch Report					
Batch Information					
Product Name			Product Batch		
Equipment Number			Operator		
Start Time			End Time		
Recipe Parameters					
Recipe	**RecipeA**		**Recipe Item**	**ARecipe1**	
Recipe	1	Recipe	1	Recipe	1
Recipe	1	Recipe	1	Recipe	1
Recipe	1	Recipe	1	Recipe	1
Recipe	1	Recipe	1	Recipe	1
Recipe	**RecipeB**		**Recipe Item**	**BRecipe1**	
Recipe	1	Recipe	1	Recipe	1
Recipe	1	Recipe	1	Recipe	1
Recipe	1	Recipe	1	Recipe	1
Recipe	1	Recipe	1	Recipe	1
Alarm Information					
Alarm Name		**Trigger Time**		**Alarm Text**	
xxxx		xxxx		xxxx	
xxxx		xxxx		xxxx	
xxxx		xxxx		xxxx	
xxxx		xxxx		xxxx	

Generate Data Record1

Time	RecordVariable
5/2/2025 12:00:00 PM	1
5/2/2025 12:01:00 PM	2
5/2/2025 12:02:00 PM	3
5/2/2025 12:03:00 PM	4
5/2/2025 12:04:00 PM	5
5/2/2025 12:05:00 PM	6
5/2/2025 12:06:00 PM	7

Production Data Trend1



Operation Record

Record Name	Operation	Record Time	Operator Name	Description

Audit Information

Operation Time	Operator	Verifier	Operate Type	Signature

Capacity Information

Pass Rate		Failure Rate		Target Output	
Actual Output		Target Fill Volume		Actual Fill Volume	

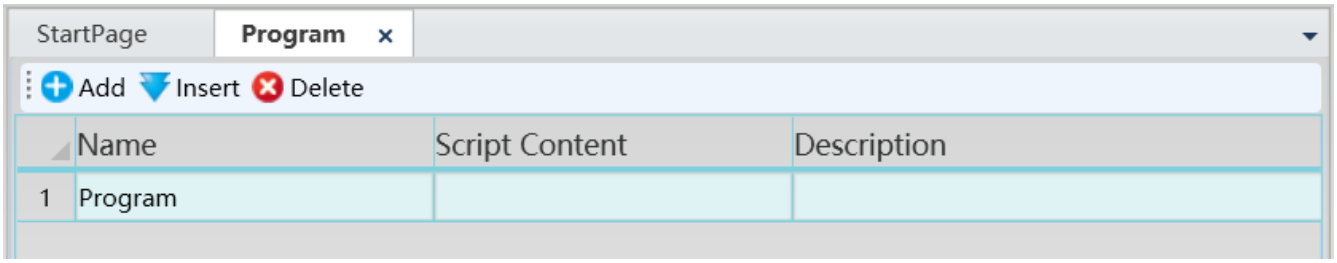
Print	5/2/2025 1:45:33 PM				Page n/m
Operator Signature:	Operation Time:	Review Signature:		Review Time:	
Biological Experiment Equipment Monitoring System					

5.4 Program

Program refers to user-developed applications with specialized functions, which are utilized in the ***Start Program*** and ***End Program*** of batch management. These programs serve to optimize batch execution workflows and enhance operational efficiency.

The DIAView software has a built-in script editor provided for users to write customized programs; it uses the VB Script language. VBS is a lightweight interpreted scripting language that is easy to learn and has powerful functions; the script editor has a flexible and intelligent reminder function that allows users to write programs more easily, conveniently, and highly efficient.

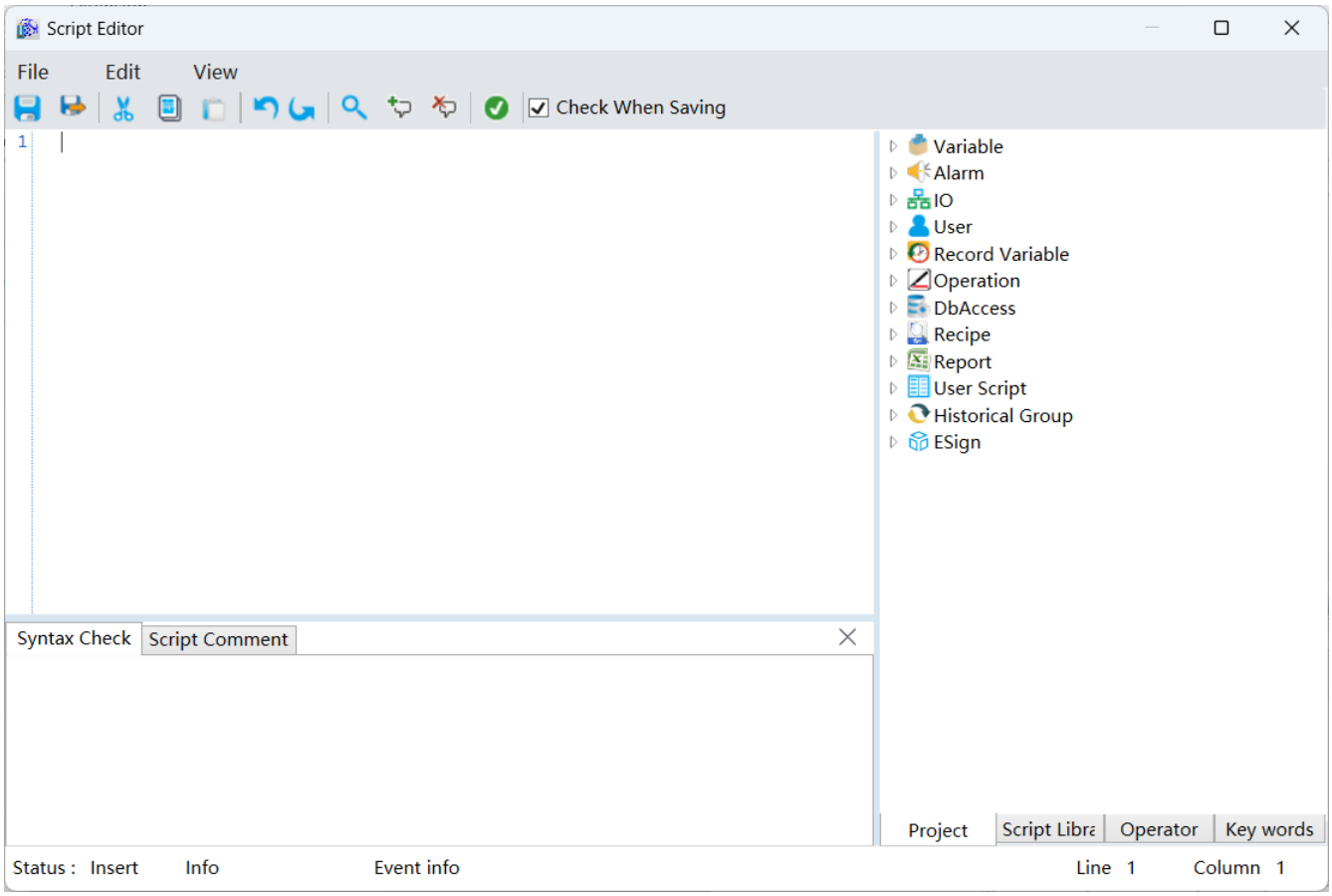
Step 1: Double-click the ***Program*** sub-node to open the ***Program*** window; click the ***Add*** button to add a program configuration row, as shown in the figure below:



The meanings of each field in the ***Program*** are as follows:

Element	Description
Name	Name of the program.
Script Content	Writes the script program.
Description	Explanation information of the program.

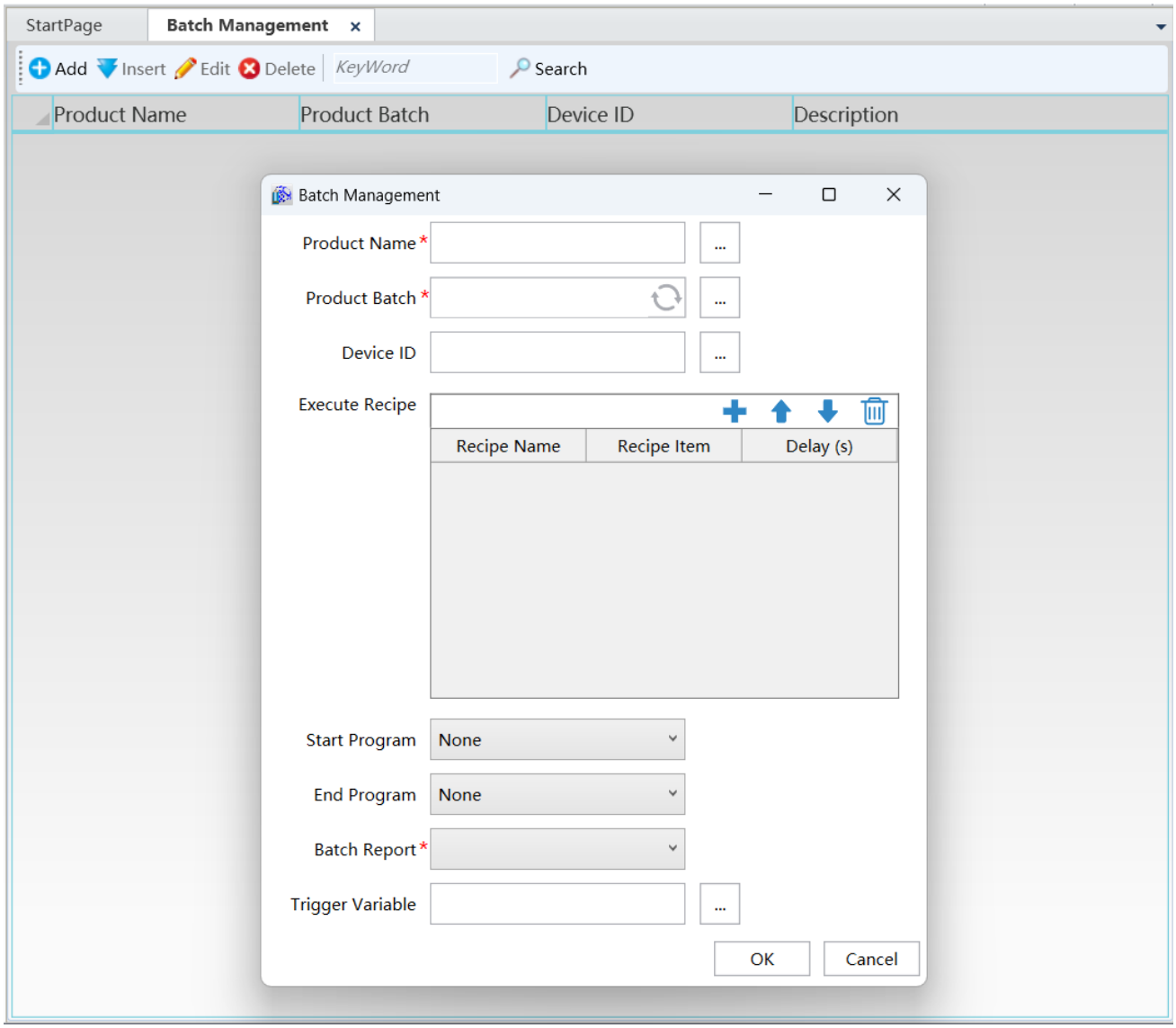
Step 2: Click the button in the ***Script Content*** field to open the ***Script Editor*** and write the script program, as shown in the figure below:



5.5 Development Batch Management

Batch management utilizes recipes, programs, and batch reports created in the engineering environment to generate a batch. The batch control component selects the batch, executes it, and completes production.

Step 1: Double-click the ***Batch Management*** sub-node to open the ***Batch Management*** window; click the ***Add*** button to add a batch management, as shown in the figure below:

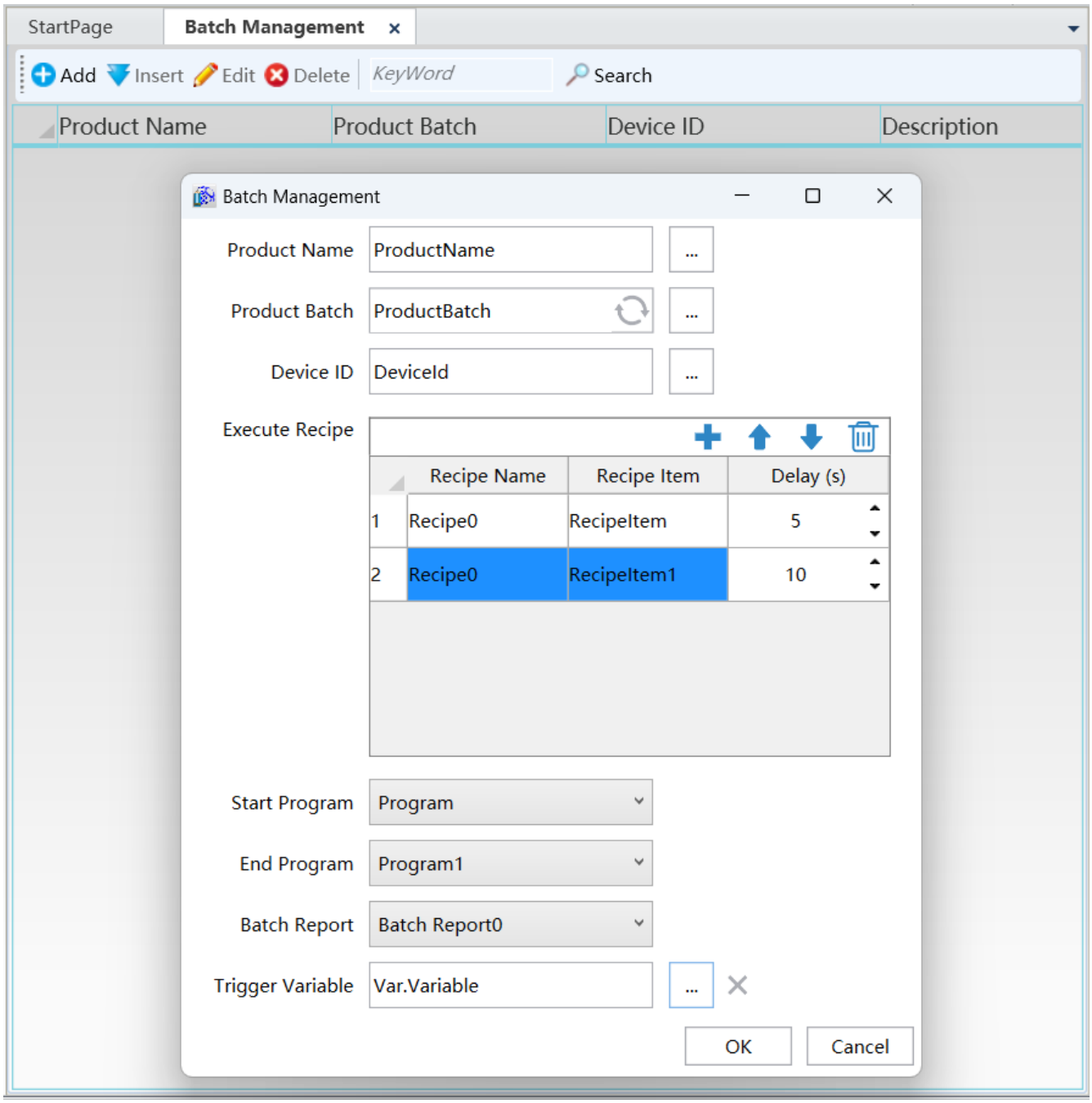


The meanings of each field in the ***Batch Management*** are as follows:

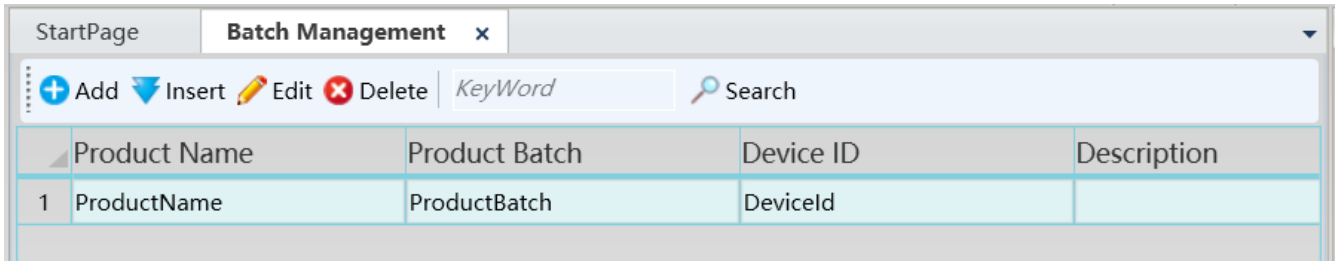
Element	Description
Product Name	Product Name, mandatory field, supports text variable association. Click the right-side ... button to link text variables. Automatically writes the product name into variable values when batch starts.
Product Batch	Product batch, unique and mandatory field. Click the right-side button to auto-generate by date. Supports text variable association through click ... button. Automatically writes batch ID into variables at batch start.

Equipment Number	Device ID, optional field, supports text variable linking. Click the right-side ... button to associate text variables. Automatically writes device ID to bound variables at batch start.
Execute Recipe	Configure the recipes for current batch execution, supports multiple recipes. Click + to append new recipe. Click ↑ to shift recipe order up. Click ↓ to shift recipe order down. Click 🗑 to remove selected recipe.
Delay	Set a delay before recipe execution starts.
Start Program	Select and run a start program from the dropdown list before executing the recipe. Choose a program as the start program.
End Program	Select and run a end program from the dropdown list before executing the recipe. Choose a program as the end program.
Batch Report	Upon batch completion, a batch report is automatically generated with content and formatting matching the designated batch report. Batch Management → Batch Report → Select pre-configured batch report from dropdown.
Trigger Variable	Trigger batch management start, pause, and stop via variable values. 0 – Stop, 1 - Start, 2 -Pause.

Step 2: Edit the configurations for ***batch management*** as shown in the figure below:

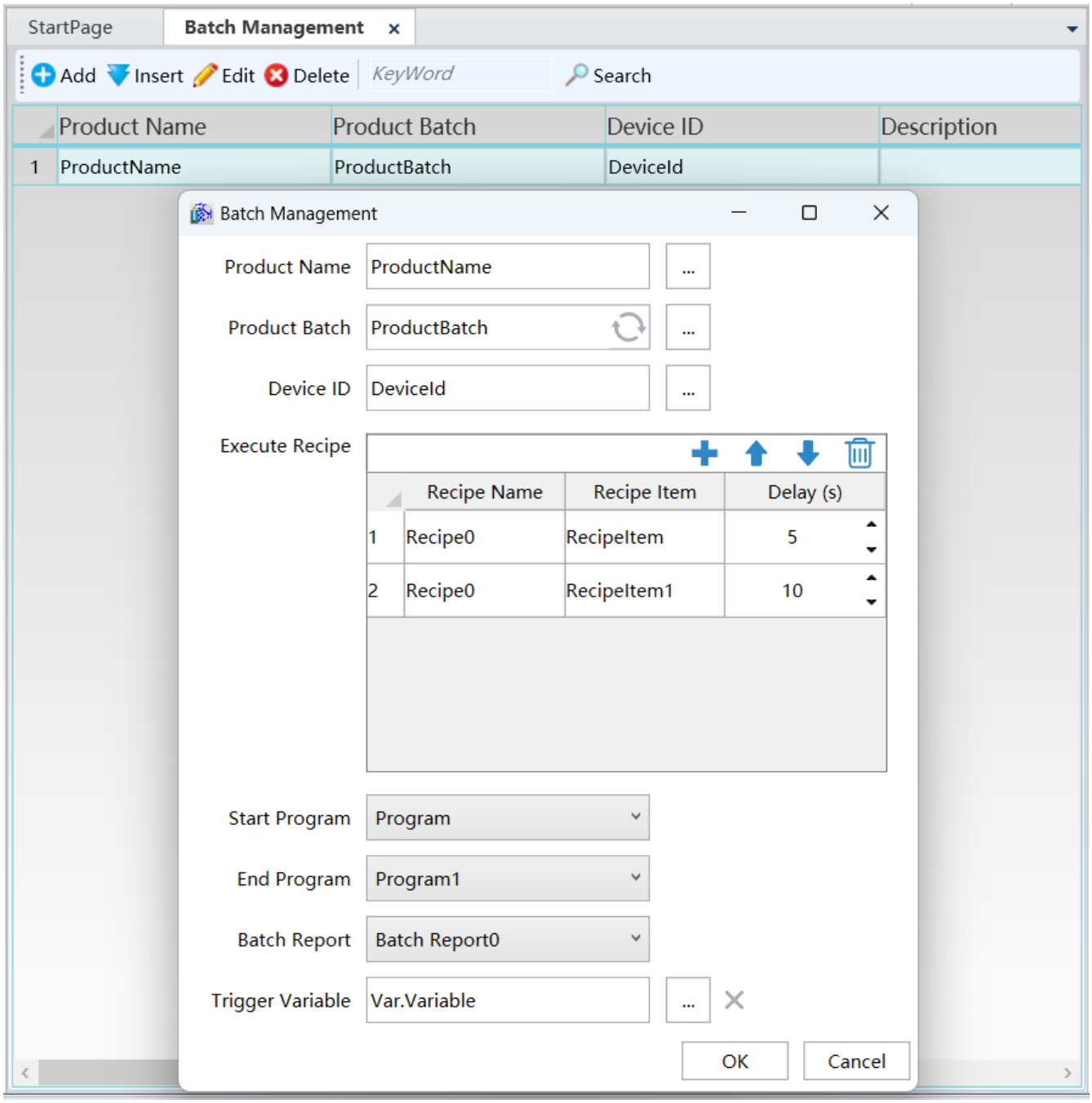


Step 3: Click ***OK*** to successfully add an ***batch management***, as shown in the figure below:



Edit Batch Management

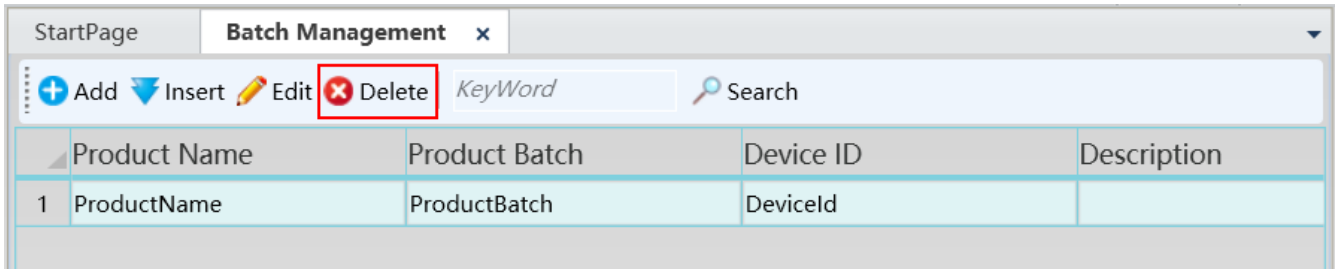
Step 1: Select an existing ***batch management***, click ***Edit*** to open the batch management window, where users can modify the current batch configuration, as shown in the figure below:



Click ***OK*** after editing.

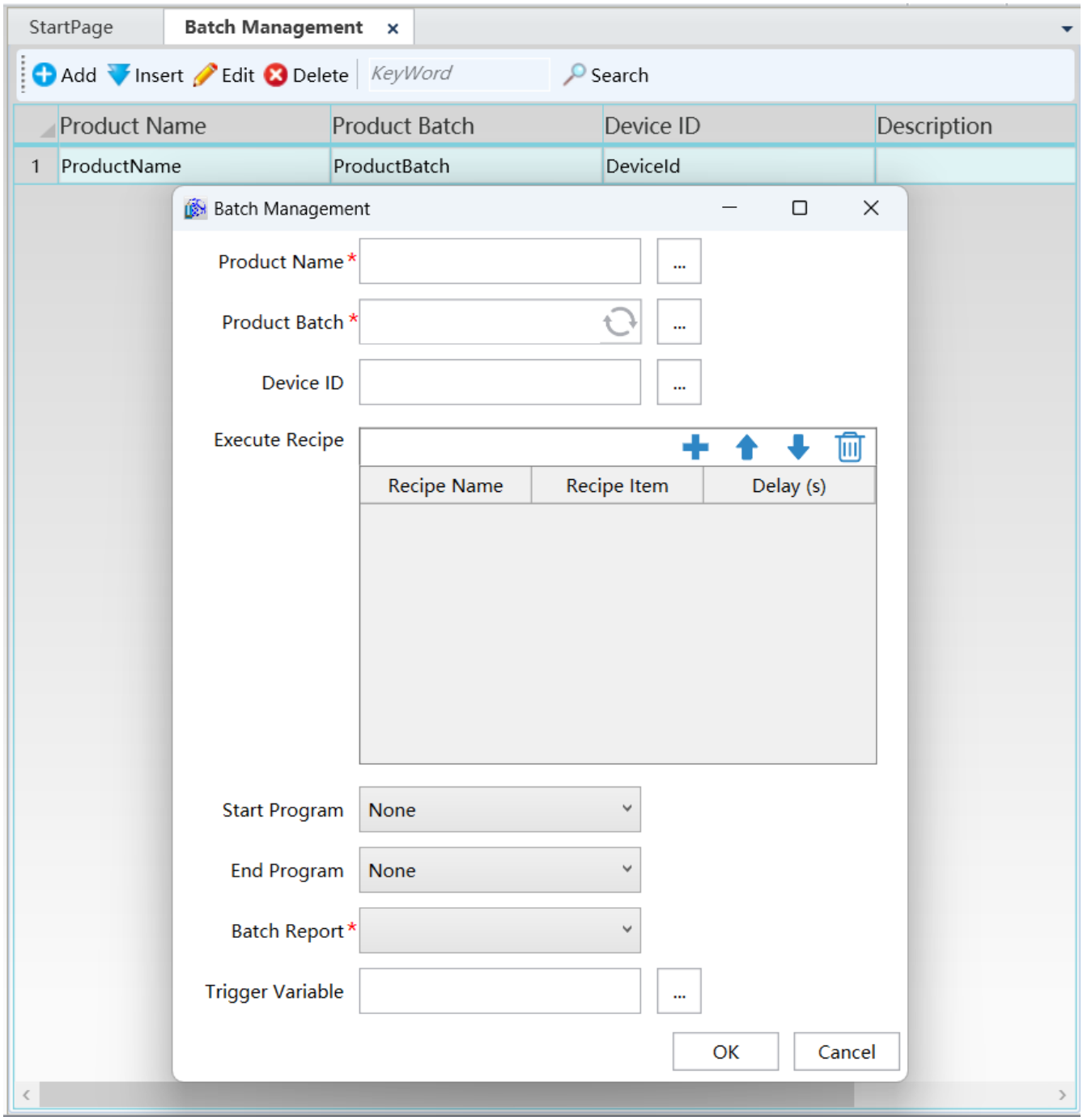
Delete Batch Management

Step 1: Select an existing ***batch management***, click ***Delete***, as shown in the figure below:

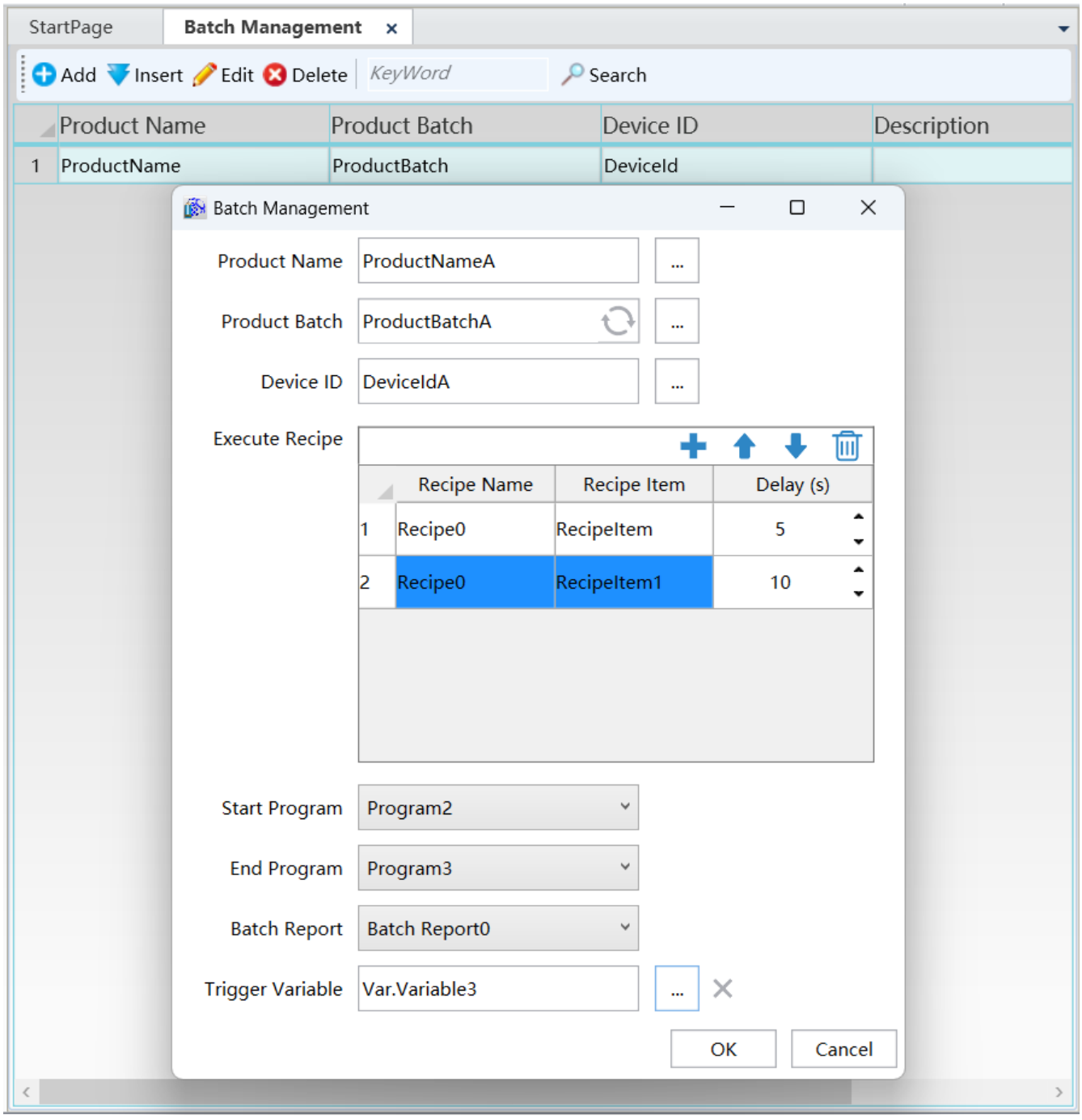


Insert Batch Management

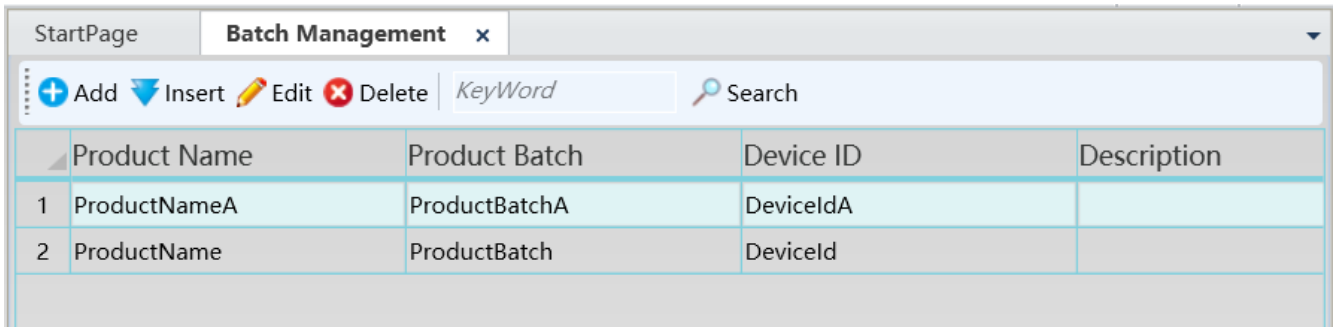
Step 1: Select an existing ***batch management***, click ***Insert***, as shown in the figure below:



Step 2: Configure the settings for the inserted ***batch management*** as shown in the figure below:



Step 3: Click ***OK*** to insert an ***batch management,*** as shown in the figure below:

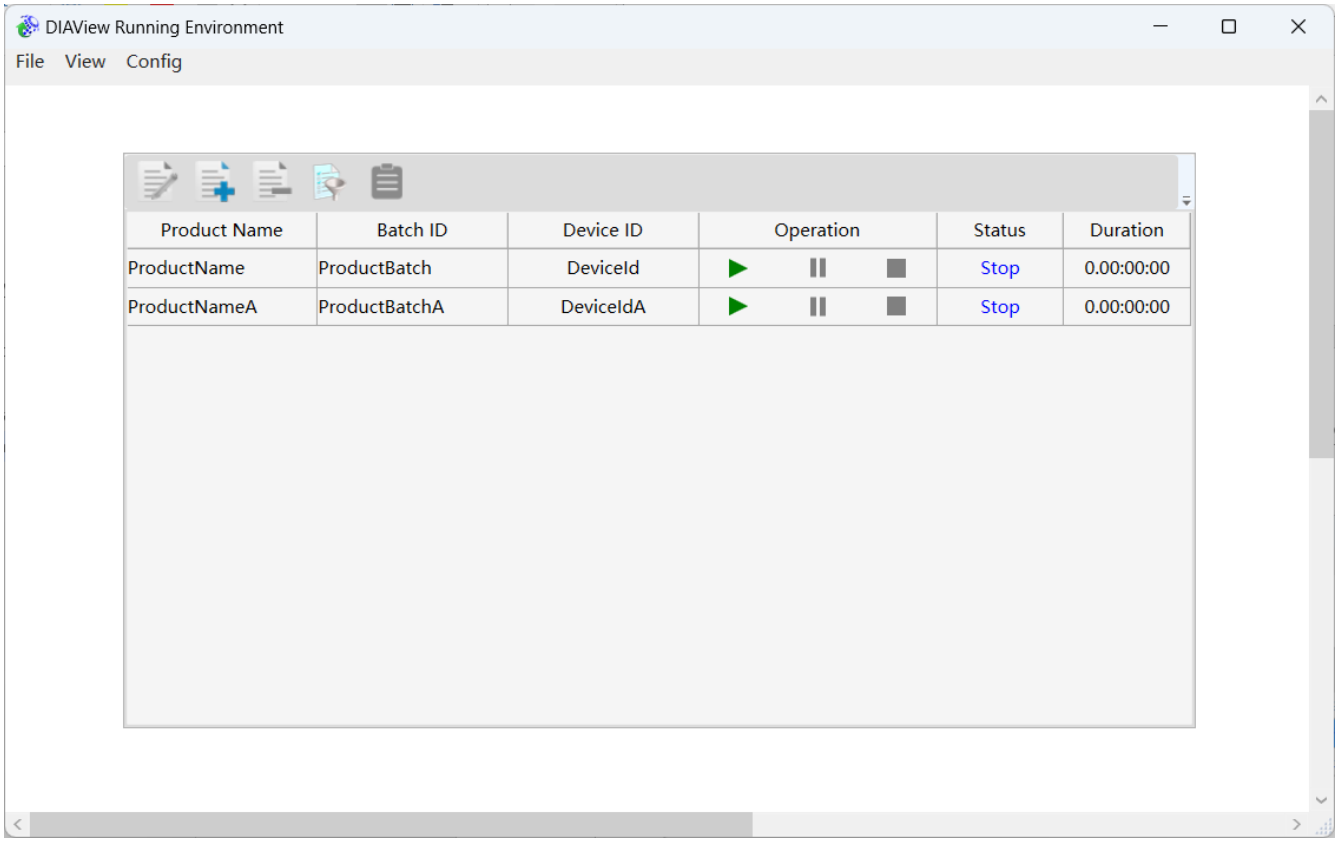


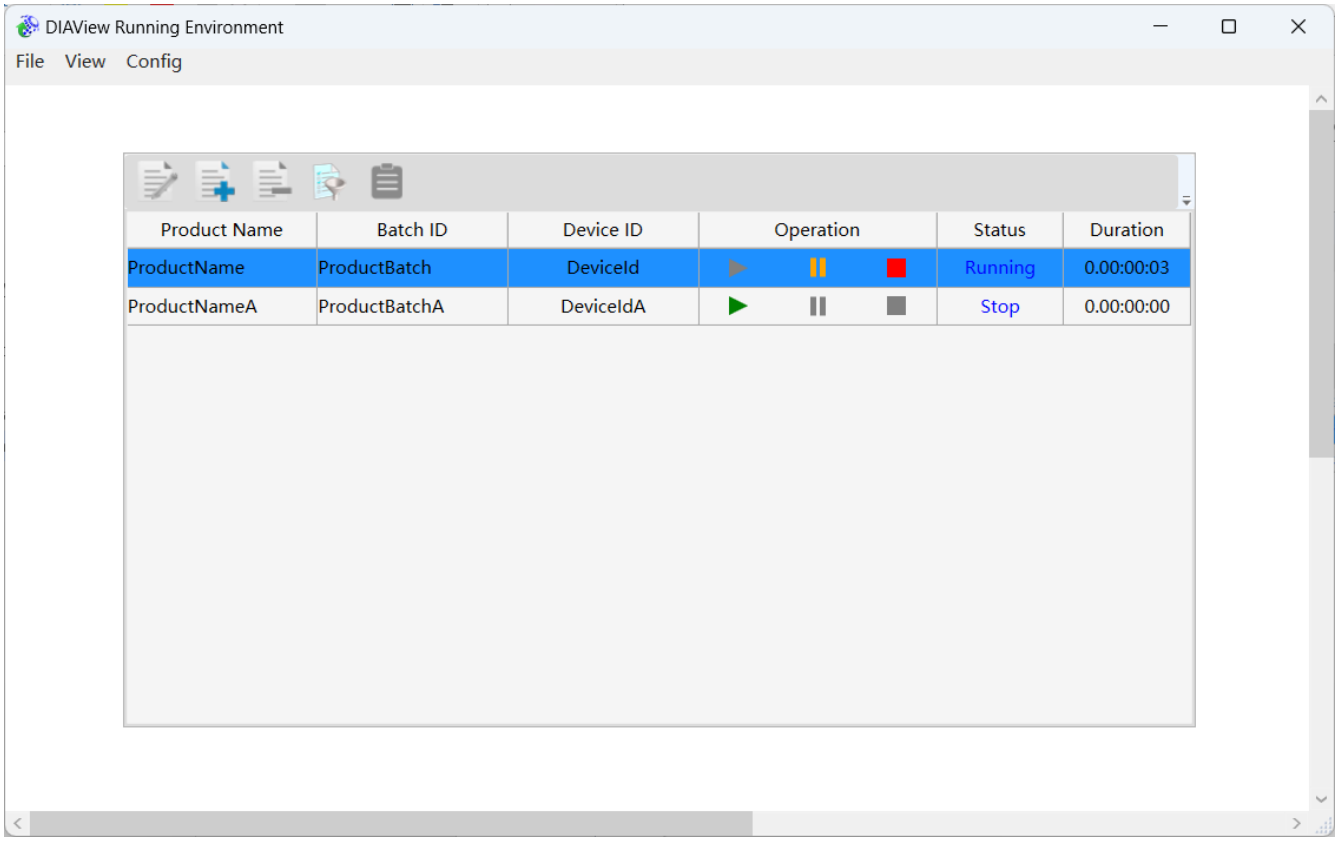
5.6 Runtime Batch Management

The Batch Management is used to display batch management within the project. It supports editing, adding, deleting, and filtering batch management, as well as monitoring batch execution progress. Users can perform batch operations such as starting, pausing, and stopping batches, while also viewing real-time status information of each batch.

Run Batch Management

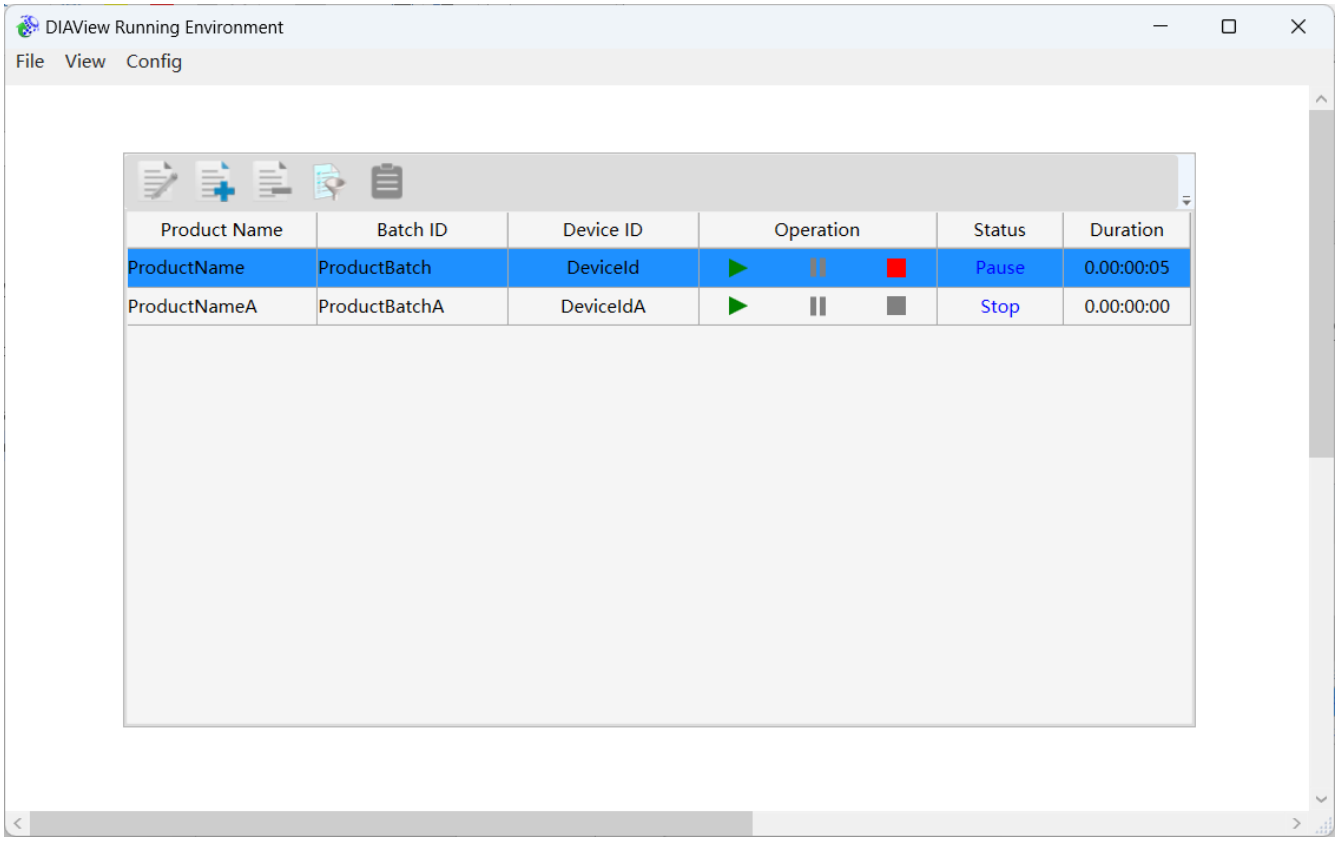
Select a batch management item and click the run button  to initiate its execution. The batch management will then enter the running state, as shown in the following figure:





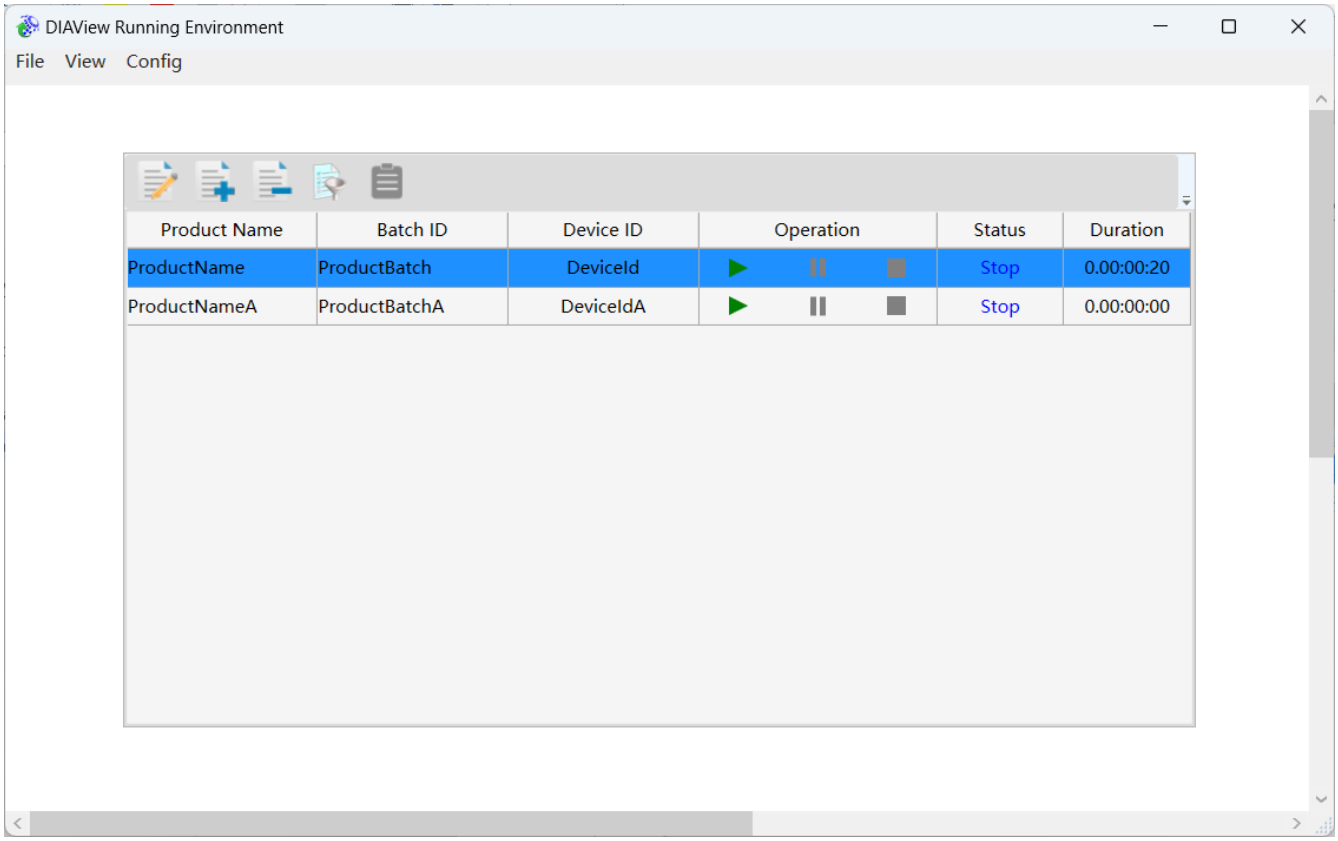
Pause batch management

When the batch management is running, click the pause button to change its status to pause, as shown in the figure below:



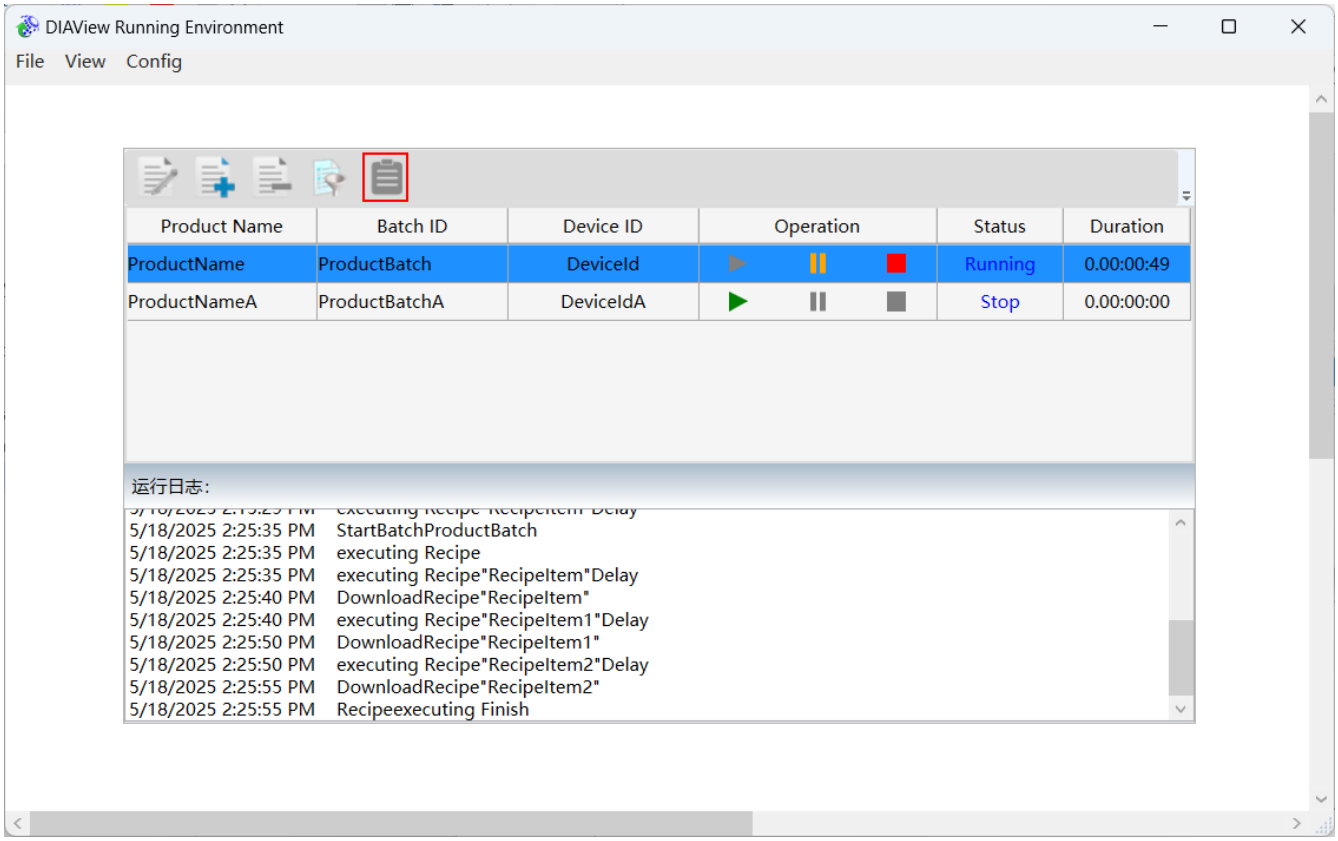
Stop batch management

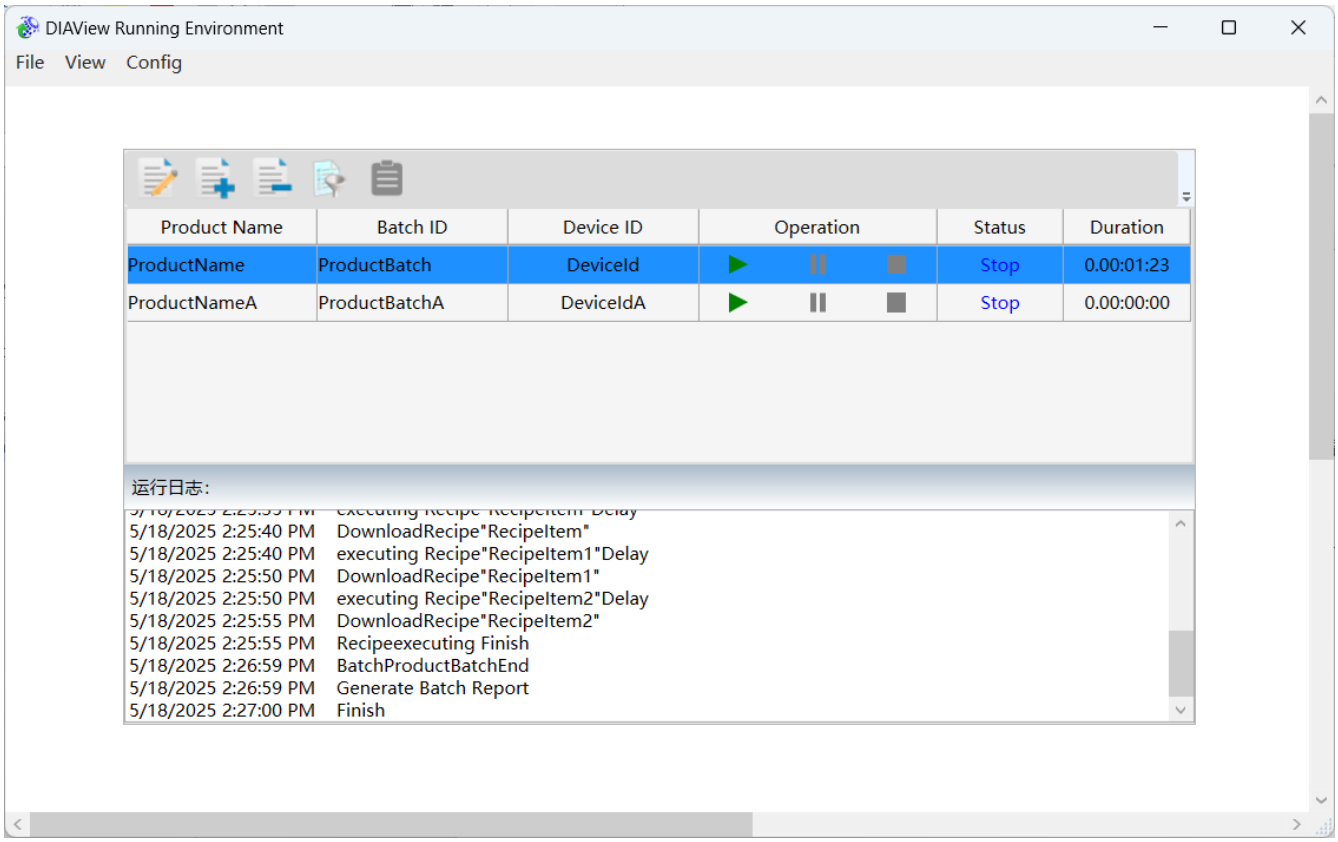
When the batch management is in the "Running" or "Pause" state, you can click the Stop button to terminate the batch operation, as shown in the following figure:



Batch management execution completed

When the batch management is in the "Running" state, click the Log button at the top to open the runtime log. When the log displays a message indicating that the recipe execution is complete, click the stop button to terminate the operation and generate a batch report.


DIAView Running Environment
File View Config
Product Name
Batch ID
Device ID
Operation
Status
Duration
ProductName
ProductBatch
DeviceId
Running
0.00:00:49
ProductNameA
ProductBatchA
DeviceIdA
Stop
0.00:00:00
运行日志:
5/18/2025 2:25:35 PM StartBatchProductBatch
5/18/2025 2:25:35 PM executing Recipe
5/18/2025 2:25:35 PM executing Recipe"RecipeItem"Delay
5/18/2025 2:25:40 PM DownloadRecipe"RecipeItem"
5/18/2025 2:25:40 PM executing Recipe"RecipeItem1"Delay
5/18/2025 2:25:50 PM DownloadRecipe"RecipeItem1"
5/18/2025 2:25:50 PM executing Recipe"RecipeItem2"Delay
5/18/2025 2:25:55 PM DownloadRecipe"RecipeItem2"
5/18/2025 2:25:55 PM Recipeexecuting Finish

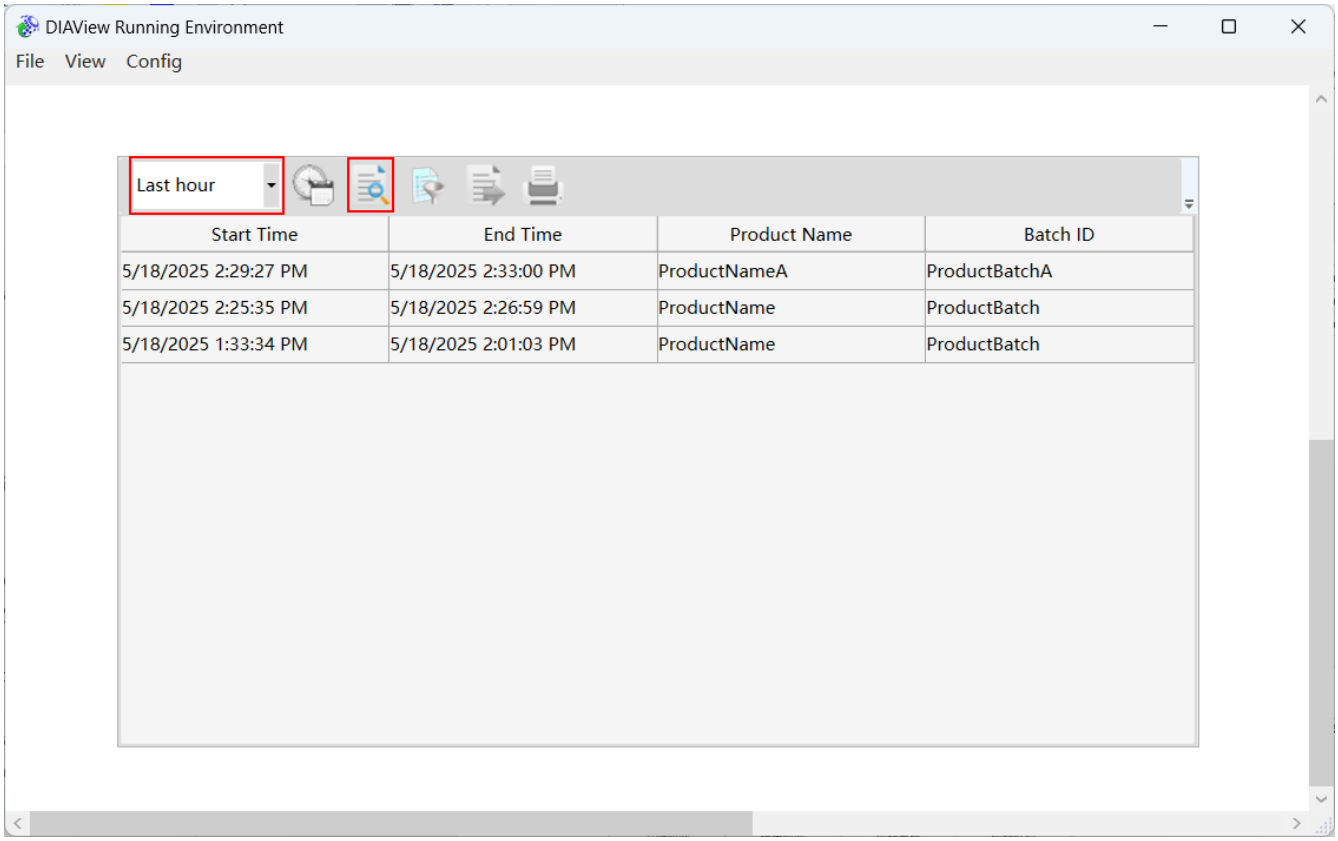

DIAView Running Environment
File View Config
Product Name
Batch ID
Device ID
Operation
Status
Duration
ProductName
ProductBatch
DeviceId
Stop
0.00:01:23
ProductNameA
ProductBatchA
DeviceIdA
Stop
0.00:00:00
运行日志:
5/18/2025 2:25:40 PM DownloadRecipe"RecipeItem"
5/18/2025 2:25:40 PM executing Recipe"RecipeItem1"Delay
5/18/2025 2:25:50 PM DownloadRecipe"RecipeItem1"
5/18/2025 2:25:50 PM executing Recipe"RecipeItem2"Delay
5/18/2025 2:25:55 PM DownloadRecipe"RecipeItem2"
5/18/2025 2:25:55 PM Recipeexecuting Finish
5/18/2025 2:26:59 PM BatchProductBatchEnd
5/18/2025 2:26:59 PM Generate Batch Report
5/18/2025 2:27:00 PM Finish

5.7 Runtime Batch Report

The runtime batch management system generates batch reports upon completion of execution. The Batch Report is designed to display these generated reports, enabling users to perform query, filtering, export, and print operations on the batch reports.

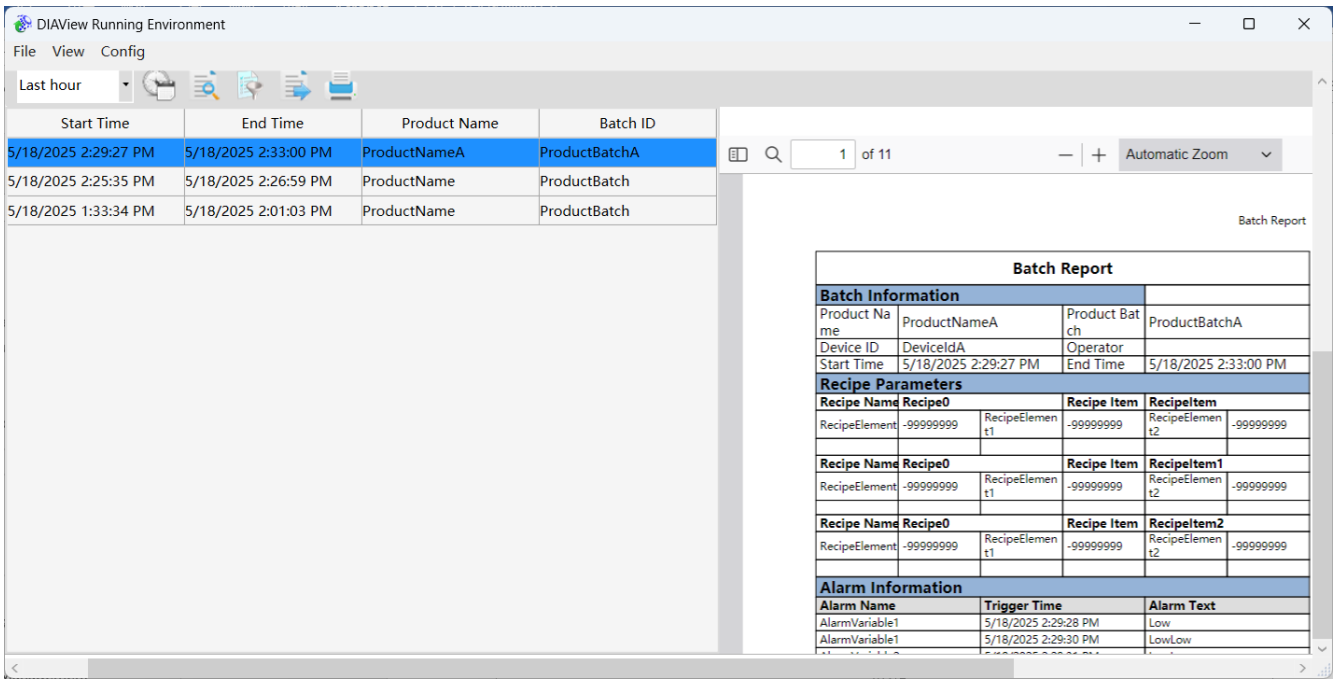
Query Batch Report

Click the "Set nearest query time" dropdown, select a time range for the recent query, then click the query button to view the generated batch reports:



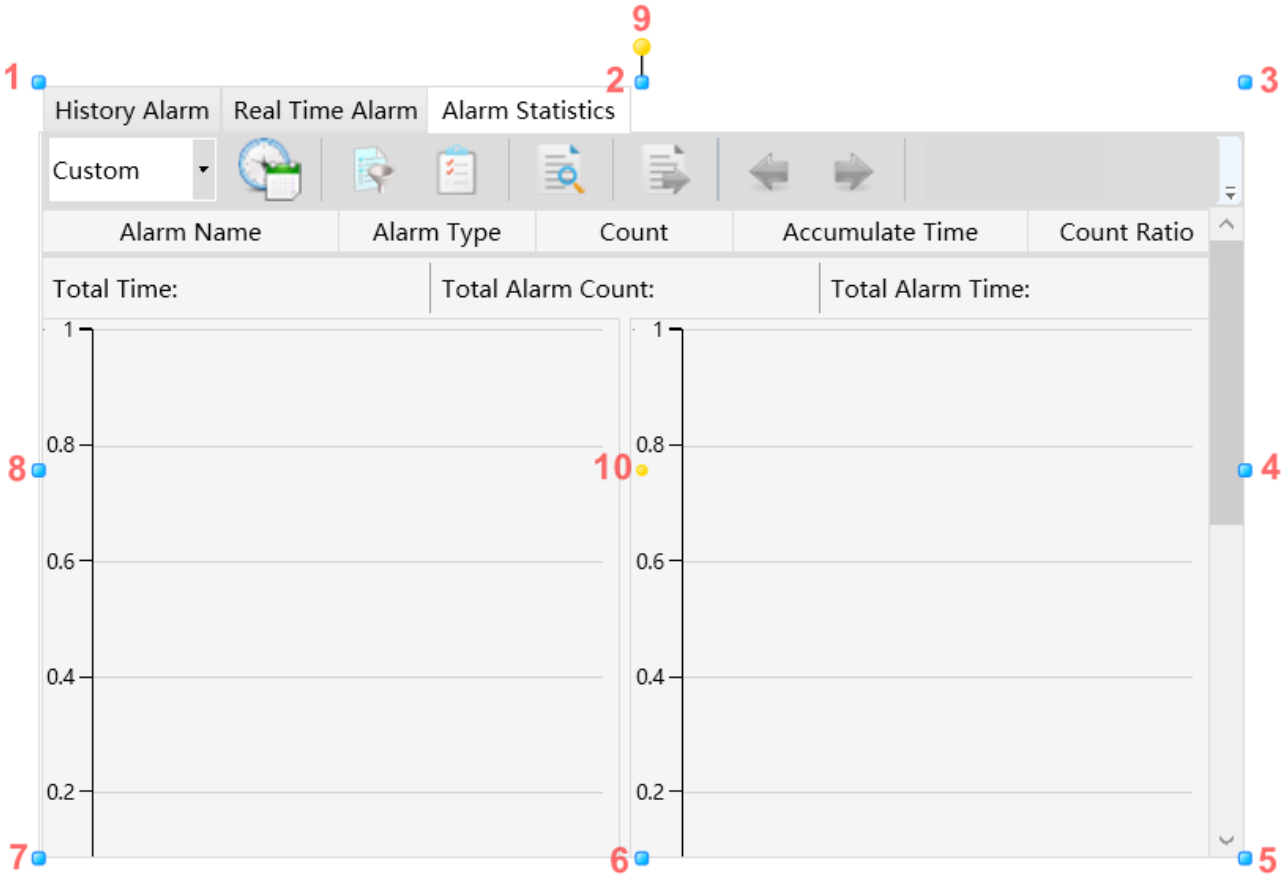
Preview Batch Report

Select a batch report and double-click to preview it. The content of the batch report will be displayed on the right side. Users can then drag the toolbar to navigate through the report content:

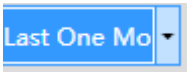


6. New Alarm Statistics Function

A new Alarm Statistics tab page has been added to the alarm window control.

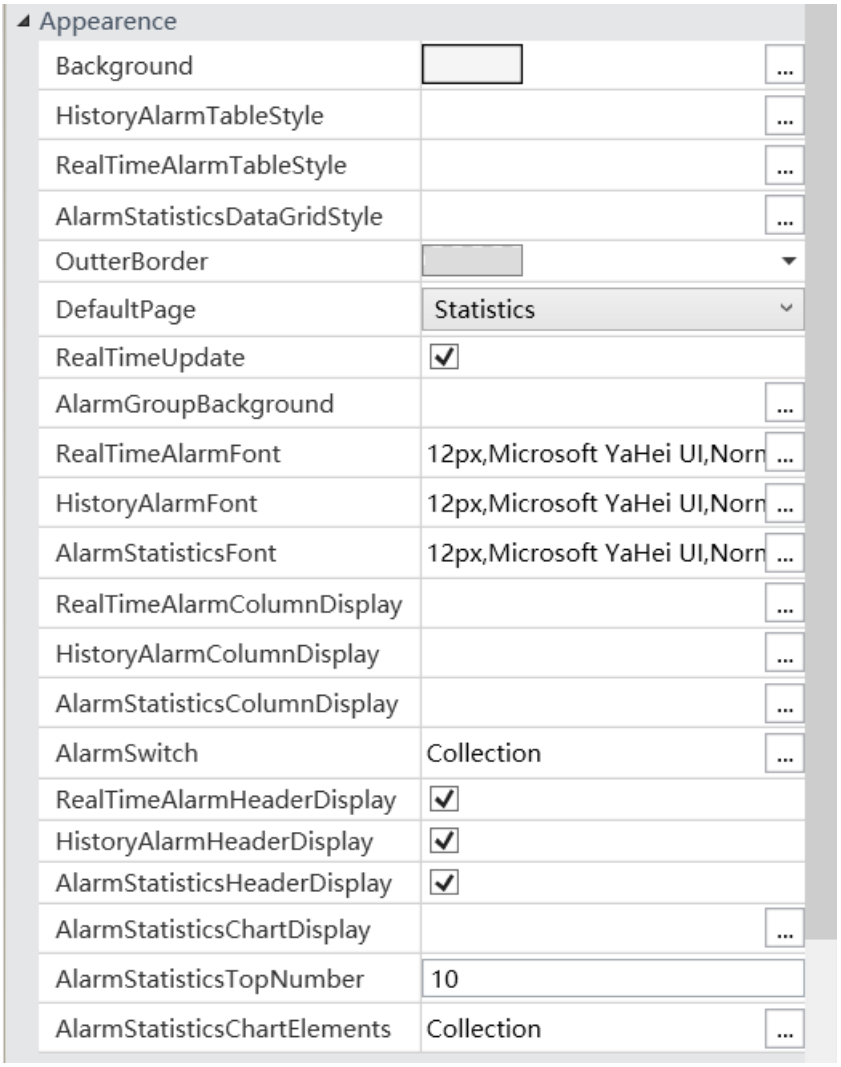


Usage of the toolbar

Element	Description
Set recent query time	 Set the query time range: ***recent one hour***, ***recent one day***, ***recent one week***, ***recent one month***, ***recent three months***, ***recent six months***, ***recent one year***, ***recent three year***, ***custom***.
Set alarm statistics query time	 When ***set alarm statistics query time*** is ***custom***, user can set self-defined query range.
Set query filter condition	 set query filter condition
Set the column need to display	 Select the column need to display, if the column is checked, display it, select the column to display, and if checked, it will be displayed. Otherwise, it will not be displayed. Set the column width, display position and sorting
Alarm Statistics	 Statistic history alarm according to the current configuration
Export data	 export data
Previous	 Go to previous page
Next	 Go to next page
Go to specific page	 go to user selected page

Alarm statistics properties

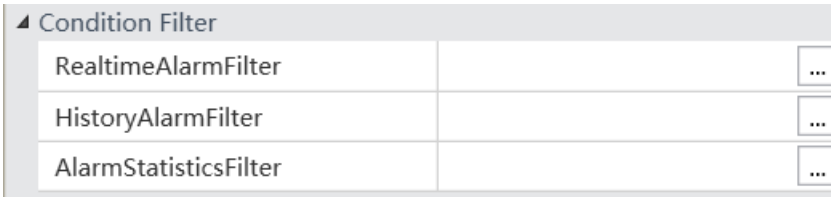
Appearance



Element	Description
Background	Set control background
HistoryAlarmTableStyle	In the pop-up Historical Alarm Table Style Settings window, you can configure the border color and line width of the table, the color and line width of the table segmentation lines, check whether to display horizontal and vertical segmentation lines, set the font size and color of the table title, hover the mouse over the alarm row, and the font color and background color when selecting the alarm row.
RealTimeAlarmTableStyle	In the pop-up real-time alarm table style setting window, you can configure the border color and line width of the table, the color and line width of the table segmentation line, check whether to display horizontal and vertical segmentation lines, set the font size and color of the table title, hover the mouse over the alarm line, and the font color and background color when selecting the alarm line.
AlarmStatisticsDataGridStyle	In the pop-up Alarm Statistics Table Style Settings window, you can configure the border color and line width of the table, the color and line width of the table segmentation lines, check whether to display horizontal and vertical segmentation lines, set the font size and color of the table title, hover the mouse over the alarm row, and the font color and background color when selecting the alarm row.

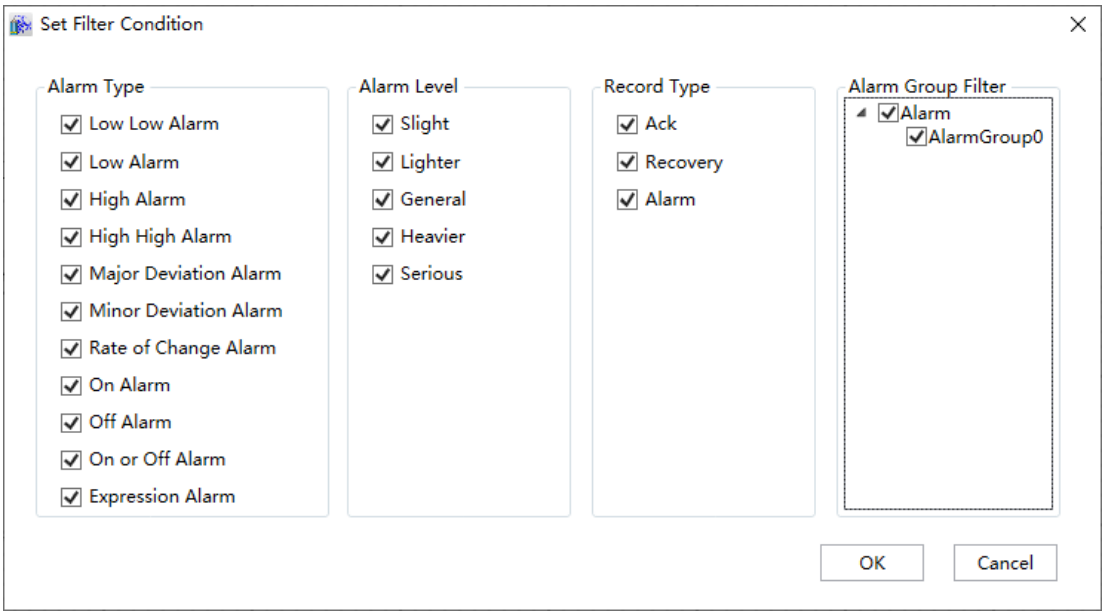
AlarmStatisticsFont	Set the font type of alarm statistics window
AlarmStatisticsColumnDisplay	In the pop-up alarm statistics column setting window, check which columns need to be displayed, the display width of the columns and the alignment of the alarm content. You can also adjust the display position of the columns in the alarm screen.
AlarmStatisticsHeaderDisplay	Set whether to display alarm statistics header
AlarmStatisticsChatDisplay	Check which alarm statistics charts need to be displayed, including: Alarm Count Top, Alarm Accumulate Time Top, Alarm Count Ratio, Alarm Fault Ratio
AlarmStatisticsTopNumber	Default: 10, Range: 1-20
AlarmStatisticsChatElements	Set the colors and font type for the alarm statistics charts

Condition Filter

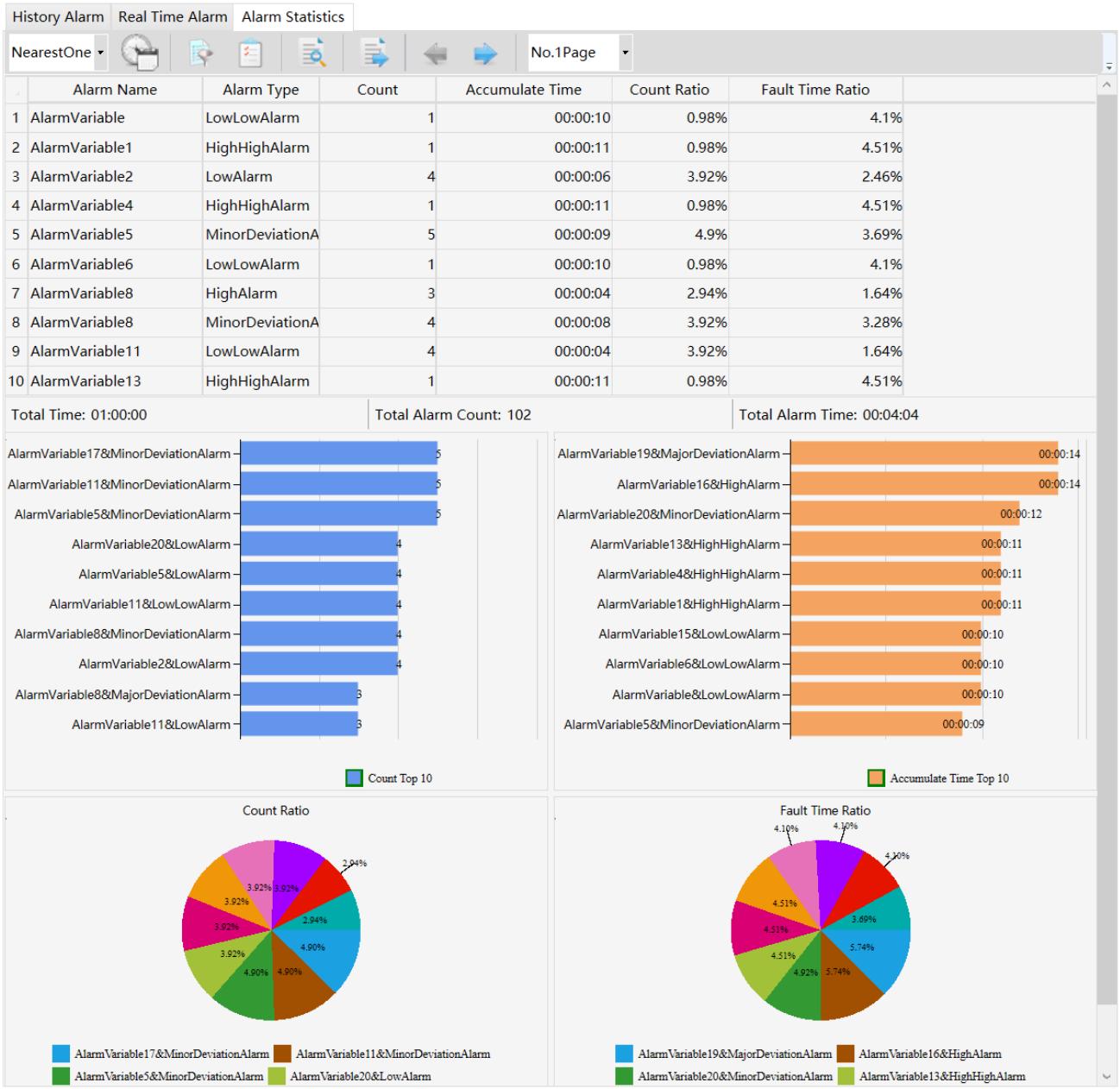


AlarmStatisticsFilter: Set alarm statistics filter condition.

Click "..." button, pup up the ***Set Filter Condition*** window, users can choose according to their own needs:



Runtime Alarm Statistics

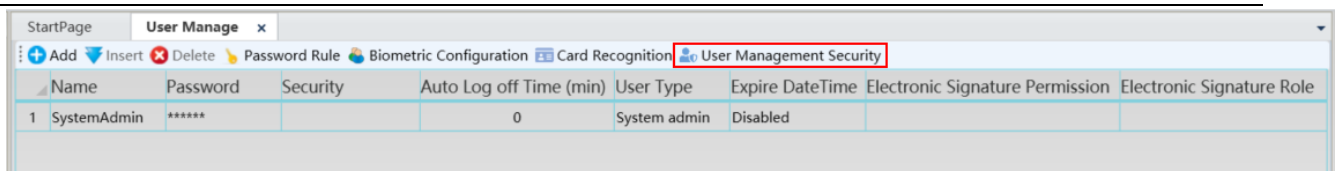


7. New User Management Security

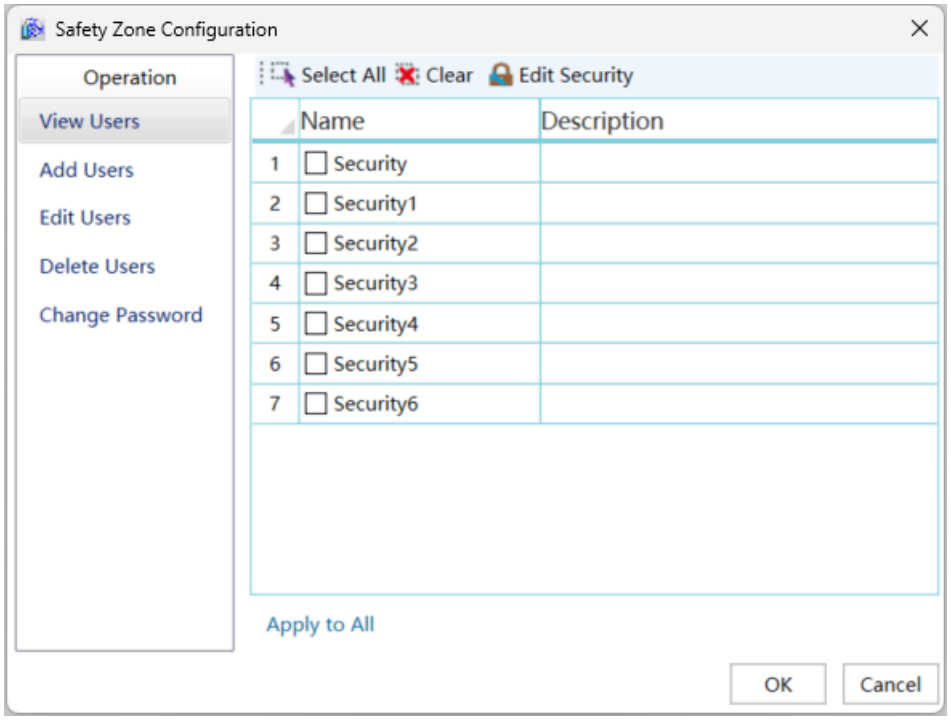
The User Management Security provide granular security policies for user management. During development, different security zones can be configured for various user management operations. At runtime, the SigUserManageBox (int type) script is called to invoke the user management window, which then executes corresponding user management permissions based on security zone matching rules and performs electronic signatures.

User Management Security configuration steps

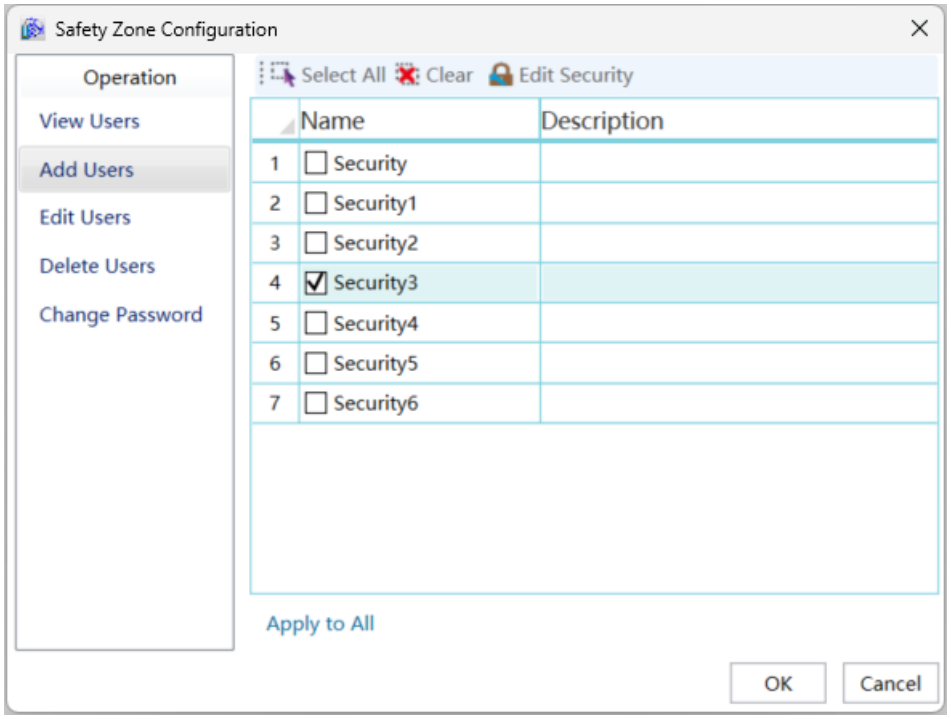
Step 1：Open the project window under the DIAView software development environment → open the Authority node in the project index tree→ double-click on the User Manage node · as shown in the figure below:



Step 2：Click the "User Management Security" button to open the Security Zone Configuration page. As shown in the figure below, users can configure the security zones for each operation on this page:



Step 3：Taking "Add Users" as an example, click Add Users, check Security3 on the right side, as shown in the figure below:

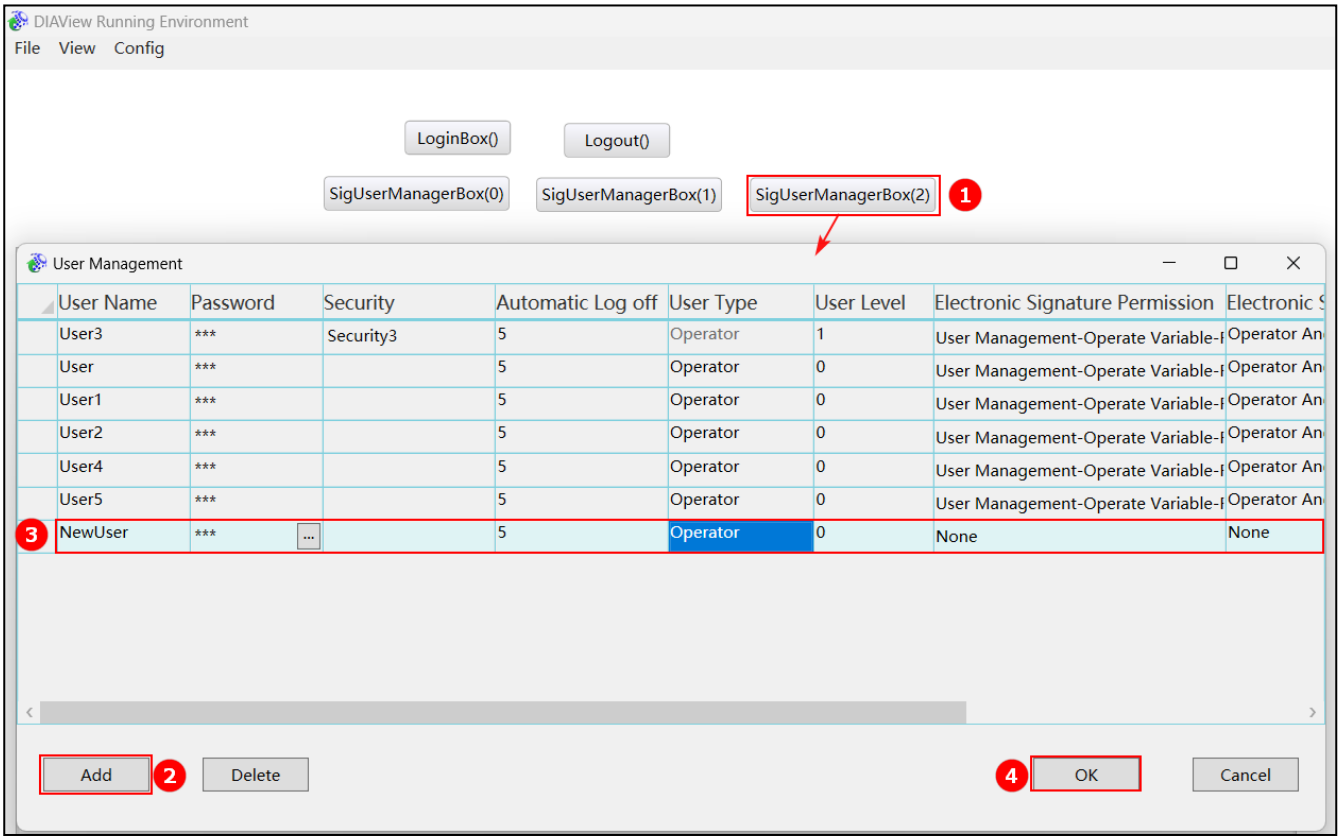


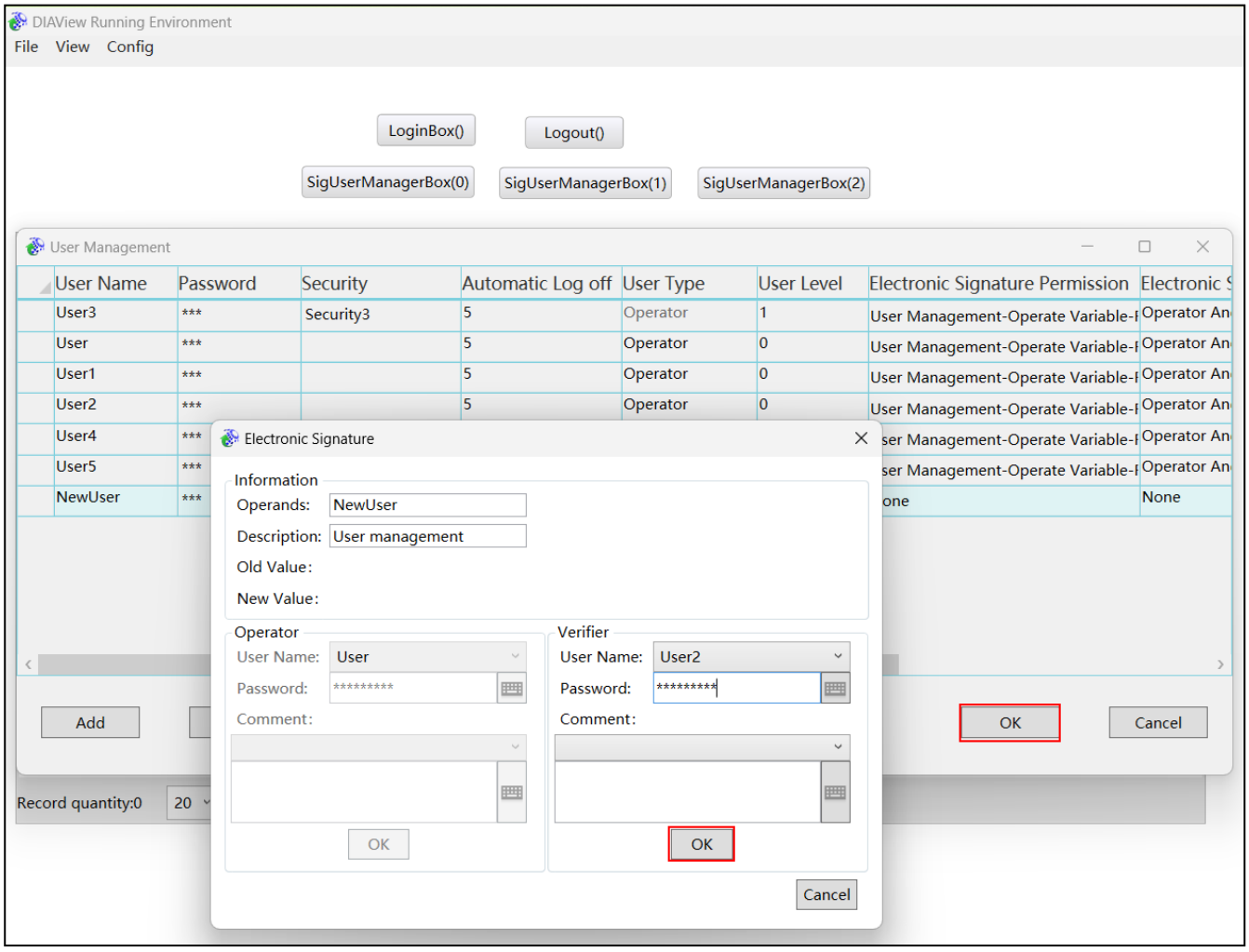
The system only permits user addition when the logged-in user has Security3 privileges. Users without this authorization will receive an insufficient permissions alert when attempting to add users.

The functions of each interface setting are described below:

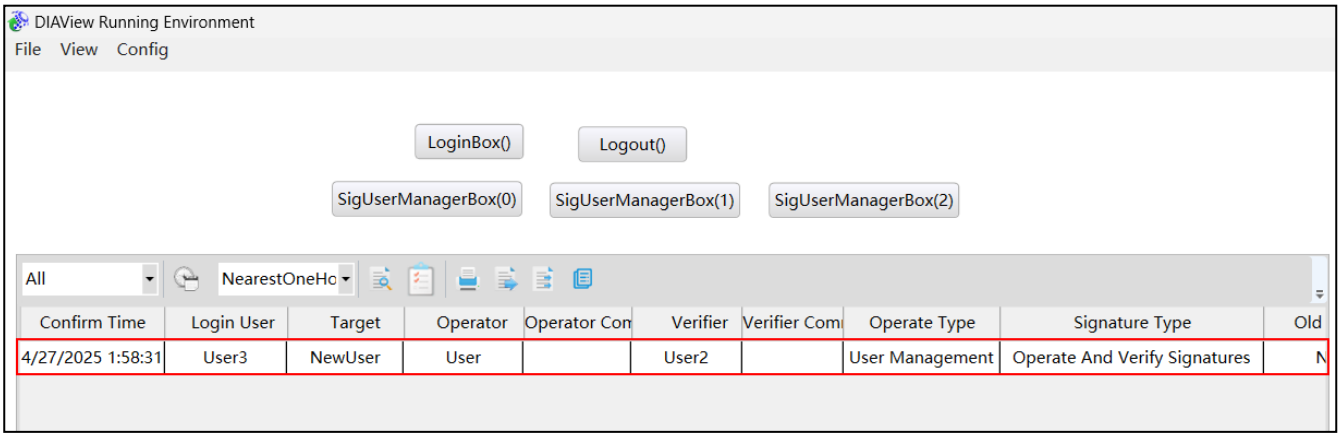
Property	Property Description
Select All	Select All Security Zones
Clear	Clear Security Zone Configuration
Edit Security	The Security Zone Editor pops up, allowing you to add or delete security zones.
Apply to All	All user management operations share the same security zone configuration.
OK	Save Configuration
Cancel	Discard Configuration

Step 4： When the project runs and the user successfully logs in, the SigUserManageBox(2) script launches the user management window to perform user addition operations, followed by operational validation and electronic signature, as shown below:


DIAView Running Environment
File View Config
LoginBox()
Logout()
SigUserManagerBox(0)
SigUserManagerBox(1)
SigUserManagerBox(2)
1
User Management
User Name Password Security Automatic Log off User Type User Level Electronic Signature Permission Electronic
User3 *** Security3 5 Operator 1 User Management-Operate Variable-I Operator An
User *** 5 Operator 0 User Management-Operate Variable-I Operator An
User1 *** 5 Operator 0 User Management-Operate Variable-I Operator An
User2 *** 5 Operator 0 User Management-Operate Variable-I Operator An
User4 *** 5 Operator 0 User Management-Operate Variable-I Operator An
User5 *** 5 Operator 0 User Management-Operate Variable-I Operator An
3 NewUser *** 5 Operator 0 None None
Add
2
Delete
4
OK
Cancel



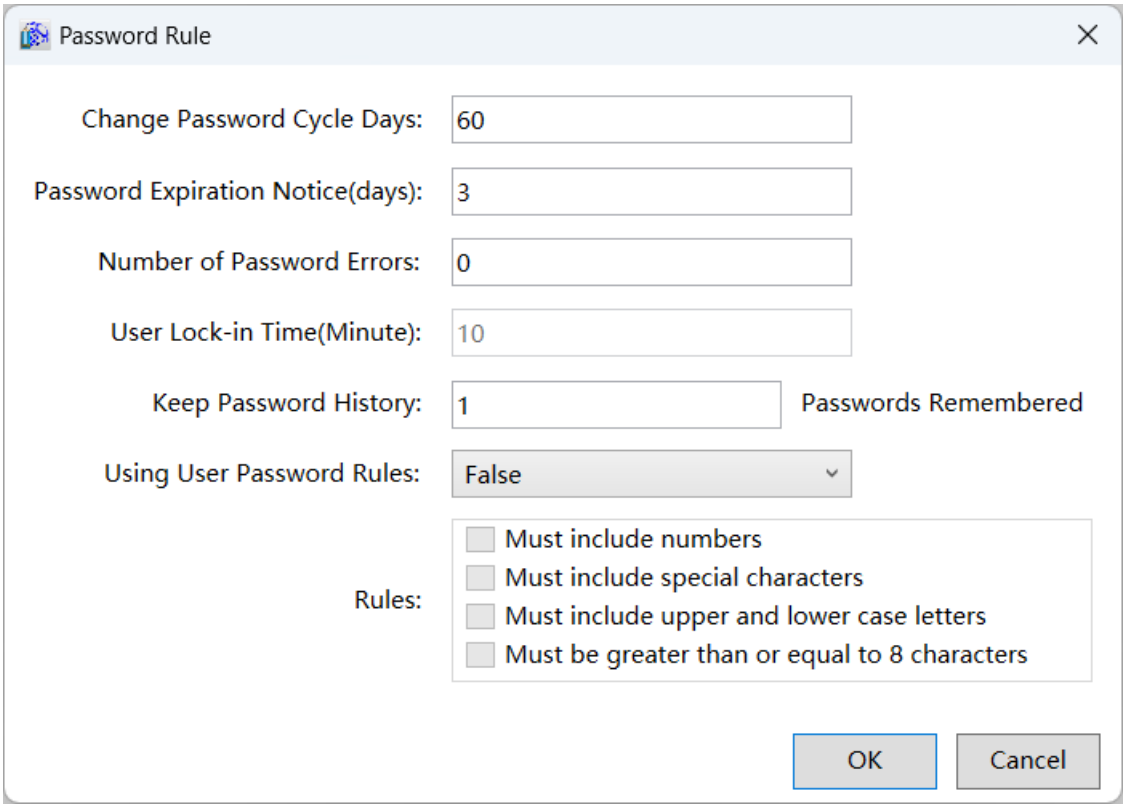
Step 5：After execution completes, the corresponding operation record can be queried in the audit browser, as shown below:



8. New user-defined password expiration notification

A password expiration notification configuration panel has been added to the password rules. During development, users can customize password expiration notifications, with a default setting of 3 days and a configurable range of 3-14

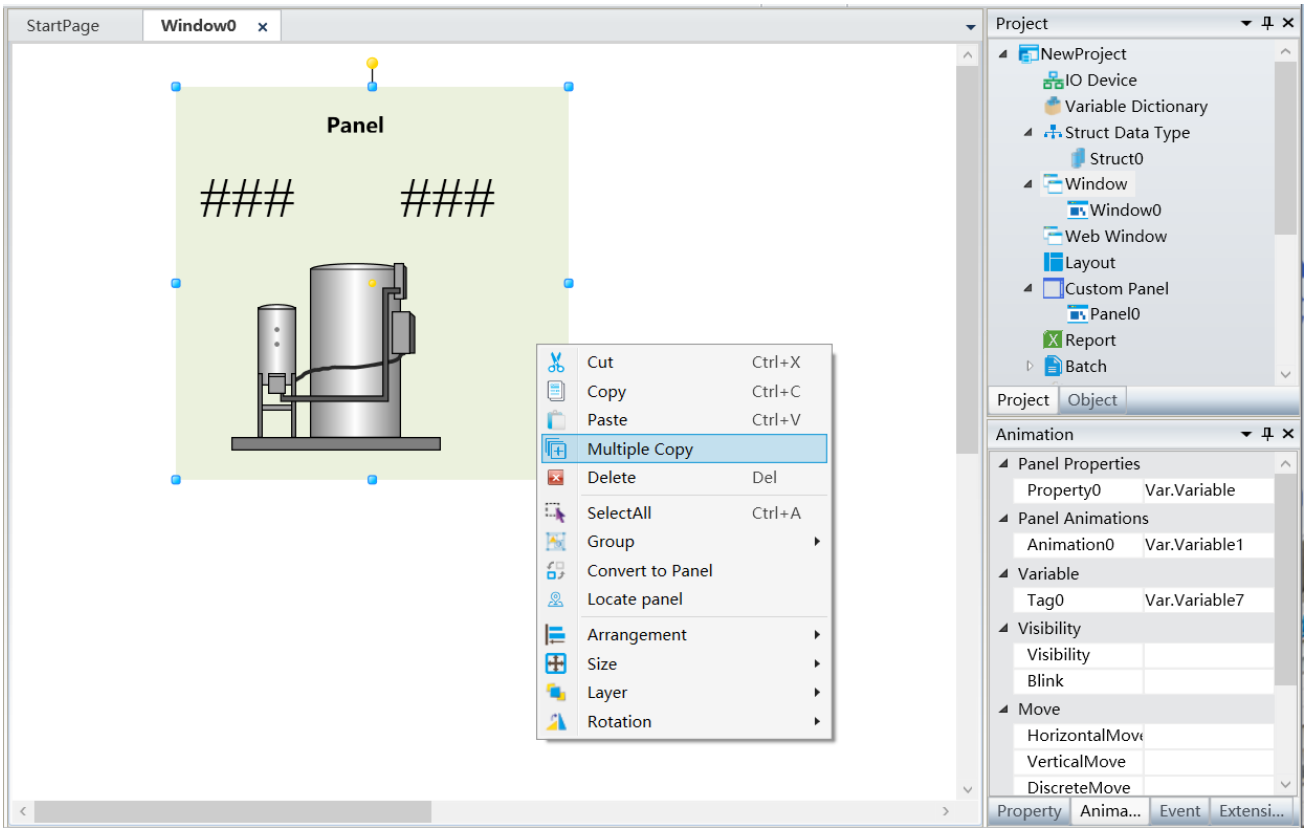
days. When a password is nearing expiration, the system will notify users in advance (based on the configured number of days) that their password will expire on a specified date.

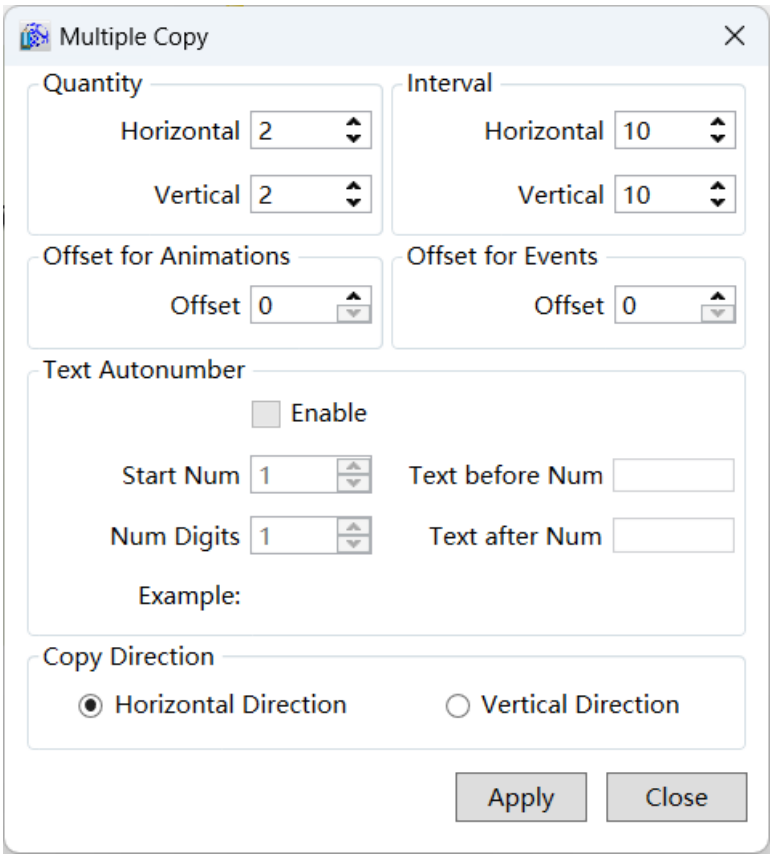


9. New Panel Multiple Copy Function

The panel supports multiple duplications, enabling users to quickly configure the properties, animations, events, and variables of the panel during development projects.

Right-click on the panel instance in the window, select "Multiple Copy" from the pop-up context menu, and the multiple copy window will appear, as shown in the figure below:





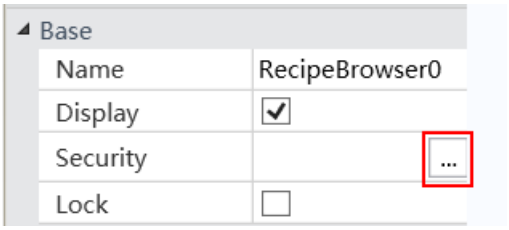
The meanings of each setting in the configuration window are as follows:

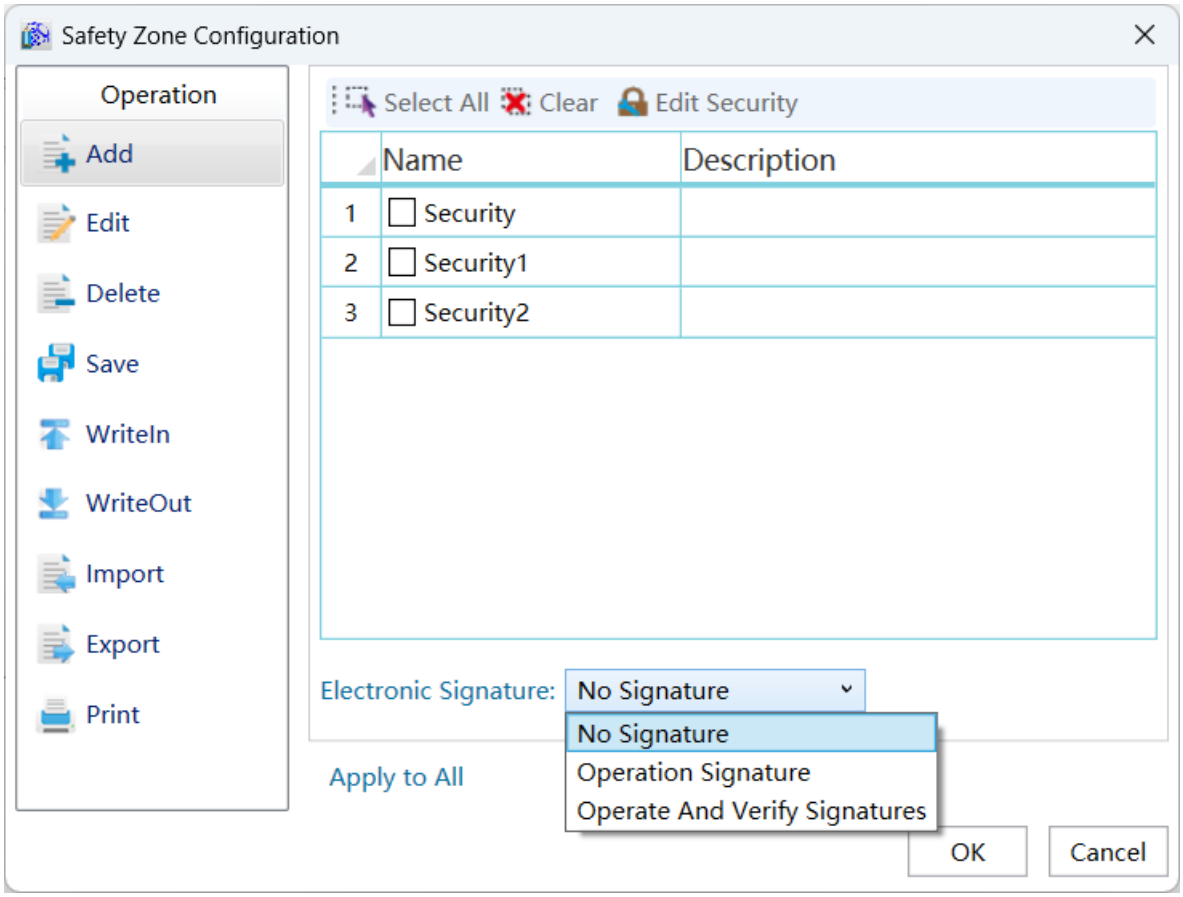
Property	Description
Quantity-Horizontal	Number of horizontal panels after multiple copies. Integer, the range is 1-50, initial value is 2.
Quantity-Vertical	Number of vertical panels after multiple copies. Integer, the range is 1-50, initial value is 2.
Interval-Horizontal	The horizontal spacing between each two panels, ranging from 0 to 300, with an initial value of 10.
Interval- Vertical	The vertical spacing between each two panels, ranging from 0 to 300, with an initial value of 10.
Text Autonumber	The panel doesn't support.
Horizontal Direction	Multiple copies prioritize creating new panels from the horizontal direction.
Vertical Direction	Multiple copies prioritize creating new panels from the vertical direction.

10. Optimization and repair function

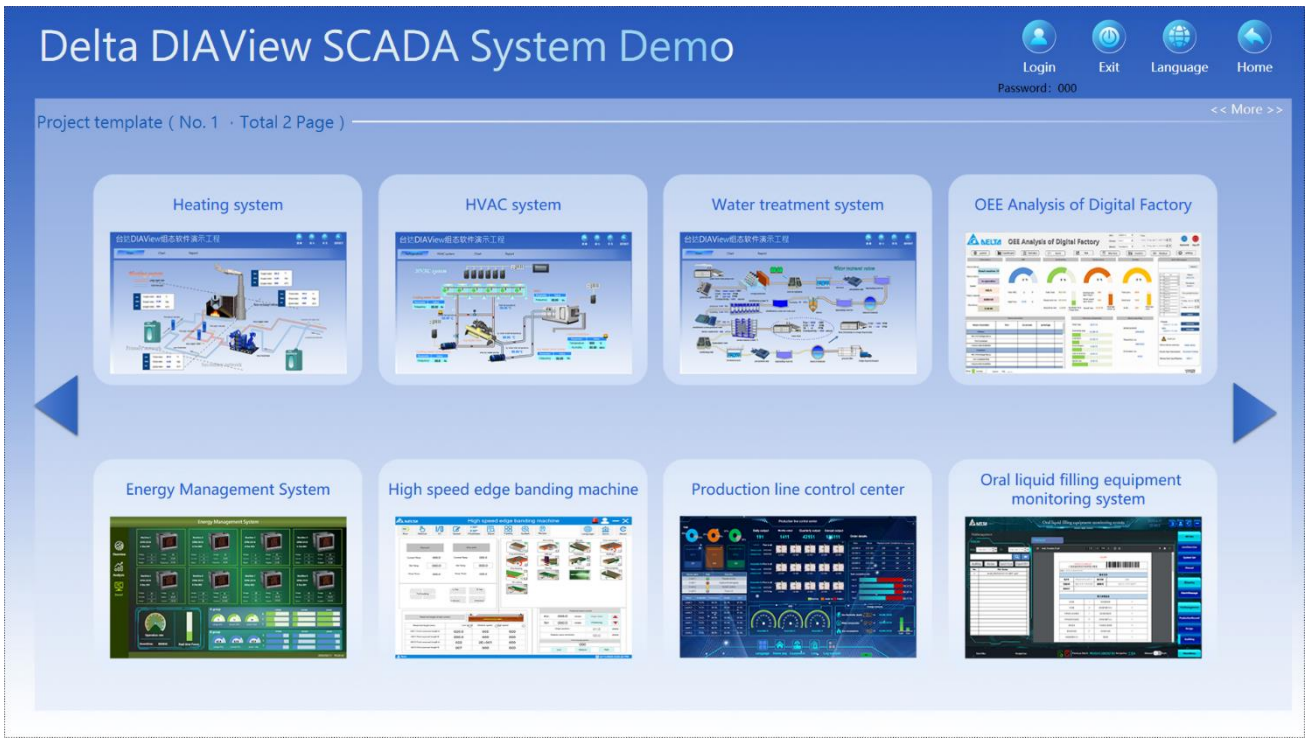
10.1 Refinement of Security Zone Functionality in Recipe Browser

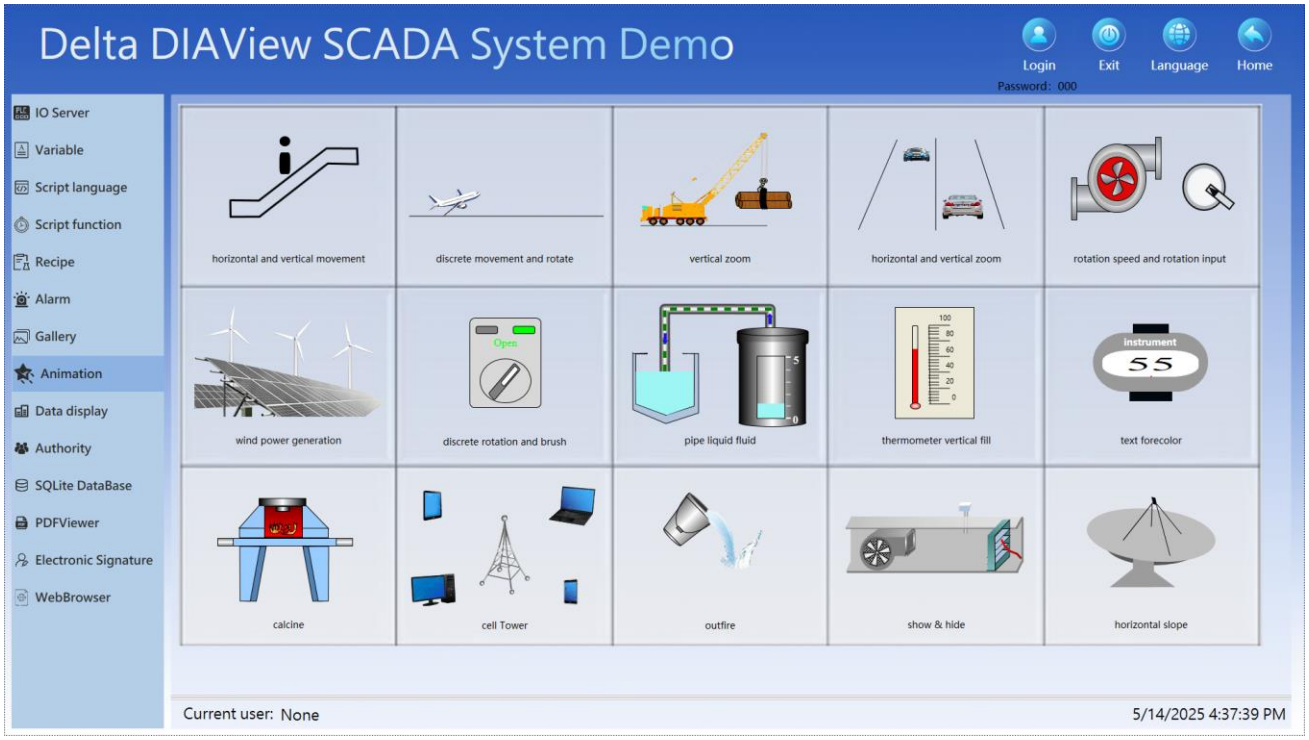
The security zone attributes of the Recipe Browser provide granular security policies for formula operations. During development, different security zones and e-signature types can be configured for various formula operations. During runtime, the system enforces corresponding permissions based on security zone matching rules and requires electronic signatures.

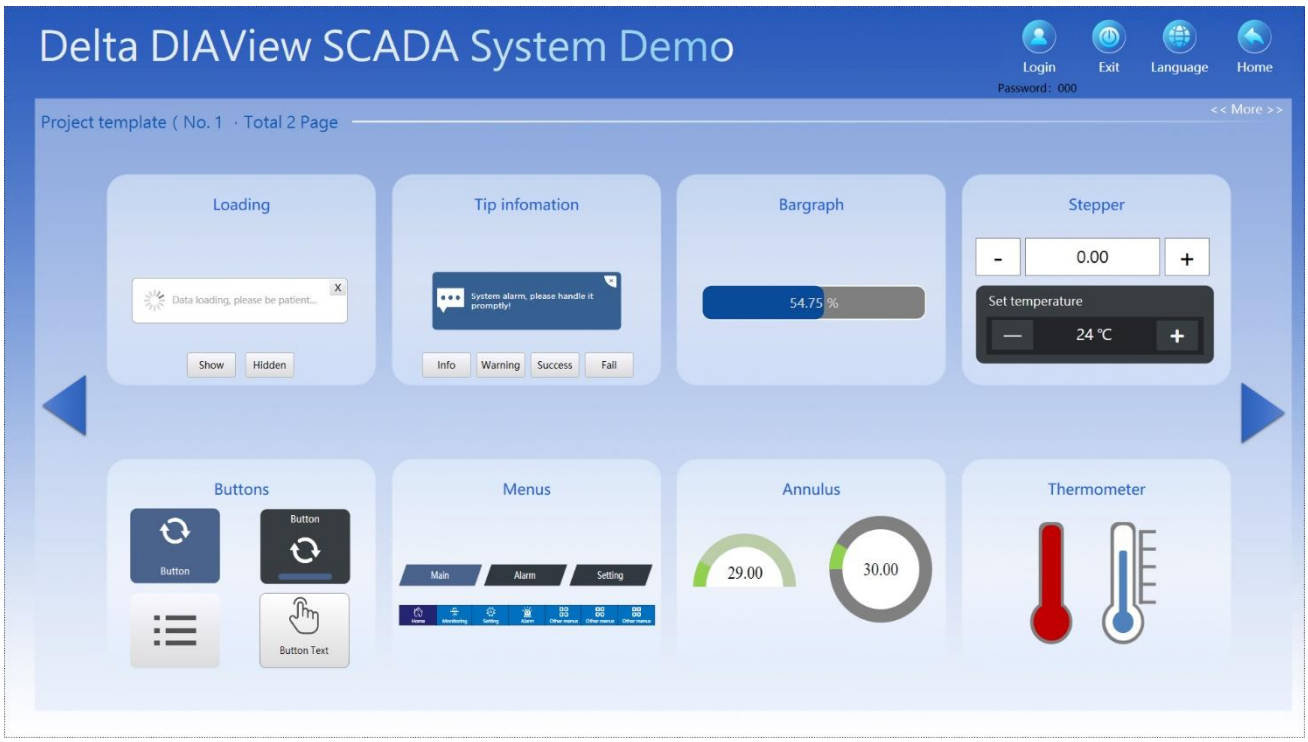




10.2 DIAView Demo Project Upgrade

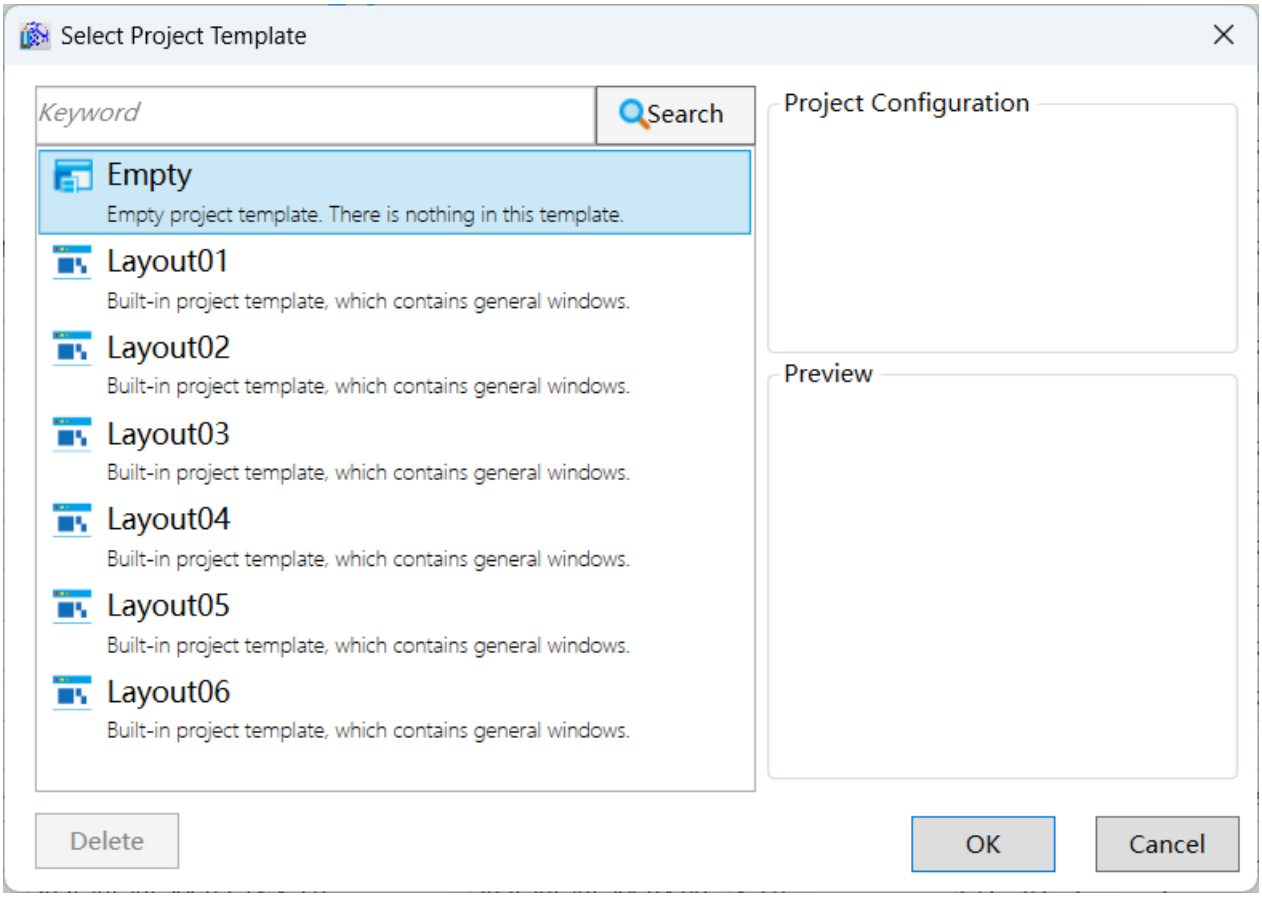

Delta DIAView SCADA System Demo
Login
Exit
Language
Home
Password: 000
Project template (No. 1 · Total 2 Page)
<< More >>
Heating system
HVAC system
Water treatment system
OEE Analysis of Digital Factory
Energy Management System
High speed edge banding machine
Production line control center
Oral liquid filling equipment monitoring system


Delta DIAView SCADA System Demo
Login
Exit
Language
Home
Password: 000
IO Server
Variable
Script language
Script function
Recipe
Alarm
Gallery
Animation
Data display
Authority
SQLite DataBase
PDFViewer
Electronic Signature
WebBrowser
horizontal and vertical movement
discrete movement and rotate
vertical zoom
horizontal and vertical zoom
rotation speed and rotation input
wind power generation
discrete rotation and brush
pipe liquid fluid
thermometer vertical fill
text forecolor
calcine
cell Tower
outfire
show & hide
horizontal slope
Current user: None
5/14/2025 4:37:39 PM

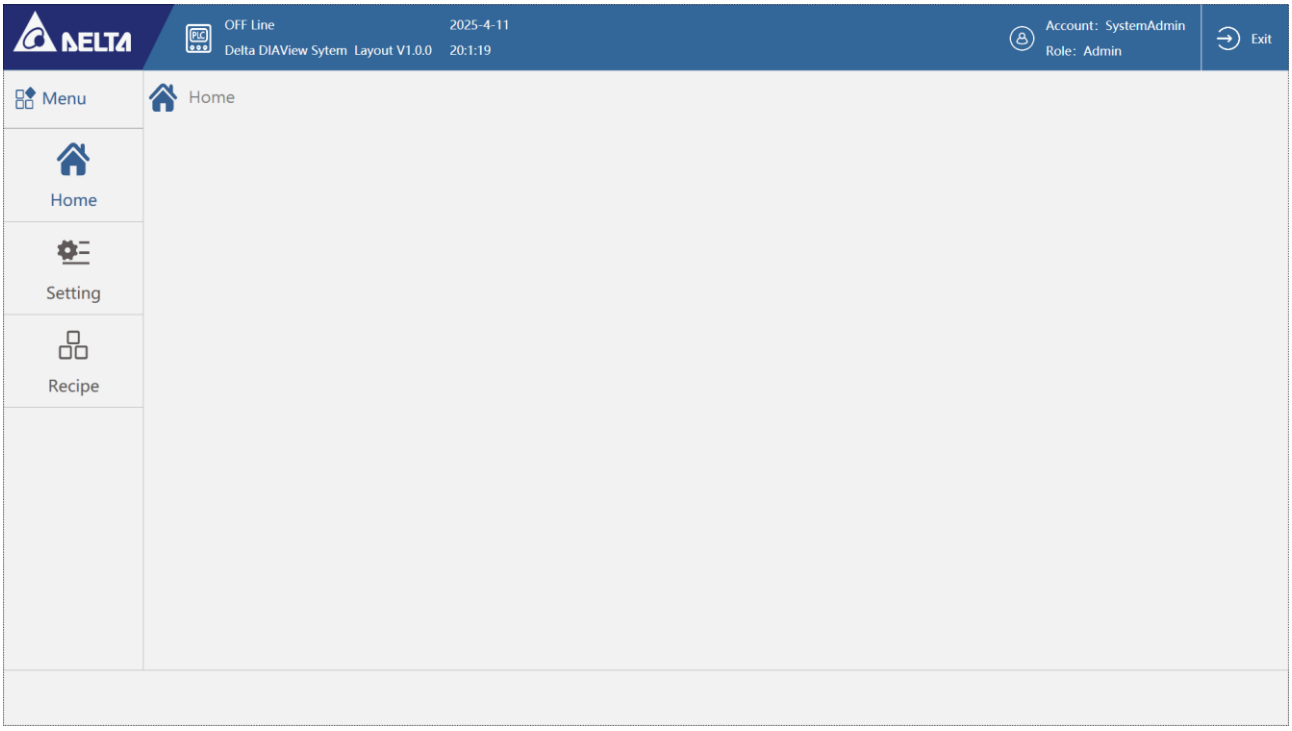


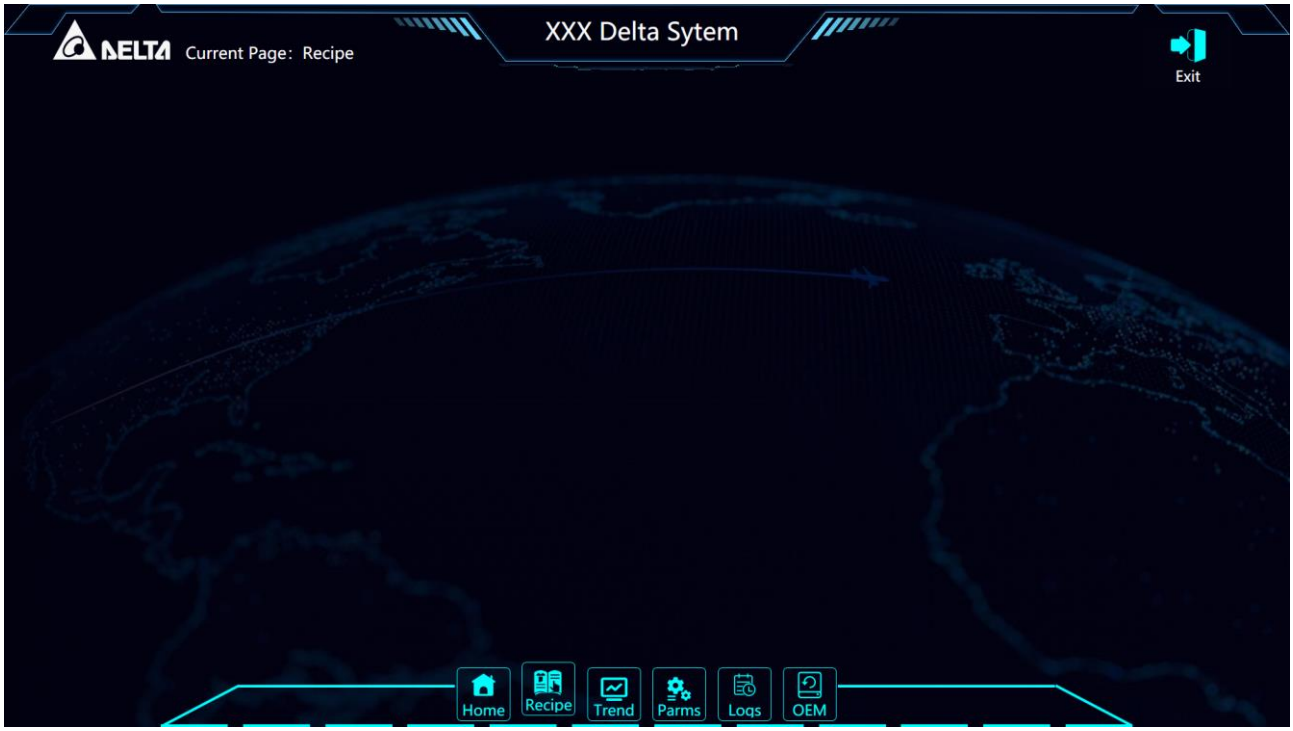
10.3 New 6 optional project templates

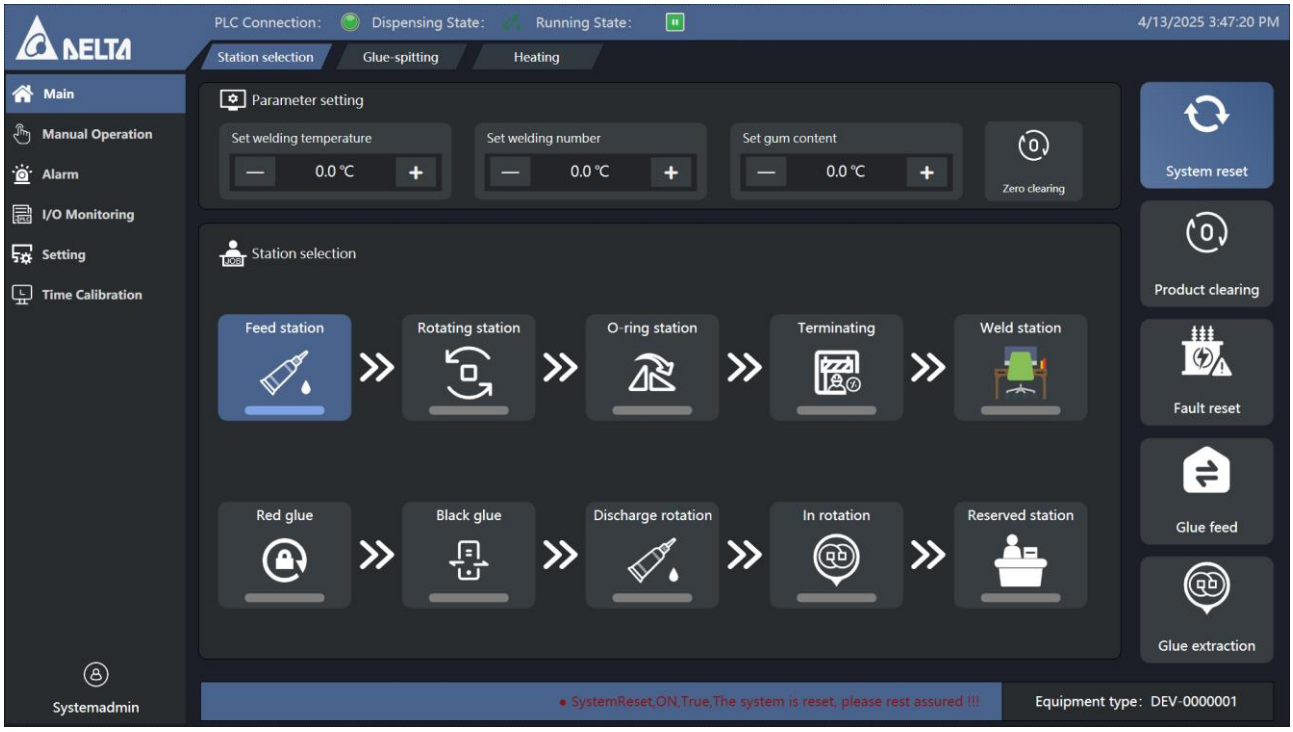
Built-in Demo Project Upgrade, providing engineering templates for different industries and styles to facilitate rapid project development for users.

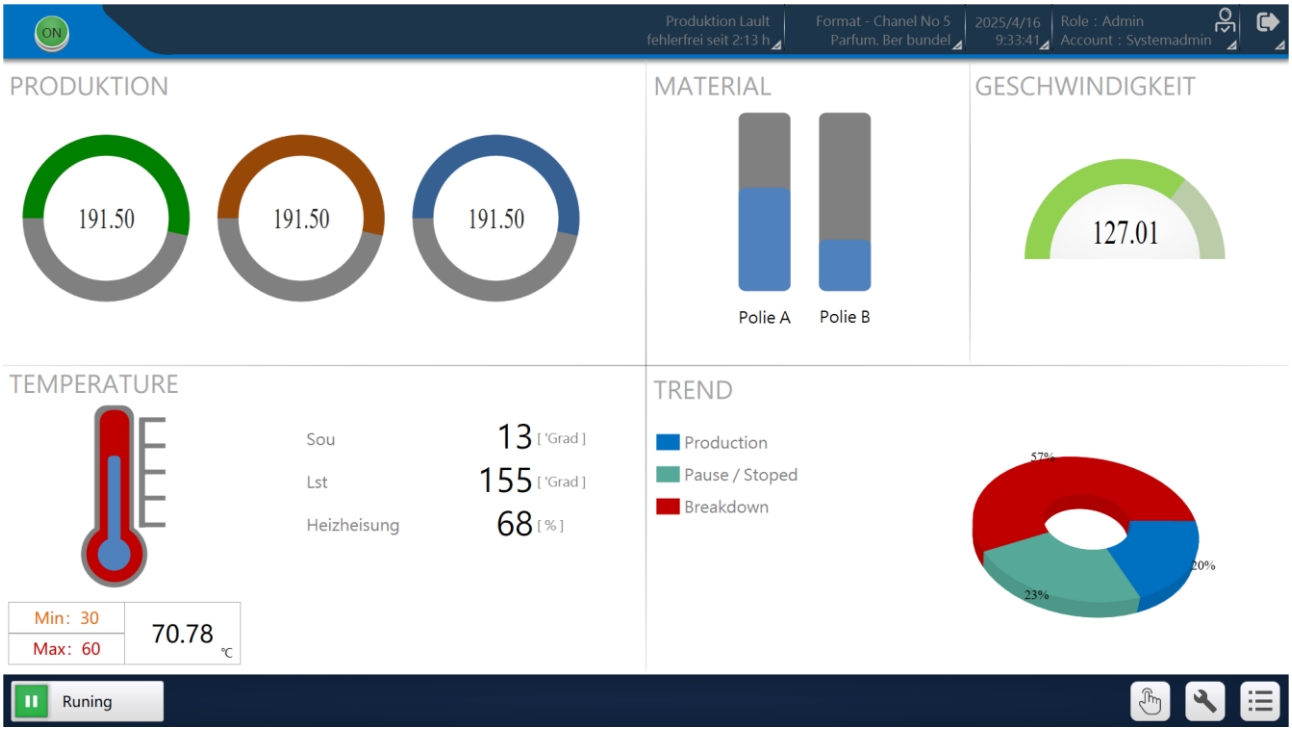


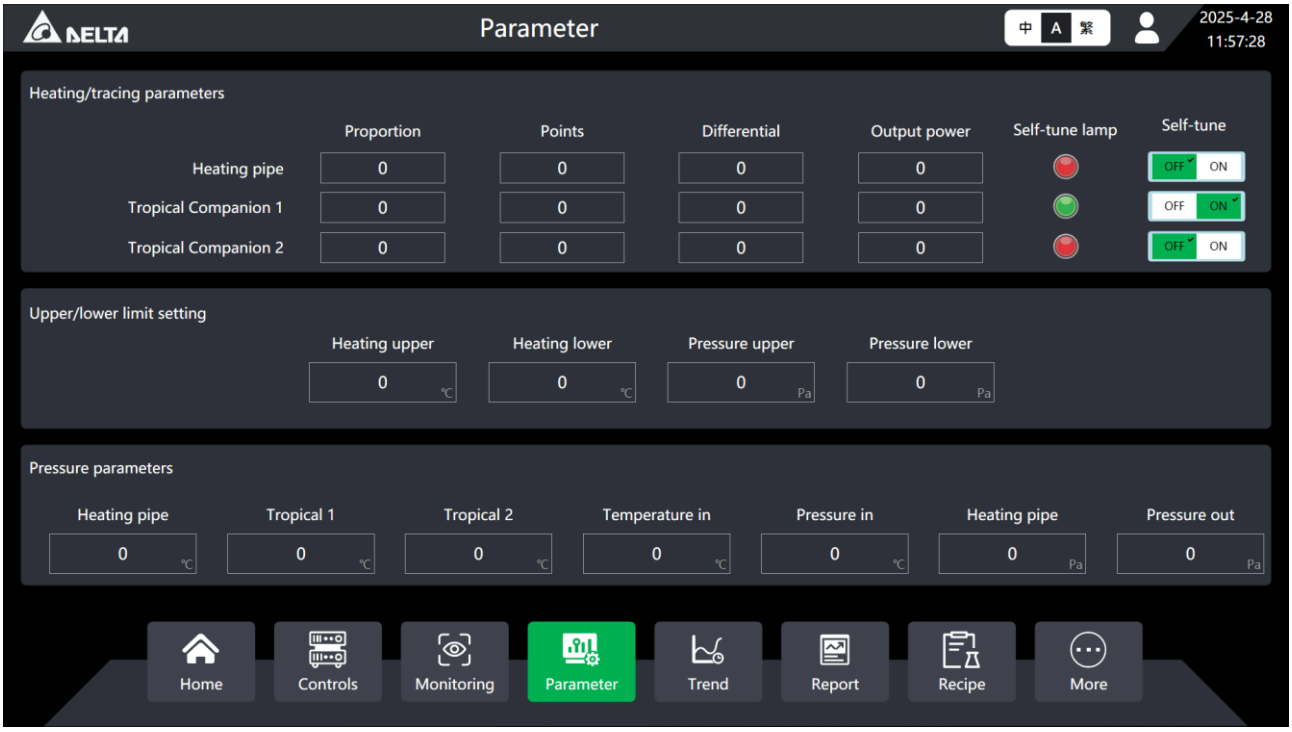
The corresponding layout template samples are shown as follows: Layout01, Layout02, Layout03, Layout04, Layout05, Layout06.

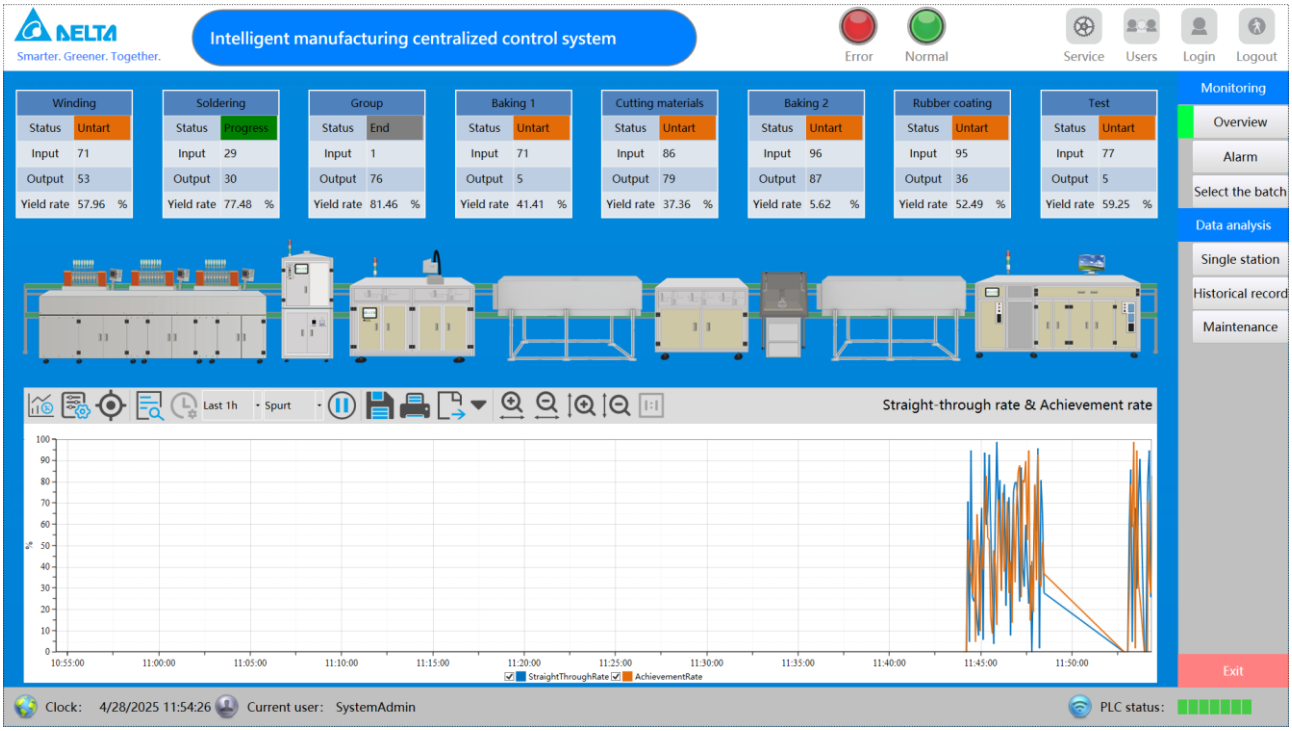



Current Page: Recipe
XXX Delta Sytem
Exit
Home
Recipe
Trend
Parms
Logs
OEM

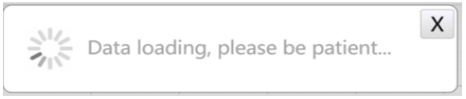
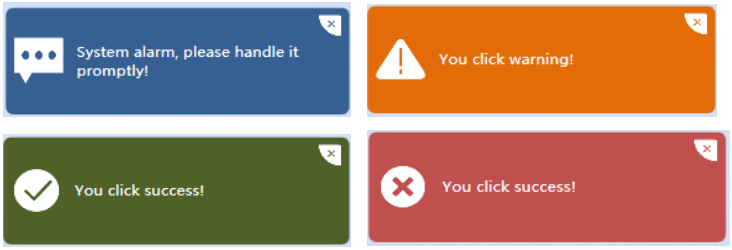

PLC Connection:
Dispensing State:
Running State:
4/13/2025 3:47:20 PM
Station selection
Glue-spitting
Heating
Main
Manual Operation
Alarm
I/O Monitoring
Setting
Time Calibration
Systemadmin
Parameter setting
Set welding temperature
0.0 ℃
Set welding number
0.0 ℃
Set gum content
0.0 ℃
Zero clearing
Station selection
Feed station
Rotating station
O-ring station
Terminating
Weld station
Red glue
Black glue
Discharge rotation
In rotation
Reserved station
System reset
Product clearing
Fault reset
Glue feed
Glue extraction
SystemReset,ON,True,The system is reset, please rest assured !!!
Equipment type: DEV-0000001

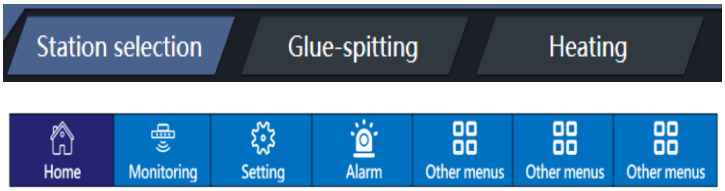
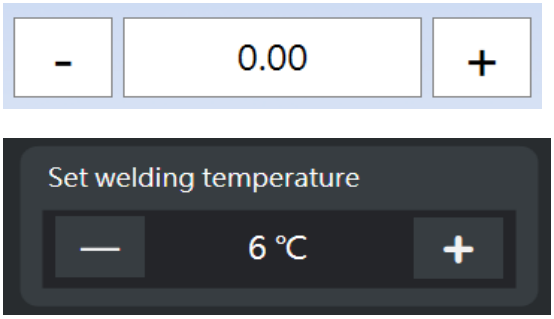
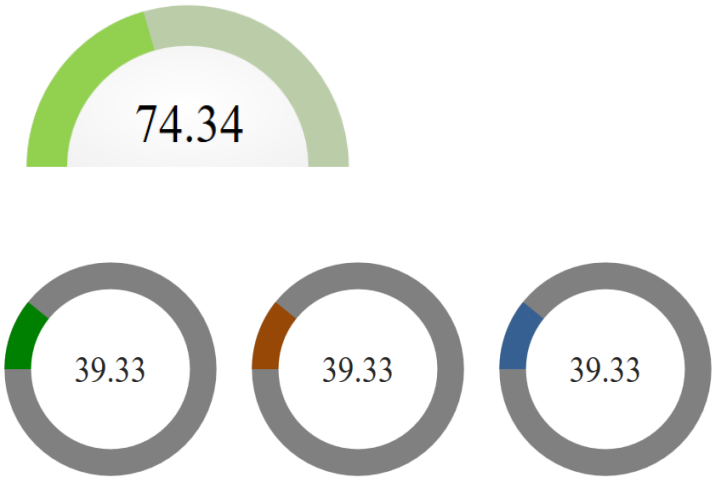

Produktion Lault
fehlerfrei seit 2:13 h
Format - Chanel No 5
Parfum. Ber bundel
2025/4/16
9:33:41
Role : Admin
Account : Systemadmin
PRODUKTION
191.50
191.50
191.50
MATERIAL
Polie A
Polie B
GESCHWINDIGKEIT
127.01
TEMPERATURE
Sou 13 ['Grad]
Lst 155 ['Grad]
Heizheisung 68 [%]
Min: 30
Max: 60
70.78 ℃
TREND
Production
Pause / Stoped
Breakdown
57%
20%
23%
Runing

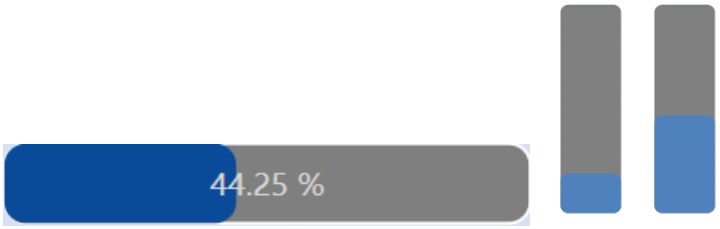
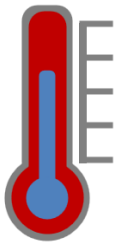
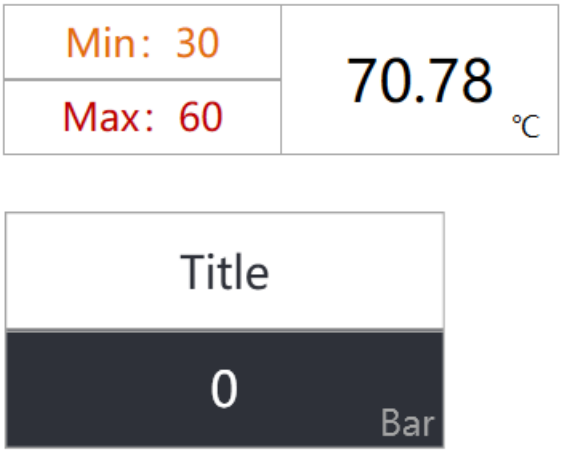
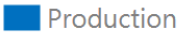
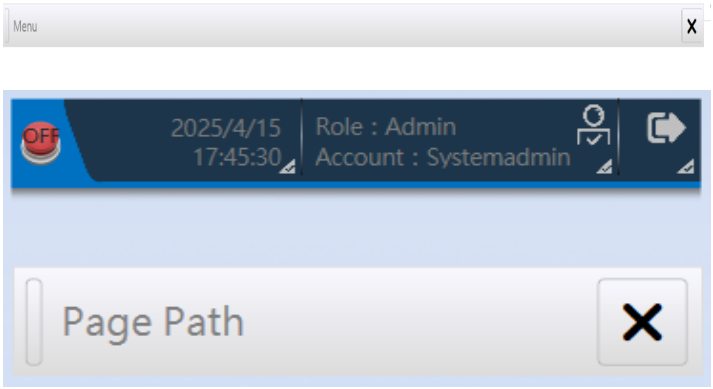

Parameter
2025-4-28
11:57:28
Heating/tracing parameters
Proportion
Points
Differential
Output power
Self-tune lamp
Self-tune
Heating pipe 0 0 0 0 OFF ON
Tropical Companion 1 0 0 0 0 OFF ON
Tropical Companion 2 0 0 0 0 OFF ON
Upper/lower limit setting
Heating upper 0 ℃
Heating lower 0 ℃
Pressure upper 0 Pa
Pressure lower 0 Pa
Pressure parameters
Heating pipe 0 ℃
Tropical 1 0 ℃
Tropical 2 0 ℃
Temperature in 0 ℃
Pressure in 0 ℃
Heating pipe 0 Pa
Pressure out 0 Pa
Home
Controls
Monitoring
Parameter
Trend
Report
Recipe
More

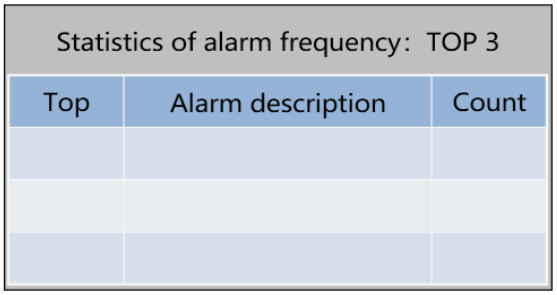


10.4 New 25 user panel components

Serial Number	Category	Quantity	Diagram
1	Loading	1	
2	Tips	1	
3	Button	5	

			
4	Menu	2	
5	Stepper	2	
6	Annulus	2	
7	Bargraph01	2	

			
8	Termometer	1	
9	Text	2	
10	Label	1	
11	PageFrame	3	

12	Clock	1	
13	Table	1	
14	Picture Scrolling	1