



DTN Soft

Temperature Controller Configuration
and Data Management Software

Operation Manual

Revision History

Version	Change Description	Release Date
V1.0	Initial Release.	2025/10/28

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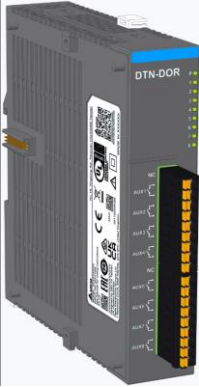
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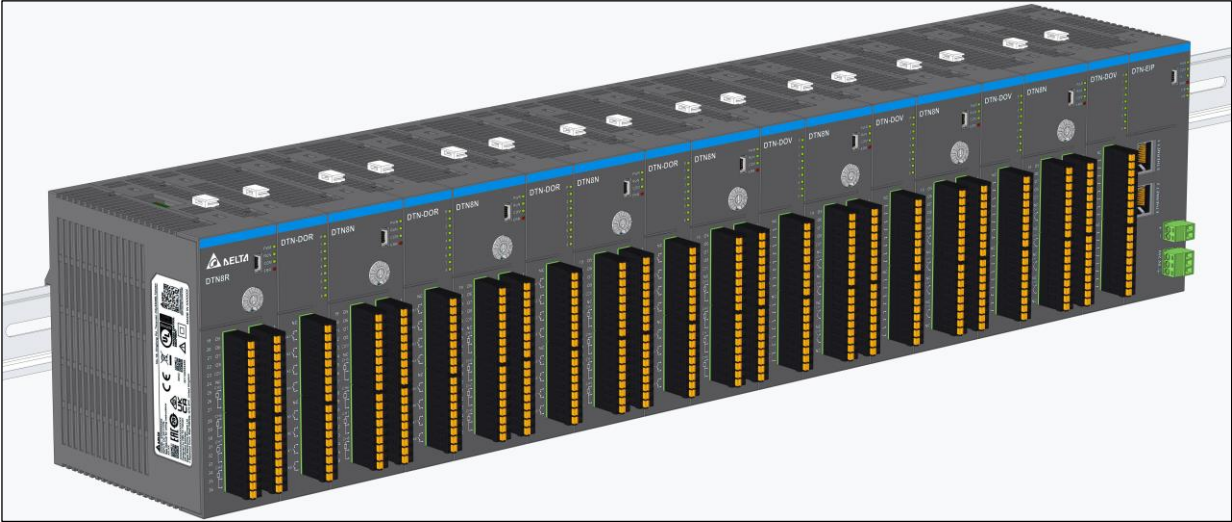
Chapter 1 DTN Model Introduction

1.1 DTN Series

Type	Main DTN measurement unit	DTN measurement expansion module	I/O output expansion module	EIP communication module	ECAT communication module
Icon					

Maximum number of modules: 1 main measurement unit + 7 measurement expansion modules + 8 I/O expansion modules + EIP/ECAT communication module

Order of installation: (Main measurement unit + I/O expansion module) ⇔ (Measurement expansion module + I/O expansion module)*7 ⇔ (EIP/ECAT communication module)



- Note:
- 1. DTN TC and DTN PT models cannot be used together. When the main unit is a TC model, the expansion units must also be TC models; when the main unit is a PT model, the expansion units must be PT models.
 - 2. Only one I/O expansion module can be connected to the right side of each measurement unit (it is also acceptable not to connect any I/O expansion module). Connecting more than one I/O expansion module simultaneously is not allowed (the mechanical structure is designed to prevent incorrect installation).

Example of correct installation:
[Measurement Main Unit + I/O Expansion Module] + [Measurement Expansion Module + I/O Expansion Module] + [Measurement Expansion Module + I/O Expansion Module] + Measurement Expansion Module + Measurement Expansion Module...

1.2 DTN Ordering Information

DTN 1 2 3 4

Series name	DTN: Delta DTN Series Temperature Control Measurement Module
1 Type	2R = 2-channel main unit 4R = 4-channel main unit 8R = 8-channel main unit 8N = 8-channel expansion unit
2 Input Type* ¹	PT = Platinum Resistance Temperature Detector, RTD TC = Thermocouple
3 Output Type	V = DC Voltage Pulse Output (Source Type) C = Linear Current Output (Source Type) L = Linear Voltage Output
4 Special Specifications	Blank = Standard Model -x = x, x = A~Z Identified according to the customer ID/derivative device types

DTN – 1 2

Series name	DTN: Delta DTN Series Temperature Control Accessories
1 Module Type	DO = Output Module DU = Display Settings Module EIP = Ethernet Communication Module
2 Optional Functions	Blank = Standard Model
	Code 1 = DO Module Type: R = Relay Output V = DC Voltage Pulse Output (Source Type)

Note:

- The supported input sensors will vary according to the different input types. Please refer to the electrical specifications.*
- The DTN series comes with detachable European-style terminal blocks for wiring.*

Chapter 2 Software Installation

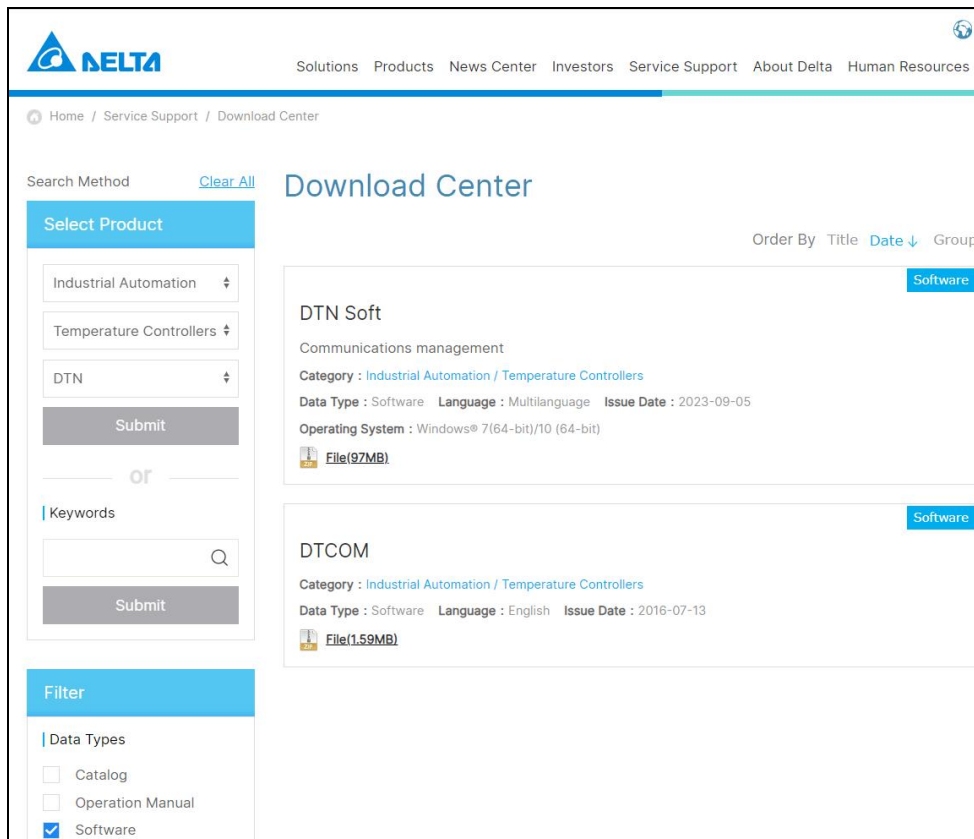
2.1 PC Environment Requirements

- **Operating system**

Windows10 (64-bit) 、 Windows 11 (64-bit)

2.2 Software Installation Procedure

To facilitate parameter configuration, Delta provides free Temperature Controller Configuration and Data Management Software. Please visit the Delta website and go to the **[Industrial Automation]** section. Then, go to the download center. Select **[Temperature Controllers]** as the product category and **[Software]** as the download type, and then start the download.



After the search, download the **[DTN Soft]** software and unzip the compressed file.

Note: The software version shown in the manual illustrations may be outdated. Please refer to the latest version number on the official website.

- **Installation steps**

Run the downloaded software installation file.



Open the DTN Soft installation page and follow the step-by-step instructions to complete the installation.



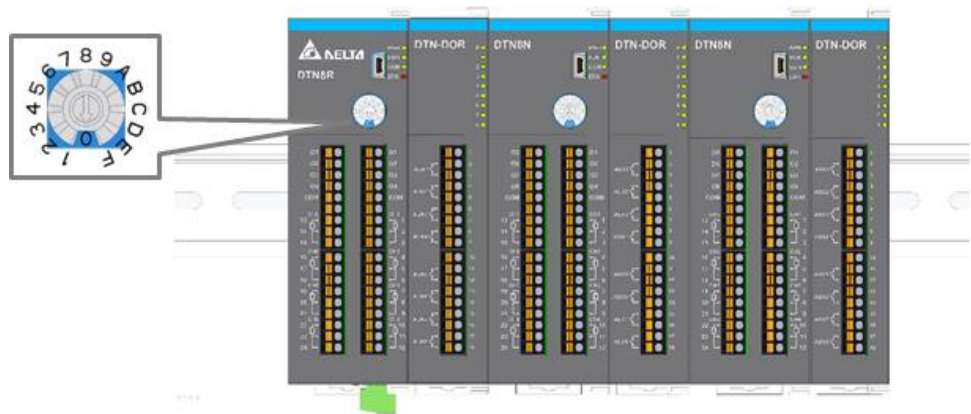
After the installation is complete, you can find the DTN Soft shortcut on the desktop.



Chapter 3 DTN Main Unit Settings

3.1 Station ID Setting

The external communication of DTN is defined by the station number rotary switch on the DTN main measurement unit for RS485 communication, as shown in the diagram below:



The settings range is 0 to F. The default value of the main measurement unit is 1, and the default value of the measurement expansion module is 2.

With the external switch Bit8 on top of the DTN main measurement unit, the user can choose whether to offset the Station ID by 64.

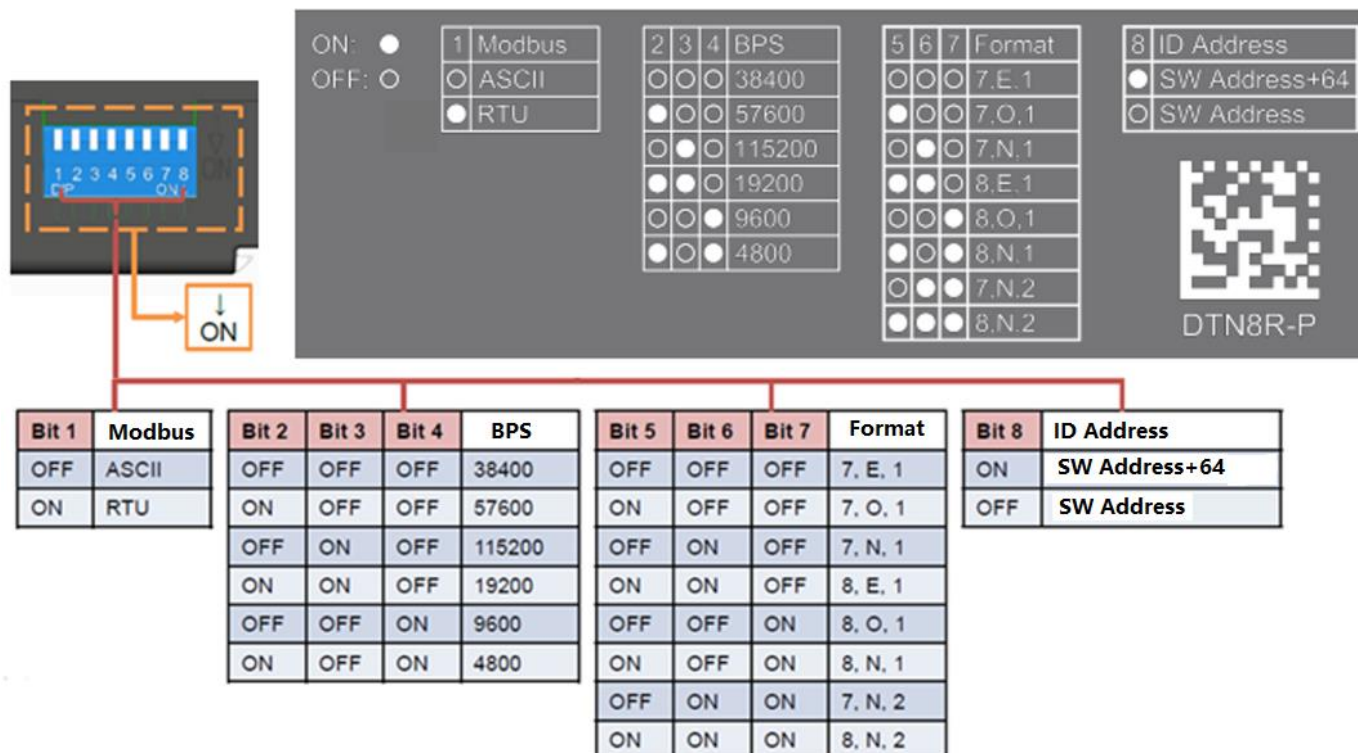
Selection Knob	Communications Protocol Switch Bit8	Corresponding Station ID
0~F	OFF (Station ID offset 0)	1~16, Knob Position 0 = Station ID 16
0~F	ON (Station ID offset 64)	65~80, Knob Position 0 = Station ID 80

Notice

1.
- All external switch settings take effect only after the unit is powered on again.

3.2 DTN Communication Protocol Settings

- Set the RS-485 communication format using the external switches on top of the DTN measuring main unit. The factory default is all OFF (ASCII, 38400, 7, E, 1).



Notice

- When the DIP switches are reset, the changes take effect only after the unit is powered on again.
- When the communication mode is set to RTU, the protocol format must use 8-bit data.

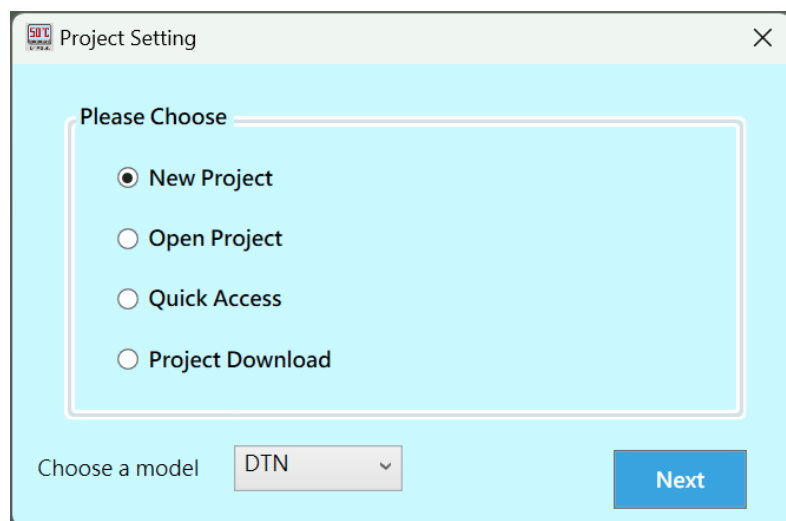
3.3 Software Initial Execution Procedure

After the installation is complete, click on the [DTN Soft] software icon below to open the application. A project configuration window will appear, and you can enter the user interface by selecting either [New Project], [Open Project], or [Quick Access].

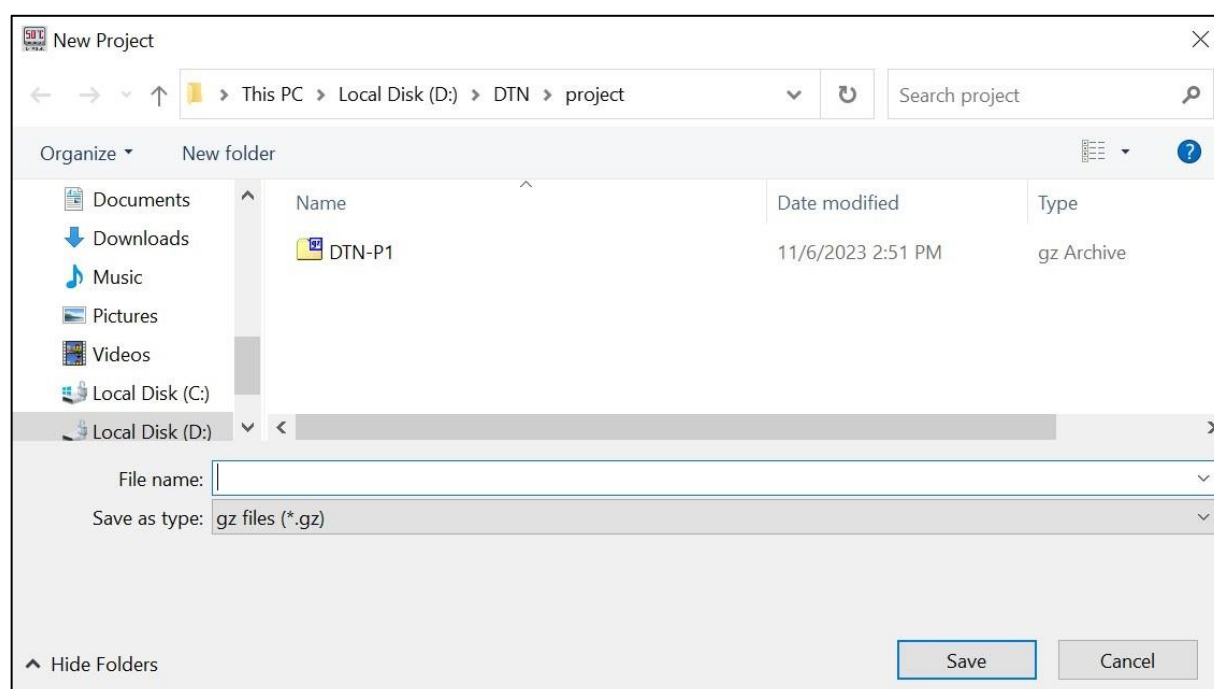
After the installation is complete, click the DTN Soft software icon below. When the application opens, the [Project Setting] window will appear. From there, you can enter the user interface by selecting [New Project], [Open Project], or [Quick Access].



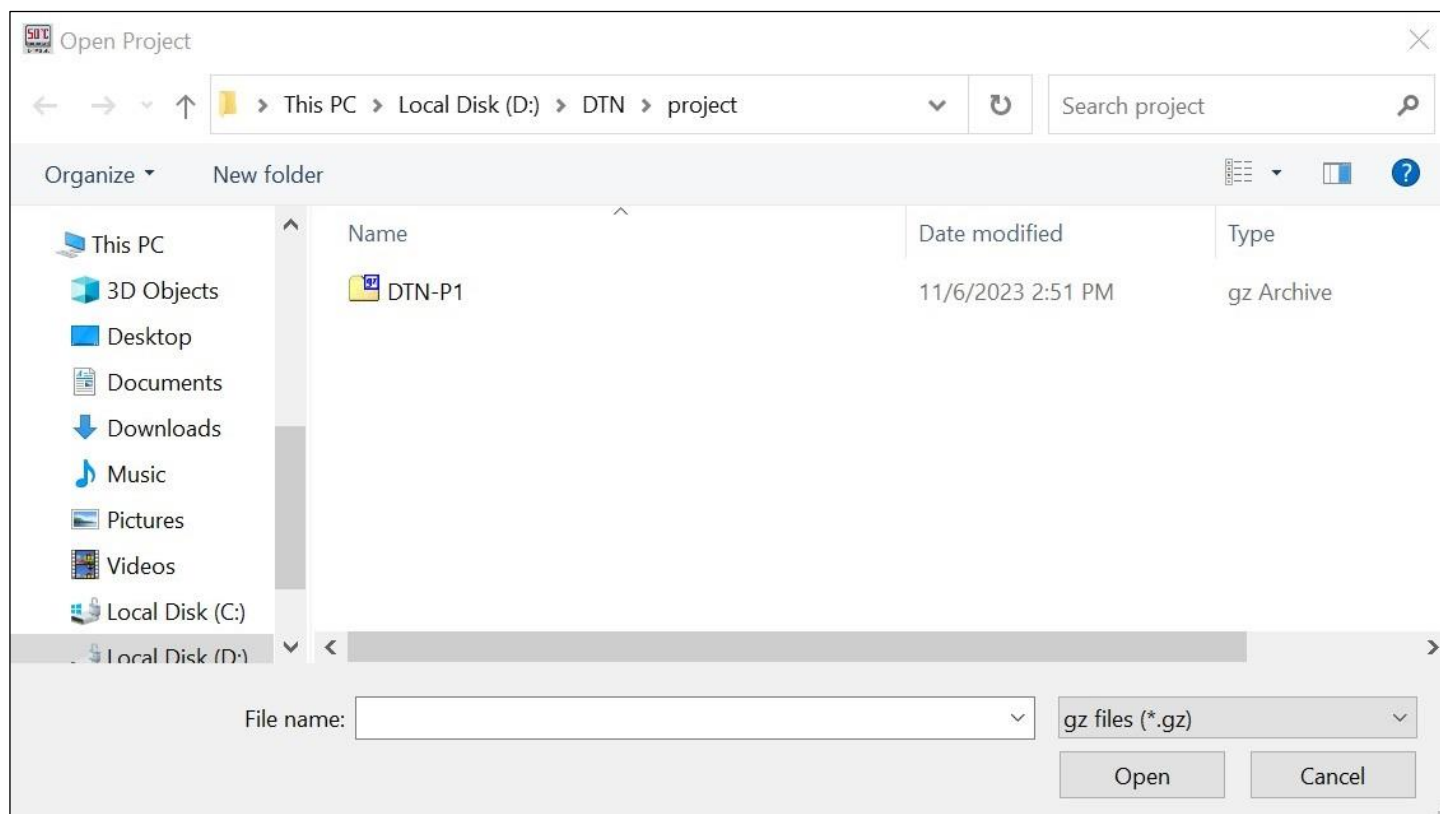
Options in the [Project Setting] window



1) New Project: The system will first prompt you to enter the desired file name before opening the project.

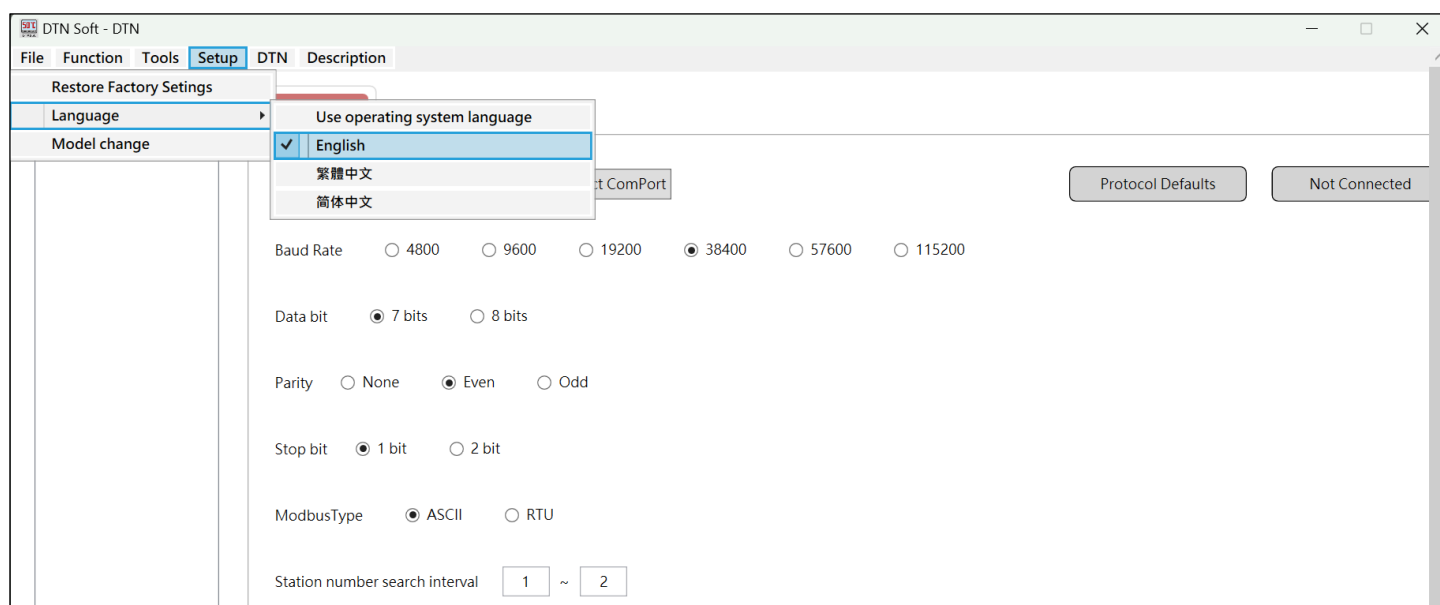


2) Open Project: Select a previously saved file to open.



3) Quick Access: Directly enter the main user interface, as shown below:

DTN Soft automatically detects the operating system language to set the default software language. To change the language, use [Setup] > [Language] in the toolbar.



- 4) Project Download: Directly enter the project download mode, simplifying the download process and reducing the possibility of operational errors.



3.4 Connection Monitoring

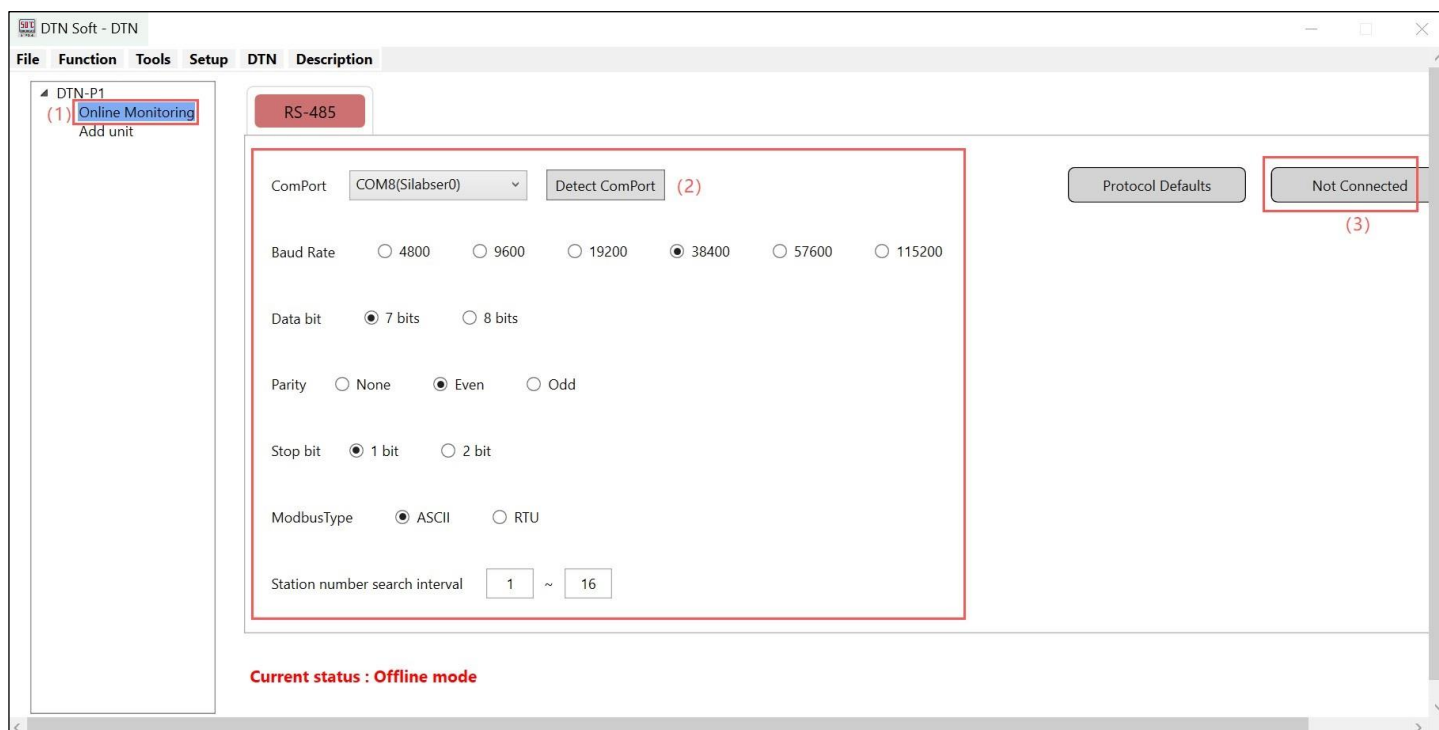
Configure the PC communication protocol through [Online Monitoring] and create a communication connection.

1. As shown below, first click [Online Monitoring].
2. Select RS485.

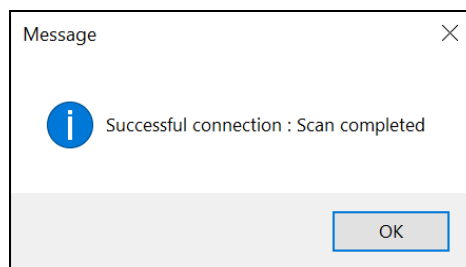
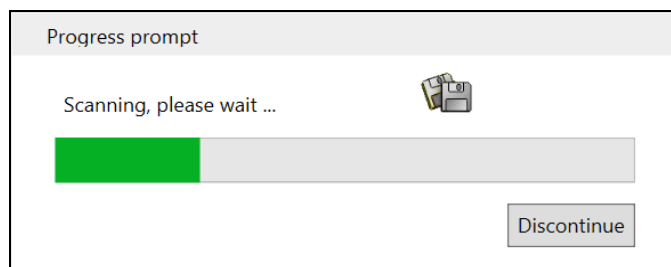
The factory default RS-485 communication format is 38400, 7, E, 1, ASCII. To change the communication format or baud rate, use the DIP switches on the side of the main unit, and select the communication station number using the front rotary switch.

Users can first click [Detect ComPort] to check which ports are available. If the port number is already known, it can be selected directly from [Comport].

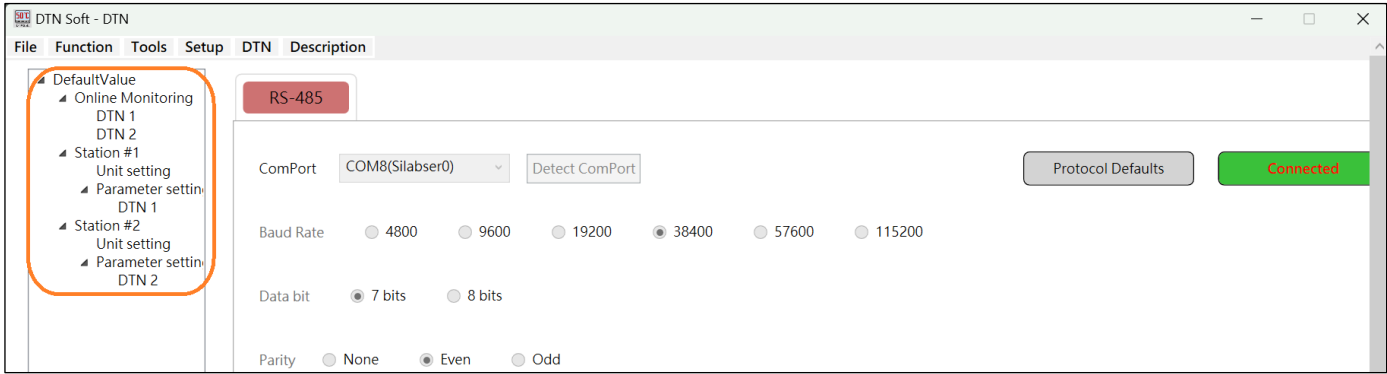
3. Click the [Not Connected] button to start searching for DTN devices.



During communication detection, a progress window will appear (as shown in the left image below). Once the connection is successful, a confirmation message will be displayed (as shown in the right image below).



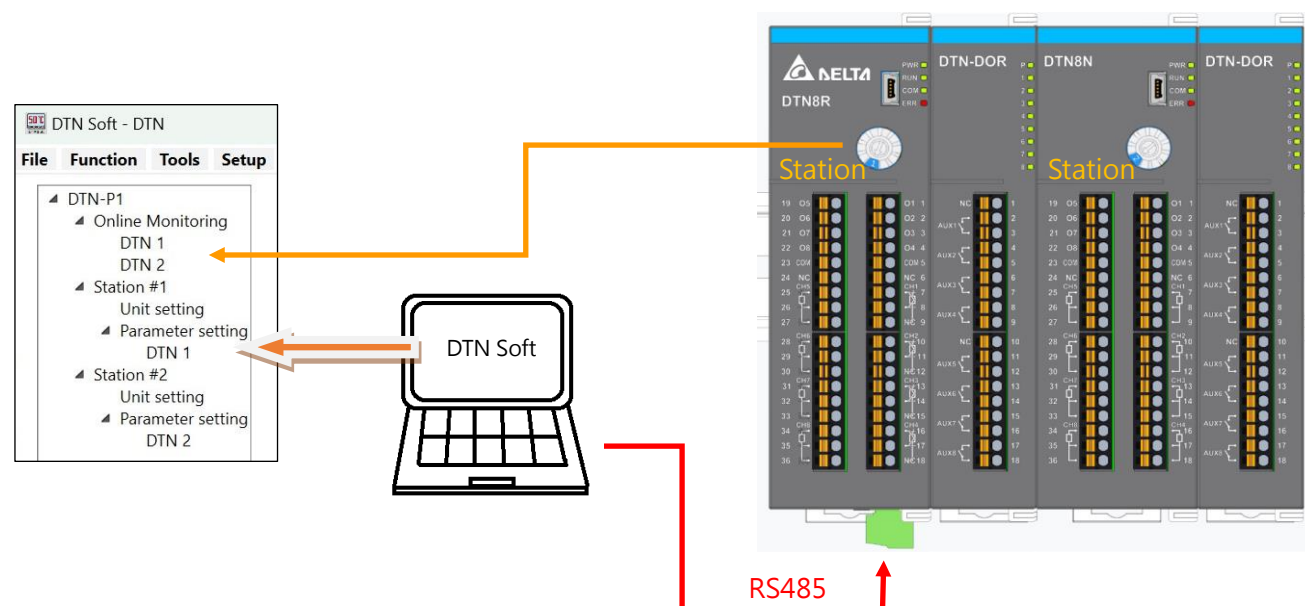
After the scan is complete, the button that previously displayed Communication [Not Connected] will change to [Connected]. This button is also used to disconnect when offline.



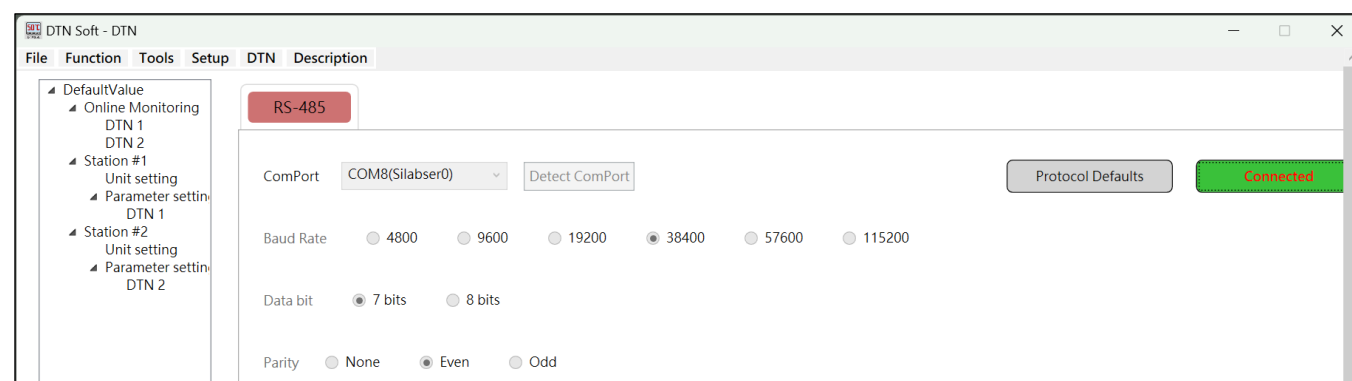
3.5 Status bar settings

Status Bar Description:

The DTN measuring main units (DTN8R, DTN2R, DTN4R) and the measurement expansion unit (DTN8N) each have independent station numbers (must not be duplicated), which are directly set using the rotary switches on the panel. In the example shown below, the units are set to station numbers 1 and 2, respectively. When DTN Soft connects, the status bar will display [DTN1] (Station 1) and [DTN2] (Station 2) as connected.



- 1) [Online Monitoring]: Click on the [Not Connected] button on the right side and enter [Connected] mode to start the configuration.



2) [Online Monitoring] > [DTN1]

In Online Monitoring, click [DTN1] to monitor the parameters of Station 1. In addition to displaying parameter status, the following commonly used parameters can also be set:

[SV], [Run/Stop], [Auto Tuning], [Proportional P], [Integral I], [Derivative D] — a total of six parameters.

To monitor Station 2, click [DTN2]. The display and available parameter settings are the same as for DTN1.

Channel	PV	SV	OUT1 (%)	Control status	AT	O1	O2	ALM1	ALM2	ALM3	PB / Ti / Td
Ch1	29.4 °C	20.0	0.0	Run	OFF						30.0 120 30
Ch2	29.3 °C	20.0	0.1	Run	OFF						30.0 120 30
Ch3	29.2 °C	20.0	100.0	Run	OFF						30.0 120 30
Ch4	29.2 °C	20.0	100.0	Run	OFF						30.0 120 30
Ch5	29.3 °C	20.0	100.0	Run	OFF						30.0 120 30
Ch6	29.3 °C	20.0	100.0	Run	OFF						30.0 120 30
Ch7	29.3 °C	20.0	0.0	Stop	OFF						30.0 120 30
Ch8	29.3 °C	0.0	0.0	Stop	OFF						30.0 120 30

Current status : In the monitoring connection, switched to DTN 1

3) [Station #1] > [Unit Setting]

Station #1 refers to the unit with Station Number 1. In [Unit Setting], you can view the current hardware configuration for Station 1. In the example shown below, Station 1 is using a DTN8R measurement main unit with a DTN-DOR I/O expansion unit.

Internal Station	Type
0	DTN 8R

Host Setting

DTN IO

ID	Type
1	DTN-DOR

Edit Remove

Add Measurement module Add Output module

Current status : Switched to station number 1 Unit setting

4) [Station #1] > [Parameter Setting] > [DTN1]

Click on "DTN1" in the [Parameter Setting] to configure the parameters for Station 1. The available parameter types include [Input], [Output], [Control], [Alarm], and [IO Position].

The screenshot shows the 'DTN Soft - DTN' window. On the left, a sidebar contains a tree view with the following structure:

- Default Value
 - Online Monitoring
 - DTN 1
 - DTN 2
 - Station #1
 - Unit setting
 - Parameter setting
 - DTN 1** (selected)
 - Station #2
 - Unit setting
 - Parameter setting
 - DTN 2

The main area displays the 'Input' tab for DTN1. It features a table with 8 channels (Channel 1 to Channel 8) and 10 parameters. The parameters are:

Parameter Name	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
Input type	K	K	K	K	K	K	K	K
SV upper limit	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0
SV lower limit	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0
Offset	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ggain	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Digital filtering factor	2	2	2	2	2	2	2	2
Digital filtering range	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Channel disable	Enable	Enable	Enable	Enable	Enable	Enable	Enable	Enable
CJC Setting	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.

5) [Station #2] > [Parameter Setting] > [DTN2]

Similar to the description for DTN1, you can click on [DTN2] to configure the parameters for Station 2.

The screenshot shows the 'DTN Soft - DTN' window with the same interface as the previous one, but the sidebar tree view is different:

- Default Value
 - Online Monitoring
 - DTN 1
 - DTN 2
 - Station #1
 - Unit setting
 - Parameter setting
 - DTN 1
 - Station #2
 - Unit setting
 - Parameter setting
 - DTN 2** (selected)

The main area displays the 'Input' tab for DTN2. The table structure and values are identical to the DTN1 configuration shown in the previous screenshot.

Note: When the communication connection is active, any changes to the above parameter settings will be written to the DTN controller in real time.

3.6 Control Parameter Settings

The following describes the various control parameter settings of the DTN temperature controller, including input, output, control, alarm, and I/O expansion modules.

3.6.1 Input Settings

[Input type]: Select according to the type of connected hardware sensor.

[SV upper/lower limit]: Set the usable temperature range.

[Offset/Gain]: Automatically generated after temperature calibration in Section 3.8.3. It can also be set manually.

[Digital filtering factor/range]: Sets input noise filtering. A higher value increases filtering, which slows the response of the displayed input value.

[Channel disable]: When a channel is not in use, it can be disabled to avoid the DTN displaying a “Sensor Not Connected” error message and lighting up the ERR indicator.

[CJC setting]: Choose between internal and external cold junction compensation methods.

	Input	Output	Control	Alarm	IO Position			
Parameter Name	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
Input type	K ▾	K ▾	K ▾	K ▾	K ▾	K ▾	K ▾	K ▾
SV upper limit	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0
SV lower limit	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0
Offset	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ggain	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Digital filtering factor	2	2	2	2	2	2	2	2
Digital filtering range	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Channel disable	Enable ▾	Enable ▾	Enable ▾	Enable ▾	Enable ▾	Enable ▾	Enable ▾	Enable ▾
CJC Setting	Internal C.J. ▾	Internal C.J. ▾	Internal C.J. ▾	Internal C.J. ▾	Internal C.J. ▾	Internal C.J. ▾	Internal C.J. ▾	Internal C.J. ▾

Note: The applicable temperature range varies depending on the type of input sensor. Please refer to Section 3.11.

3.6.2 Output Settings

[Output1 control action]: [MV] indicates that the output percentage is based on the calculation result, while [Proportion] indicates proportional control output.

[Output1 cycle time]: When using PID control, set the cycle time for the control output.

[Output1 upper/ lower limit]: Sets the maximum and minimum output percentage range. For example, if the upper limit is set to 80.0, the output will be limited to 80% even when the calculated output exceeds this value.

[Output reverse setting]: When [Reverse] is selected, the output operates in the reverse direction.

[Sensor fail OUT1 power level]: Sets a fixed output value when the input sensor detects an abnormal condition.

[AO upper/lower limit adjust]: Fine-tunes the reference values for the analog output upper and lower limits. This setting is available only when the output type is analog current (4–20 mA) or voltage (0–10 V).

[Retransmission Type Selection / Update Time / Low Point Corresponding Value / High Point Corresponding Value]: Select [Actual Temperature PV], [Target Temperature SV], or [Control Output MV] as the source. The selected content is periodically output as 4–20 mA or 0–10 V according to the configured update time, mapped to the low/high point values.

For more details, refer to Section 4.3.3 of the DTN Temperature Controller Operation Manual.

Input	Output	Control	Alarm	IO Position				
Parameter Name	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
OUT1 control action	MV ▾	MV ▾	MV ▾	MV ▾	MV ▾	MV ▾	MV ▾	MV ▾
OUT1 cycle time	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
OUT1 upper limit	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
OUT1 lower limit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Output reverse setting	Standard ▾	Standard ▾	Standard ▾	Standard ▾	Standard ▾	Standard ▾	Standard ▾	Standard ▾
Sensor fail OUT1 power level	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AO lower limit adjust	-1	-1	-1	-1	-1	-1	-1	-1
AO upper limit adjust	-1	-1	-1	-1	-1	-1	-1	-1

Retrans Assignment	PV ▾	PV ▾	PV ▾	PV ▾	PV ▾	PV ▾	PV ▾	PV ▾
Retrans Update Time	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Retrans LOW SCALING	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0
Retrans HIGH SCALING	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0

Note: Scrolling down will display more settings and parameter details. DTN supports only one group of single-output control.

3.6.3 Control Settings

[SV (Read/Write)]: Configures the SV value.

[Control mode] and [Auto/Manual Switch] will affect the display of different setting values.

In **[Auto/Manual Switch - Auto]**: (green box and blue box in the figure above)

1. By selecting the PID control mode, you can configure parameters such as proportional band, integral time, derivative time, and others, for control (green box).
2. Choose the ON/OFF control mode. The output sensitivity can be regulated by configuring the hysteresis (blue box).

In **[Auto/Manual Switch - Manual]**: (orange box in the figure above)

Fixed output settings can only be controlled through [Read/Write Manual Output 1].

Refer to Chapter 5 of the [DTN Temperature Controller Operation Manual] for details.

[SV ramp rate/ Slope control time unit]: Relying on the already-set SV value, the system will control the temperature increase gradient until it reaches a fixed temperature.

Set the temperature rise [SV ramp rate] in units of [minutes]/ [seconds] until reaching the SV target value.

[RUN/STOP power on preset]: Set whether the DTN enters the temperature control operation mode directly upon power-on.

Input	Output	Control	Alarm	IO Position				
Parameter Name	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
SV (Read / Write)	50.0	20.0	20.0	20.0	20.0	20.0	20.0	0.0
% OUT1 power (Manual)	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0
% OUT2 power (Manual)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control mode	PID	PID	ON/OFF	PID	PID	PID	PID	PID
Control Action	Heating	Heating	Heating	Heating	Heating	Heating	Heating	Heating
Auto / Manual Switch	Auto	Manual	Auto	Auto	Auto	Auto	Auto	Auto
OUT1 control hysteresis	0	0	0	0	0	0	0	0
OUT2 control hysteresis	0	0	0	0	0	0	0	0
Deadband	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Input	Output	Control	Alarm	IO Position					
SV ramp rate		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Output power offset		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportional band		30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Integral time		120	120	120	120	120	120	120	120
Derivative time		30	30	30	30	30	30	30	30
Proportional band (Cooling)		30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Integral time (Cooling)		120	120	120	120	120	120	120	120
Derivative time (Cooling)		30	30	30	30	30	30	30	30
PID mode selection		Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Slope control time unit		Minute	Minute	Minute	Minute	Minute	Minute	Minute	Minute
RUN/STOP power on preset		Run	Run	Run	Run	Run	Run	Run	Run
Parameter Name									

3.6.4 Alarm Settings

[ALM1 action]: There are a total of 8 operating modes. For detailed information, please refer to Chapter 4.2 of the "DTN Temperature Controller Operation Manual".

[ALM1 Delay]: When an alarm occurs, the system checks whether the alarm condition continues to be met during the delay time. If it is still met, the alarm action is triggered. (Unit: Seconds)

[ALM1 Peak value /ALM 1 max./ ALM 1 min.]: If [Enable] is selected, the highest/lowest values of the alarm will be recorded.

[ALM1 hold]: When an alarm is triggered, the alarm status will be maintained.

[ALM1 invert]: The default mode is normally open (NO). If you select "Enable," it will change to normally closed (NC) mode.

[ALM1 standby]: The alarm function will only be activated after the measured value (PV) first reaches the target value (SV) within a ± 0.1 °C range, in order to prevent the alarm from triggering immediately upon startup.

[ALM1-H/ALM1-L]: In conjunction with the Alarm 1 mode selection, set the upper and lower temperature limits for triggering the alarm.

[ALM2/3] settings: Same as the description for Alarm 1 above.

[Alarm Reset]: Resets the alarm state when an alarm occurs. Must be used together with [Alarm Hold].

Input	Output	Control	Alarm	IO Position					
Parameter Name	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8	
ALM1 action	Dev. high (▾)	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	
ALM1 delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ALM1 peak value	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	
ALM1 hold	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	
ALM1 Invert	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	
ALM1 standby	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	Disable ▾	
ALM1-H	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
ALM1-L	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
ALM1 max.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

ALM1 min.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ALM2 action	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
ALM2 delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ALM2 peak value	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
ALM2 hold	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
ALM2 Invert	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
ALM2 standby	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
ALM2-H	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
ALM2-L	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
ALM2 max.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ALM2 min.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ALM3 action	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
ALM3 delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ALM3 peak value	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
ALM3 hold	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
ALM3 Invert	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
ALM3 standby	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
ALM3-H	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
ALM3-L	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
ALM3 max.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ALM3 min.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alarm reset	Select rese	Select rese	Select rese	Select rese	Select rese	Select rese	Select rese	Select rese

3.6.5 I/O Expansion Slot Assignment - Output & Alarm

Parameter Settings - IO position: Parameter Settings – I/O Expansion Module Slot Assignment: Set the output source and operation mode for the I/O expansion module located on the right side of the measurement main unit.

[Auxiliary Output Source Assignment]: One measurement unit can be connected to only one I/O expansion module (providing 8 auxiliary outputs), which can be freely defined by the user.

1. Enables one-to-many control, for example assigning all 8 auxiliary output points to serve as the control output of CH1 simultaneously.
 2. Each channel can be configured with up to 1 control output and 3 alarm outputs. A maximum of 4 auxiliary outputs can be assigned to a single channel (e.g., CH1, as shown in the green and orange boxes below). Alternatively, 1 auxiliary output group can be assigned to another channel (e.g., CH2, as shown in the blue box below).
- Since the DTN main measurement unit provides V (DC voltage), C (linear current), and L (linear voltage) as the available output options, if you want to use R (relay) as the output, you need to select "MV" in the "Auxiliary Out Assignment" to use this I/O point as the main unit control output.

[Auxiliary Out Assignment]: Sets the I/O contacts for each function. [MV], [ALM1], [ALM2], and [ALM3] are available for selection.

[Auxiliary Out Period]: When the control output selection is set to "MV" (and it is PID control), you can set the control cycle for the control output.

[Auxiliary Out Max/Min]: When the control output mode is set to MV, configures the maximum/minimum output range for the output percentage. For example, setting the upper limit to 80.0 means that when the calculated output exceeds 80%, it will still be limited to 80% as the output.

[Auxiliary output reverse setting]: The default mode is normally open (NO). If you select "Reverse", it will change to normally closed (NC) mode.

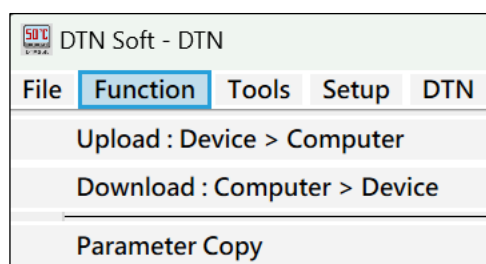
Input	Output	Control	Alarm	IO Position				
Parameter Name	Aux CH 1	Aux CH 2	Aux CH 3	Aux CH 4	Aux CH 5	Aux CH 6	Aux CH 7	Aux CH 8
Auxiliary specified position	CH1 ▾	CH1 ▾	CH1 ▾	CH1 ▾	CH2 ▾	CH6 ▾	CH7 ▾	CH8 ▾
Auxiliary Out Assignment	MV1 ▾	ALM1 ▾	ALM2 ▾	ALM3 ▾	ALM1 ▾	Disable ▾	Disable ▾	Disable ▾
Auxiliary Out Period	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Auxiliary Out Max	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Auxiliary Out Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Auxiliary output reverse setting	Standard ▾	Standard ▾	Standard ▾	Standard ▾	Standard ▾	Standard ▾	Standard ▾	Standard ▾

3.7 Toolbar > [Function] Functions

After DTN Soft establishes a communication connection with the DTN, it directly enters monitoring mode, and all settings are immediately written to the DTN controller.\

To perform upload or download operations, the communication must first be disconnected to enter offline mode. Only in offline mode can functions such as upload, download, parameter copying, adding units, and unit configuration be performed. When the upload or download process actually begins, the DTN will automatically reconnect. Users can use the upload, download, and parameter copy functions to replicate settings across multiple devices, saving significant time.

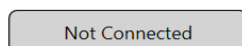
The [Function] option offers the following 3 operations.



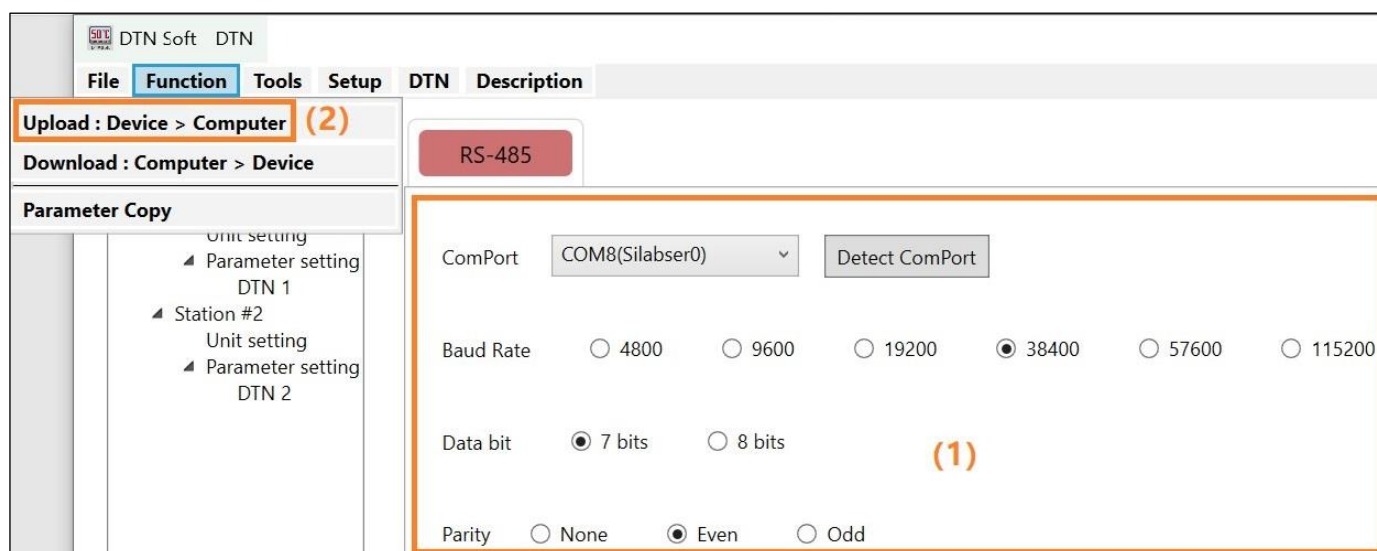
3.7.1 Upload / Download

The configuration steps are as follows:

- 1) First, set up the communication protocol. This needs to be done in the "Not Connected" state.



- 2) Click "Upload: Device -> Computer" to start uploading the DTN configuration parameters to the PC.



Name	Function	Remark
Upload: Device → Computer	Upload the DTN data to the software interface on the computer.	
Download: Computer → Device	Download the parameters configured in the computer software interface to the DTN.	When downloading, each Station ID of the "online configuration" must have a corresponding Station ID in the project in order to proceed with the download (even if only some of the machines are being downloaded).
Copy parameters	Copy across channels/units based on parameter types.	

Note: The online configuration represents the main measurement unit and measurement expansion modules included in each machine.

3) Displays the upload progress window.

The screenshot shows the RS-485 configuration window. At the top, there's a red tab labeled "RS-485". Below it, the "ComPort" is set to "COM8(Silabser0)" with a "Detect ComPort" button. The "Baud Rate" is set to "38400" (selected among 4800, 9600, 19200, 38400, 57600, 115200). The "Data bit" is set to "7 bits" (selected among 7 bits, 8 bits). The "Parity" is set to "Even" (selected among None, Even, Odd). The "Stop bit" is set to "1 bit" (selected among 1 bit, 2 bits). A "Progress prompt" dialog box is overlaid on the settings, showing "Scanning, please wait ..." with a green progress bar and a "Discontinue" button.

After the upload search is completed, for example, the system may display that two DTN measurement units have been found, corresponding to Station 1 and Station 2.

The screenshot shows the "Online Configuration" dialog box. It has a title bar "Upload : Device > Computer" and a close button. The main area is titled "Online Configuration" and contains a list of units: "1-0" and "2-0", both of which are checked. At the bottom, there are "OK" and "Cancel" buttons.

Click DTN1 and DTN2 respectively to start configuring parameters in offline mode.

DTN Soft - DTN

FileFunctionToolsSetupDTNDescription

Default Value

- Online Monitoring
 - DTN 1
 - DTN 2
- Station #1
 - Unit setting
 - Parameter setting
 - DTN 1
- Station #2
 - Unit setting
 - Parameter setting
 - DTN 2

InputOutputControlAlarmIO Position

Parameter Name	Channel 1	Channel 2	Channel 3	Channel 4
OUT1 control action	MV	MV	MV	MV
OUT1 cycle time	4.0	4.0	4.0	4.0
OUT1 upper limit	100.0	100.0	100.0	100.0
OUT1 lower limit	0.0	0.0	0.0	0.0

- 4) After performing [Offline Modification of Project] or [Open Project] as mentioned above, if you want to download the project to the DTN, you can select [Download: Computer -> Device].

3.7.2 Parameter Copying

The following 2 copy methods are provided:

- 1. Copying of configuration parameters between different channels in the same main unit.
 - First, select the [CH To CH] option, then choose the source DTN main unit [Modbus Station Number] and the source [Channel] whose parameters will be copied.
 - Select the [Target] channels to which the parameters will be copied and choose the [Parameter Type] to copy. After making the selections, click the OK button to proceed.

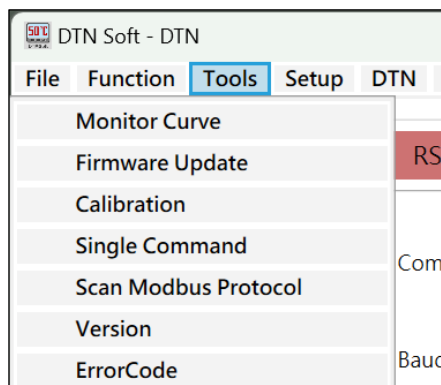
The 'Parameter Copy' dialog box has two tabs: 'CH To CH' (selected) and 'Unit To Unit'. Under 'CH To CH', there are three dropdown menus: 'Modbus Station' (set to 1), 'Internal Station' (set to 0), and 'Channel' (set to 1). Below these, there is a 'Target' list with checkboxes for Ch 2, Ch 3, Ch 4, Ch 5, Ch 6, Ch 7, and Ch 8. Ch 2 and Ch 3 are checked. To the right of the 'Target' list is a 'Parameter Type' section with checkboxes for 'Input', 'Output', 'Control', and 'Alarm'. 'Input' and 'Control' are checked, with 'Control' highlighted in blue. At the bottom are 'OK' and 'Cancel' buttons.

- 2. Copying parameters between different main units (i.e., different station numbers).
 - First, select the [Unit To Unit] option, then choose the source DTN main unit [Modbus Station].
 - Next, select the target station numbers to which the parameters will be copied. After making the selections, click the OK button to proceed.

The 'Parameter Copy' dialog box has two tabs: 'CH To CH' and 'Unit To Unit' (selected). Under 'Unit To Unit', there are two dropdown menus: 'Modbus Station' (set to 1) and 'Internal Station' (set to 0). Below these, there is a 'Target' list with a checkbox for '2', which is checked. At the bottom are 'OK' and 'Cancel' buttons.

3.8 Toolbar > [Tools] Functions

The [Tools] option offers the 7 following operations.

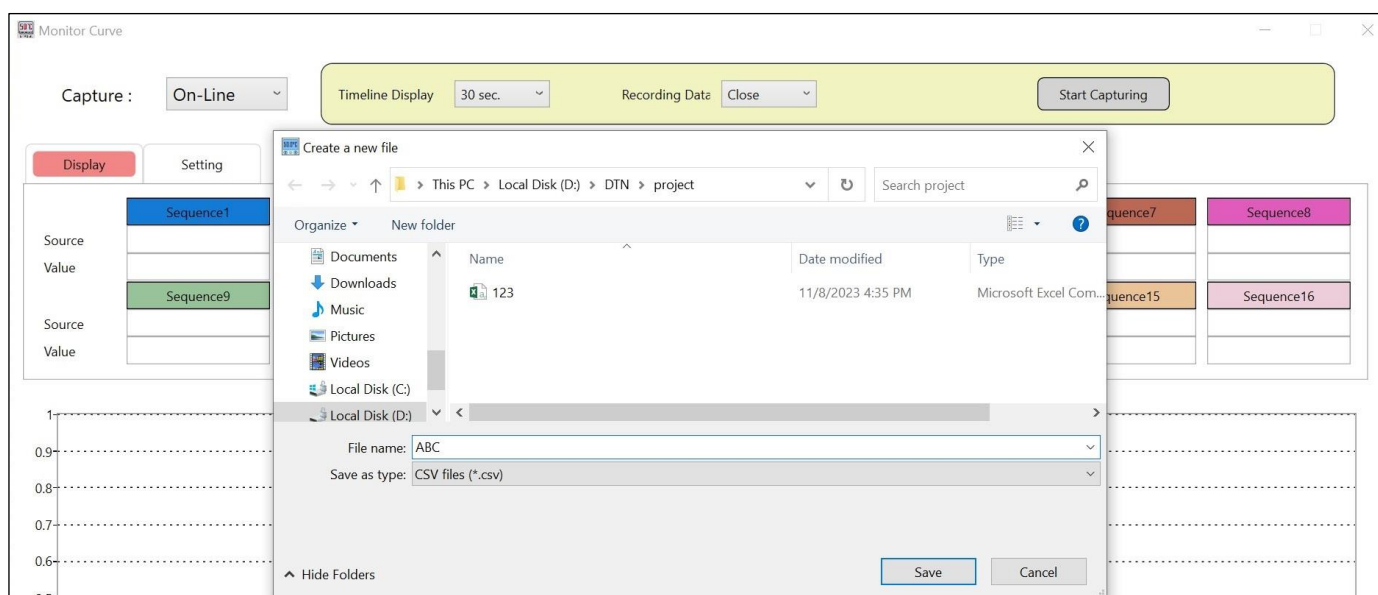


Name	Function
Monitor Curve	Select the required values to draw/record its graph.
Firmware Update	Use the RS485 interface to update firmware.
Calibration	Automatic calculation of the temperature error adjustment gain value
Single command	Manually input the Modbus communication address to conduct a single communication test.
Scan Modbus Protocol	Search for the selected communication format when offline.
Version	Check the current firmware version of all machines
Error Code	Check the actual error condition of the error status.

3.8.1 Monitor curve

Used to monitor the parameter values of the selected channel in real-time and record them for saving.

- 1) First, select [Open] for the [Recording Data] option. This will display the save dialog box where you can set the data storage location in CSV file format.



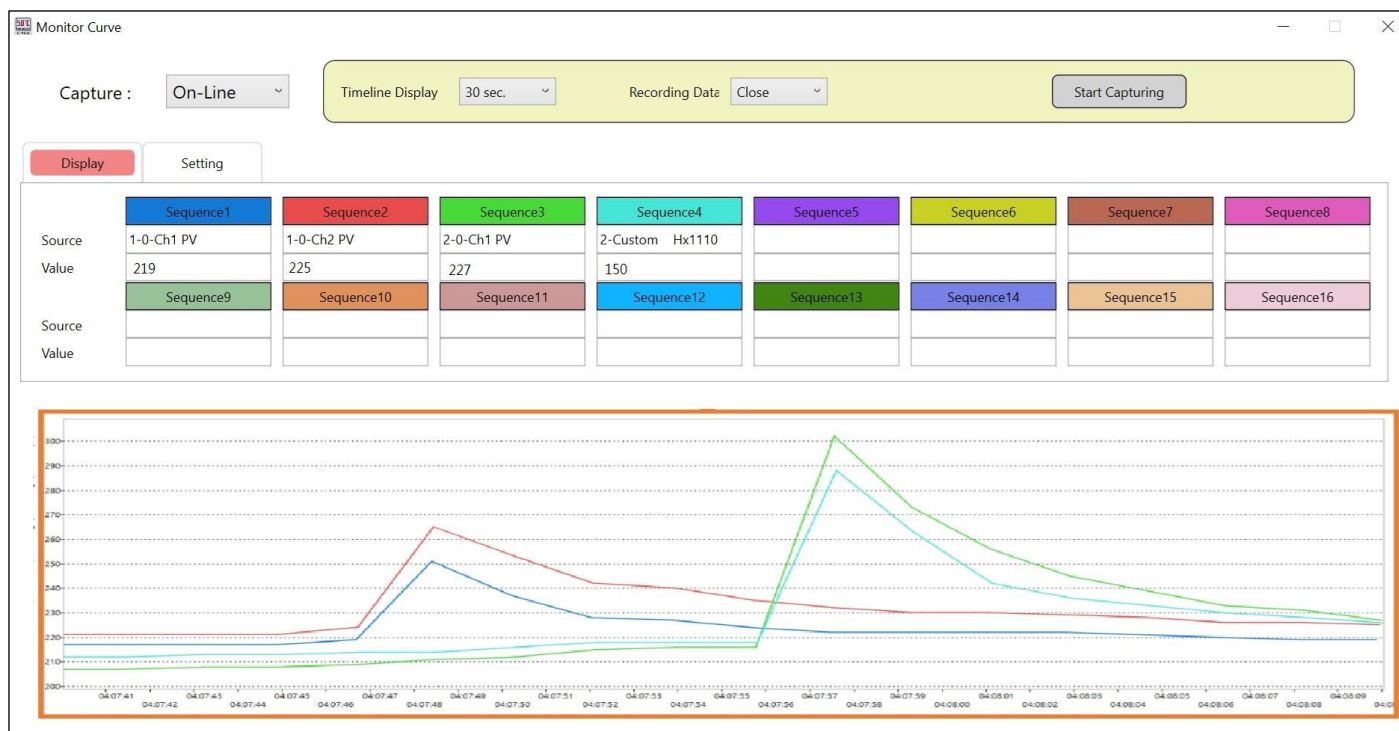
2) Start configuring the data to be monitored.

Step 1: Select [On-Line] first.

Step 2: Define the parameters to be monitored by selecting [Setting] (provides 16 sequences for monitoring settings).

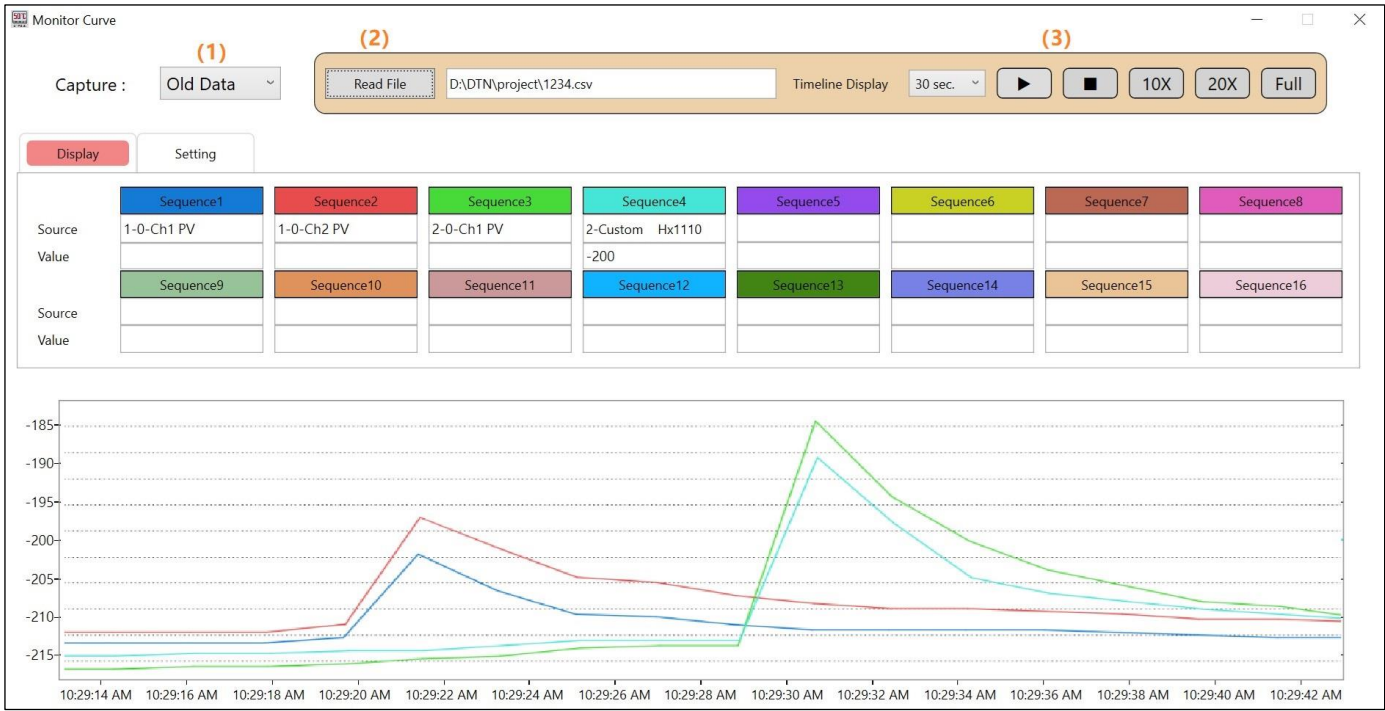
- For example, [Sequence1]: Configure monitoring station 1, channel 1, and PV value.
- For example, [Sequence2]: Configure monitoring station 1, channel 2 (different channel of the same DTN), and PV value.
- For example, [Sequence3]: Configure monitoring station 2 (different DTN), channel 1, and PV value.
- For example, [Sequence4]: Configure monitoring station 2, channel 1 (same as Sequence 3), and custom 1110 (communication register position).

3) When [Display] is selected, the monitoring curves will be displayed in different colors.



4) Allows previously saved data to be played back for historical review.

- Step 1: Select [Old Data] first.
- Step 2: Select [Read File] to open the saved CSV file.
- Step 3: Perform play, pause, 10X/20X fast forward.

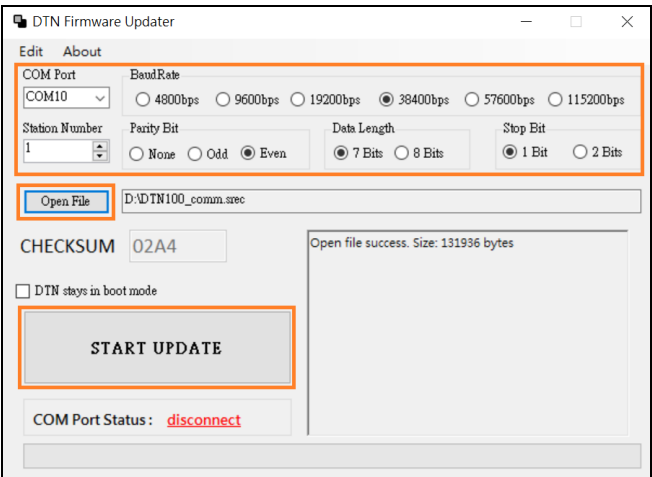


3.8.2 Firmware Update

When the DTN main unit has new features, a function upgrade can be performed via the RS-485 interface using the [Firmware Update] function. A firmware file specific to the DTN main unit is required for the update. Generally, users should not perform the upgrade themselves and should contact local product distributors for assistance.

Update procedure:

- 1) Configure COM port, station ID, and protocol.
- 2) Open the DTN-exclusive firmware file through [Open File].
- 3) Click [START UPDATE] to begin update.



3.8.3 Calibration

Click on [Tools] in the top-left menu and select [Calibration]. A window will then appear as shown in the figure on the lower left.

Calibration

Modbus Static1

	After Calibration (Meter)	Calibration (DTM)
Channel 1 - A Point	32	30
Channel 1 - B Point	105	100
Channel 2 - A Point	Not Corrected	Not Corrected
Channel 2 - B Point	Not Corrected	Not Corrected
Channel 3 - A Point	Not Corrected	Not Corrected
Channel 3 - B Point	Not Corrected	Not Corrected

ClearanceWrite

Temperature calibration involves comparing the temperature values measured by the temperature controller channel itself with the temperature values measured by a third-party device at the same location. After a two-point comparison, the error and gain values are automatically calculated and written into the DTN parameters.

For example: When the temperature displayed on Channel 1-A of the temperature controller is 30°C and the third-party measurement reads 32°C, and when the temperature displayed on Channel 1-B of the temperature controller is 100°C and the third-party measurement reads 105°C, simply input the respective values into the corresponding fields.

If a second calibration is required, the field for “Controller Display Temperature” must be filled in with the PV value measured after the first calibration.

Calibration

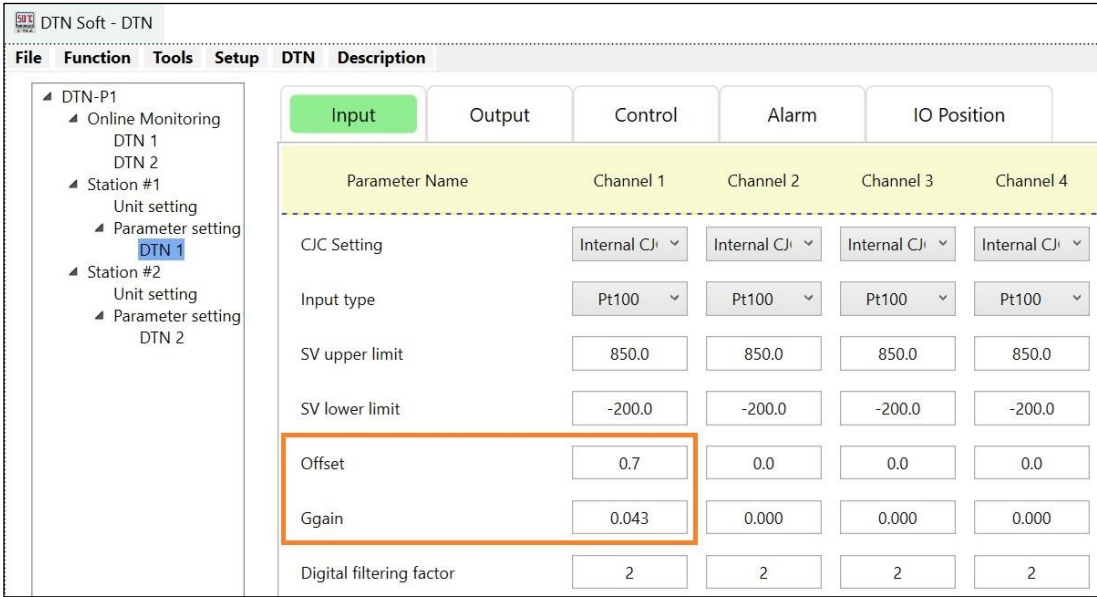
Modbus Static1

	After Calibration (Meter)	Calibration (DTM)
Channel 1 - A Point	32	31.5
Channel 1 - B Point	105	104
Channel 2 - A Point	Not Corrected	Not Corrected
Channel 2 - B Point	Not Corrected	Not Corrected
Channel 3 - A Point	Not Corrected	Not Corrected
Channel 3 - B Point	Not Corrected	Not Corrected

ClearanceWrite

For example:
When the temperature is calibrated from 30°C to 31.5°C, the third-party measurement reads 32°C.
When the temperature is calibrated from 100°C to 104°C, the third-party measurement reads 105°C.
When the temperature displayed on Channel 1-A of the temperature controller is 31.5 °C and the third-party measurement reads 32°C, and when the temperature displayed on Channel 1-B of the temperature controller is 104°C and the third-party measurement reads 105°C, input the respective values into the corresponding fields.

After entering the temperature calibration values, click on [Write], and the UI will automatically calculate the [Offset /Gain] values and write them directly to the registers of the DTN.



3.8.4 Single Command

The user can manually input the Modbus communication address to conduct a single communication test. A

communication connection must be established before use.



- 1) Address: Set the DTN Station ID for communication.
- 2) Function: Divided into [Read (03)], [Write (06)], [Multi (10)], [Bit Read (02)], and [Bit Write (05)].

Single instruction (hexadecimal format)

Address:

Function:

Register:

Word Count:

LRC:

- 3) Register: Enter the DTN parameter communication address. For example, to read the PV value of CH1, please enter 1000.
- 4) Word Count: Supports the reading of up to 16 data entries. (This display content will change depending on the selected [Communication Command])
- 5) LRC: Automatically calculated and generated by the software.
- 6) Send: Automatically generated by the software according to the settings above.
- 7) Receive: When the [Send] button is pressed, the software will return and display the result according to the DTN.
 - Since the number of entries read is 2, 0110 corresponds to the PV value of CH1. Since the Modbus string is in hexadecimal format, the hexadecimal value 0110 is equivalent to the decimal value 272. Therefore, it represents that the PV value of CH1 is 27.2°C.
 - For example, to write the SV value of CH1 as 150.0°C, since the decimal value 1500 is equivalent to the hexadecimal value 5DC, you would need to enter 5DC as the value to be written.

Single instruction (hexadecimal format)

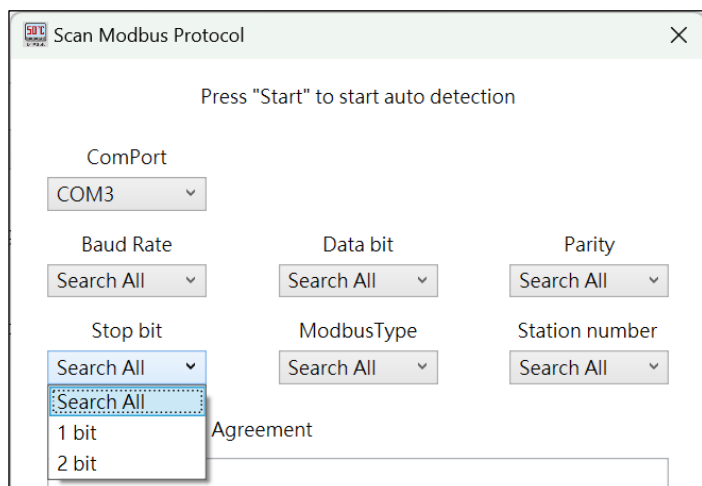
Address	1
Function	Read (03)
Register	1000
Word Count	2
LRC	EA
Send	:010310000002EA
Receive	:010304011000FEE9



3.8.5 Communication Protocol Detection

When unsure of the current communication settings of the DTN, you can use this communication tool for detection.

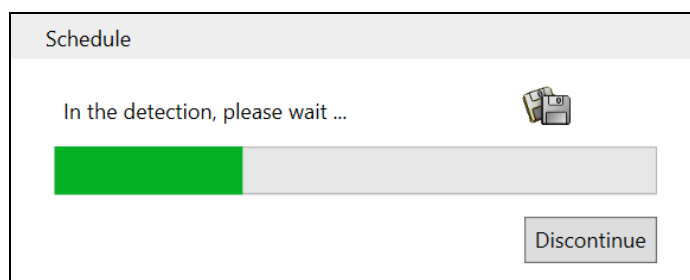
- 1) First, select the [ComPort], and then sequentially select the communication protocol parameters you want to search.
The more items you search for, the longer the search time will be.



Press "Start" to start auto detection

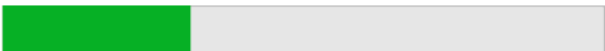
ComPort	COM3	
Baud Rate	Data bit	Parity
Search All	Search All	Search All
Stop bit	ModbusType	Station number
Search All	Search All	Search All
1 bit	Agreement	
2 bit		

- 2) Click [Start] to begin the search. The detection progress will be displayed.



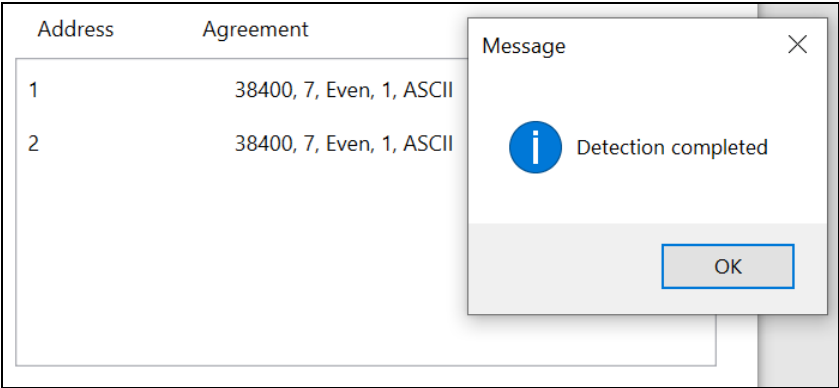
Schedule

In the detection, please wait ...





3) After the search is completed, the found DTN station numbers and the used communication protocols will be displayed.



3.8.6 Firmware Version Detection

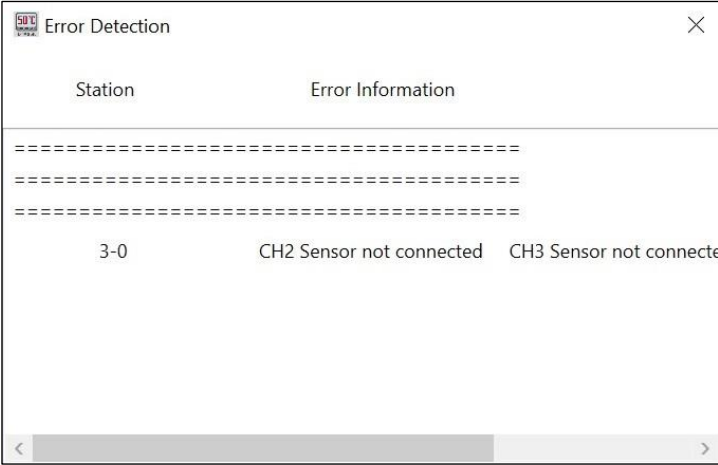
Displays the firmware version of all DTN measurement units for the current station IDs.

Firmware Version Detection		
Station	Model	Firmware Versio
=====		
1	DTN8R TC	0.90
=====		
2	DTN8N TC	1.40

3.8.7 Error Detection

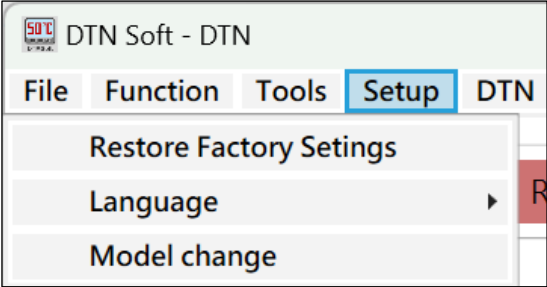
When an abnormal error occurs in any DTN measurement unit across all station numbers, the cause of the abnormality will be displayed.

Example: If channels CH2–CH4 are not correctly connected to the input sensors, the abnormal information will be shown accordingly.



3.9 Toolbar > [Setup] Functions

The [Setup] option provides the following four functions.



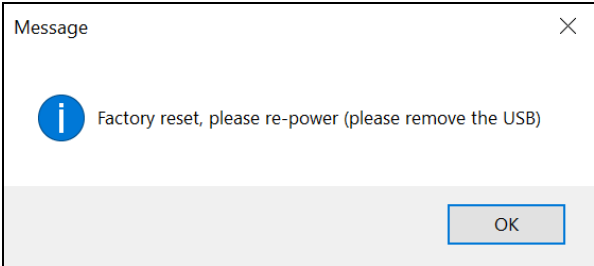
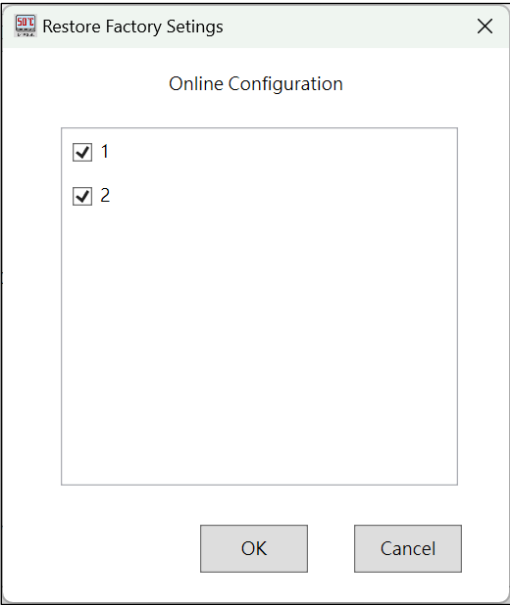
3.9.1 Restore Factory Settings

You can select the unit to restore to factory settings. After restoring, the parameters will return to the default factory configuration. It is recommended to check whether the project has been saved before executing the restore operation.

- 1) First establish [Communication Connection].
- 2) Choose [Settings] > [Restore Factory Settings]

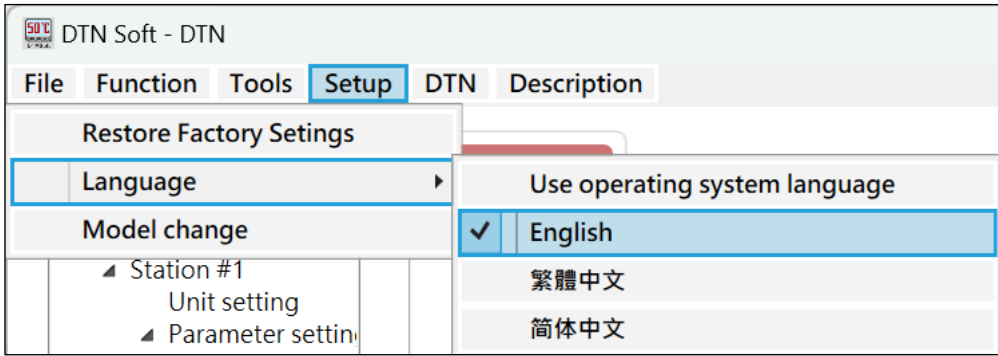


- 3) The screen will display the connected DTN main unit station numbers. Select the DTN units to restore to factory settings, and click the OK button to execute.



3.9.2 Language

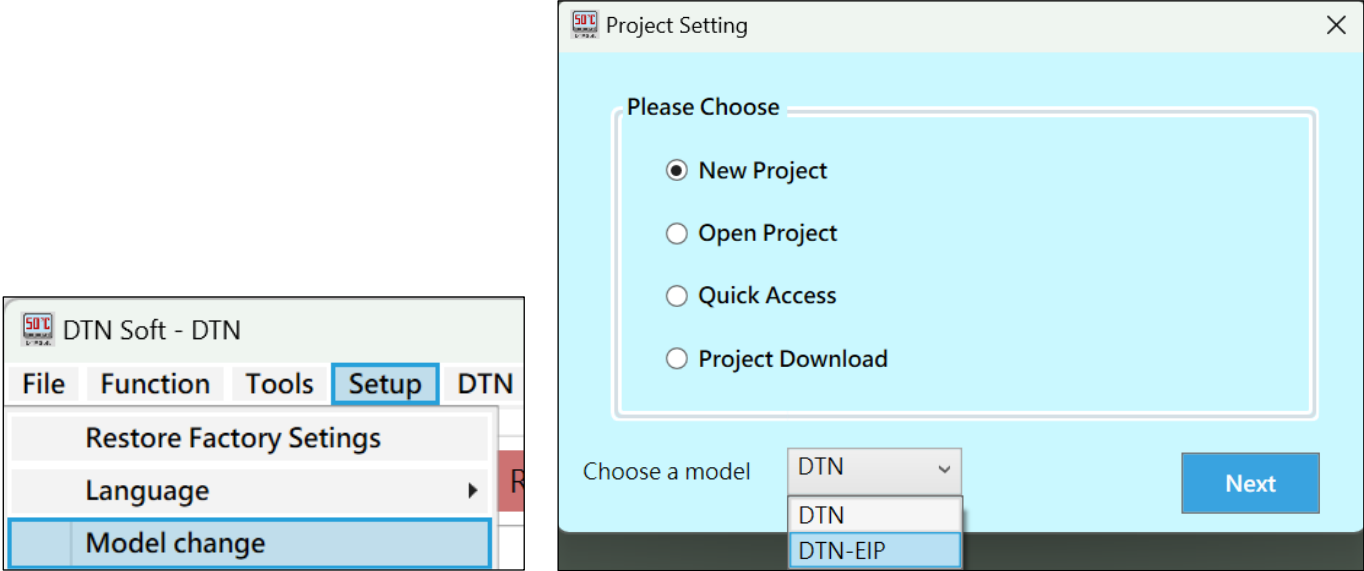
Select the language interface of the software. Once you confirm your selection, the software will change its language interface upon restart.



3.9.3 Model Change

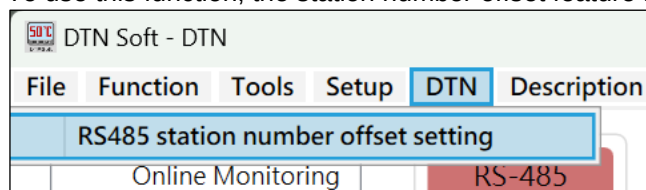
Since the software supports both DTN and DTN-EIP models, switching between models will automatically close and reopen the software.

After the software restarts, you can manually select DTN before proceeding.

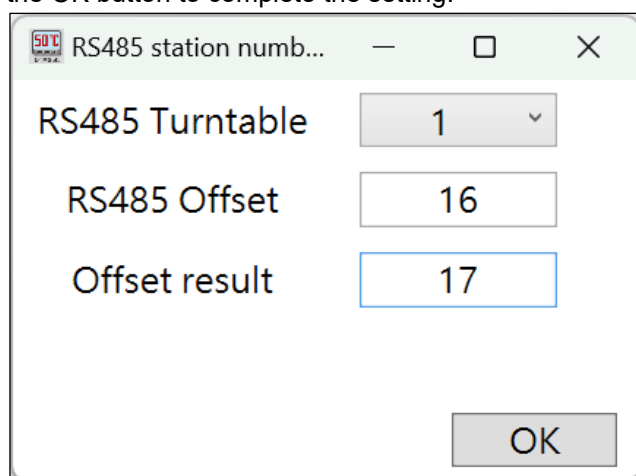


3.10 Toolbar > [DTN] Function

The [DTN] option provides [RS-485 Station Number Offset Setting]. When DIP switch 8 is set to ON, the station number offset is fixed at +64. The [RS-485 Station Number Offset Setting] allows the user to set a custom offset value. To use this function, the station number offset feature must be enabled, and DIP switch 8 must be set to ON.



After clicking [RS-485 Station Number Offset Setting], the following dialog box appears. [RS-485 Turntable] automatically displays the current station number of the measurement main unit. [RS-485 Offset] allows the user to set a custom offset value. [Offset Result] shows the station number of the measurement main unit after the system calculates the offset. Click the OK button to complete the setting.



3.11 DTN Temperature Controller Operating Parameters

3.11.1 Temperature Sensor Type and Temperature Range

Input sensor type	Communications register value	Temperature range	Input sensor type	Communications register value	Temperature range
Thermocouple K type	0	-200 ~ 1300°C	Thermocouple L type	8	-200 ~ 850°C
Thermocouple J type	1	-100 ~ 1200°C	Thermocouple U type	9	-200 ~ 500°C
Thermocouple T type	2	-200 ~ 400°C	Thermocouple TXK type	10	-150 ~ 800°C
Thermocouple E type	3	0 ~ 600°C	Platinum measurement resistance (JPt100)	11	-20 ~ 400°C
Thermocouple N type	4	-200 ~ 1300°C	Platinum measurement resistance (Pt100)	12	-200 ~ 850°C
Thermocouple R type	5	0 ~ 1700°C	Resistance temperature sensor (Ni120)	13	-80 ~ 300°C
Thermocouple S type	6	0 ~ 1700°C	Resistance temperature sensor (Cu50)	14	-50 ~ 150°C
Thermocouple B type	7	100 ~ 1800°C			

3.11.2 DTN Communications Registers

1. Before turning on power to the main unit, first set the DIP switches, main unit dial Station IDs, and all expansion module dial Station IDs.
2. Supports the transmission rates of 4800, 9600, 19200, 38400, 57600, and 115200bps. For detailed information about the communication format, please refer to the communication parameter hardware settings.
3. Functions: H03 = Read the contents of a register, up to 64 words. H06 = Write a single word to a register. H10 = Write multiple words to a register, up to 64 words.
4. The following register is expressed in hexadecimal.
5. For detailed information about the registers, please refer to the online version of the DTN product user manual. *Please download from the Delta website: www.deltaww.com/*

Name	Description	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
PV current temperature value/input error code	Takes 0.1 as measurement units See the error codes below for details	1000H	1001H	1002H	1003H	1004H	1005H	1006H	1007H
SV temperature configured value	Takes 0.1 as measurement units	1008H	1009H	100AH	100BH	100CH	100DH	100EH	100FH
Output 1 Operating value	MV1	1010H	1011H	1012H	1013H	1014H	1015H	1016H	1017H
Run/stop	0: Stop; 1: Run	1020H	1021H	1022H	1023H	1024H	1025H	1026H	1027H
Auto-tuning	0: Stop; 1: Executing	1028H	1029H	102AH	102BH	102CH	102DH	102EH	102FH
Manual switching	0: Automatic; 1: Manual	1030H	1031H	1032H	1033H	1034H	1035H	1036H	1037H
Slope setting	Unit: 0.1°C /min. Range: 0 ~ 3,000	1038H	1039H	103AH	103BH	103CH	103DH	103EH	103FH
Input channel status	on = 1; off = 0 Bit7: Auto-tuning; Bit6: Output 1 Bit5: Output 2; Bit4: Alarm 1 Bit3: °F; Bit2: °C Bit1: Alarm 2; Bit0: Alarm 3	1040H	1041H	1042H	1043H	1044H	1045H	1046H	1047H
Input sensor type	Input function comparisons	1100H	1101H	1102H	1103H	1104H	1105H	1106H	1107H
Upper limit of SV configured value	Range: SV lower limit ~ upper limit of input range	1108H	1109H	110AH	110BH	110CH	110DH	110EH	110FH
Lower limit of SV configured value	Range: Lower limit of input range ~ SV upper limit	1110H	1111H	1112H	1113H	1114H	1115H	1116H	1117H
Temperature filter factor	Range: 0 ~ 50; Default: 8	1118H	1119H	111AH	111BH	111CH	111DH	111EH	111FH

Name	Description	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature filter range	Unit: 0.1°C; Range: 1 ~ 100 Default: 10(1.0°C)	1120H	1121H	1122H	1123H	1124H	1125H	1126H	1127H
Temperature error offset value	Unit: 0.1°C Range: -999 ~ +999	1128H	1129H	112AH	112BH	112CH	112DH	112EH	112FH
Temperature error gain value	Range: -999 ~ +999	1130H	1131H	1132H	1133H	1134H	1135H	1136H	1137H
Cold junction compensation selection	0: Enabled; 1: Disable	1138H	1139H	113AH	113BH	113CH	113DH	113EH	113FH
Output 1 Function distribution	0: MV1; 1: Proportional output	1200H	1201H	1202H	1203H	1204H	1205H	1206H	1207H
Output 1 Control cycle	1~600 (0.1 ~ 60.0 seconds)	1208H	1209H	120AH	120BH	120CH	120DH	120EH	120FH
Control output 1 Upper limit Settings	Lower limit of control output setting ~ 100%. The unit is 0.1%.	1210H	1211H	1212H	1213H	1214H	1215H	1216H	1217H
Control output 1 Lower limit settings	0 ~ % of upper limit of control output setting. The unit is 0.1%	1218H	1219H	121AH	121BH	121CH	121DH	121EH	121FH
Fine adjustment of analog output lower limit	Current (4~20mA) or voltage output adjustment	1220H	1221H	1222H	1223H	1224H	1225H	1226H	1227H
Fine adjustment of the analog output upper limit	Current (4~20mA) or voltage output adjustment	1228H	1229H	122AH	122BH	122CH	122DH	122EH	122FH
Retransmission the selected type	0: PV; 1: SV; 2: MV	1230H	1231H	1232H	1233H	1234H	1235H	1236H	1237H
Retransmission the update time	0~2500 (0~250.0 seconds)	1238H	1239H	123AH	123BH	123CH	123DH	123EH	123FH
Retransmission the value corresponding to the low point		1240H	1241H	1242H	1243H	1244H	1245H	1246H	1247H
Retransmission the corresponding value of the high point		1248H	1249H	124AH	124BH	124CH	124DH	124EH	124FH
Assignment of auxiliary output sources	0~7 (CH1~CH8)	1250H	1251H	1252H	1253H	1254H	1255H	1256H	1257H
Assignment of auxiliary output functions	0: MV1; 2: Proportional output; 3: Alarm 1; 4: Alarm 2; 5: Alarm 3	1258H	1259H	125AH	125BH	125CH	125DH	125EH	125FH
Auxiliary output control cycle	1~600 (0.1 ~ 60.0 seconds)	1260H	1261H	1262H	1263H	1264H	1265H	1266H	1267H
Auxiliary output upper limit settings	Lower limit of control output setting ~ 100%. The unit is 0.1%.	1268H	1269H	126AH	126BH	126CH	126DH	126EH	126FH

Name	Description	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Auxiliary output lower limit settings	0 ~ % of upper limit of control output setting. The unit is 0.1%	1270H	1271H	1272H	1273H	1274H	1275H	1276H	1277H
Alarm 1 Mode	For details, refer to alarm output mode options.	1300H	1301H	1302H	1303H	1304H	1305H	1306H	1307H
Alarm 1 Delay setting	Unit: Seconds. Setting range: 0~100	1308H	1309H	130AH	130BH	130CH	130DH	130EH	130FH
Alarm 1 Function settings	Bit3: Peak record; Bit2: Hold enable; Bit1: Output reverse; Bit0: Enabling standby functions	1310H	1311H	1312H	1313H	1314H	1315H	1316H	1317H
Alarm 1 Upper limit alarm	Alarm triggered when temperature exceeds upper limit	1318H	1319H	131AH	131BH	131CH	131DH	131EH	131FH
Alarm 1 Lower limit alarm	Alarm triggered when temperature exceeds lower limit	1320H	1321H	1322H	1323H	1324H	1325H	1326H	1327H
Alarm 2 Mode	For details, refer to alarm output mode options.	1338H	1339H	133AH	133BH	133CH	133DH	133EH	133FH
Alarm 2 Delay setting	Unit: Seconds. Setting range: 0~100	1340H	1341H	1342H	1343H	1344H	1345H	1346H	1347H
Alarm 2 Function settings	Bit3: Peak record; Bit2: Hold enable; Bit1: Output reverse; Bit0: Enabling standby functions	1348H	1349H	134AH	134BH	134CH	134DH	134EH	134FH
Alarm 2 Upper limit alarm	Alarm triggered when temperature exceeds upper limit	1350H	1351H	1352H	1353H	1354H	1355H	1356H	1357H
Alarm 2 Lower limit alarm	Alarm triggered when temperature exceeds lower limit	1358H	1359H	135AH	135BH	135CH	135DH	135EH	135FH
Alarm 3 Mode	For details, refer to alarm output mode options.	1370H	1371H	1372H	1373H	1374H	1375H	1376H	1377H
Alarm 3 Delay setting	Unit: Seconds. Setting range: 0~100	1378H	1379H	137AH	137BH	137CH	137DH	137EH	137FH
Alarm 3 Function settings	Bit3: Peak record; Bit2: Hold enable; Bit1: Output reverse; Bit0: Enabling standby functions	1380H	1381H	1382H	1383H	1384H	1385H	1386H	1387H
Alarm 3 Upper limit alarm	Alarm triggered when temperature exceeds upper limit	1388H	1389H	138AH	138BH	138CH	138DH	138EH	138FH
Alarm 3 Lower limit alarm	Alarm triggered when temperature exceeds lower limit	1390H	1391H	1392H	1393H	1394H	1395H	1396H	1397H
Alarm reset settings	b0: Alarm1; b1: Alarm2; b2: Alarm3	13A8H	13A9H	13AAH	13ABH	13ACH	13ADH	13AEH	13AFH
Alarm 1 Highest peak	Records highest alarm value	13B0H	13B1H	13B2H	13B3H	13B4H	13B5H	13B6H	13B7H
Alarm 1 Lowest peak	Records lowest alarm value	13B8H	13B9H	13BAH	13BBH	13BCH	13BDH	13BEH	13BFH

Name	Description	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Alarm 2 Highest peak	Records highest alarm value	13C0H	13C1H	13C2H	13C3H	13C4H	13C5H	13C6H	13C7H
Alarm 2 Lowest peak	Records lowest alarm value	13C8H	13C9H	13CAH	13CBH	13CCH	13CDH	13CEH	13CFH
Alarm 3 Highest peak	Records highest alarm value	13D0H	13D1H	13D2H	13D3H	13D4H	13D5H	13D6H	13D7H
Alarm 3 Lowest peak	Records lowest alarm value	13D8H	13D9H	13DAH	13DBH	13DCH	13DDH	13DEH	13DFH
Control method	0: PID; 1: ON-OFF	1400H	1401H	1402H	1403H	1404H	1405H	1406H	1407H
Control actions	0 = heating; 1 = cooling	1408H	1409H	140AH	140BH	140CH	140DH	140EH	140FH
PID mode options	0: Standard; 1: Fast	1410H	1411H	1412H	1413H	1414H	1415H	1416H	1417H
Proportional control error compensation value. Ti = 0 hour setting	0.0 ~ 100.0%; Unit: 0.1%	1430H	1431H	1432H	1433H	1434H	1435H	1436H	1437H
ON-OFF heating hysteresis adjustment	Unit: 0.1 (PV measurement unit) Range: 0 ~ 9,999	1440H	1441H	1442H	1443H	1444H	1445H	1446H	1447H
Read manual output 1 Operating value	Unit: 0.1%	1450H	1451H	1452H	1453H	1454H	1455H	1456H	1457H
Read manual output 2 Operating value	Unit: 0.1%	1458H	1459H	145AH	145BH	145CH	145DH	145EH	145FH
Output 1 when PV is abnormal Operating value	Unit: 0.1%	1460H	1461H	1462H	1463H	1464H	1465H	1466H	1467H
Output 2 when PV is abnormal Operating value	Unit: 0.1%	1468H	1469H	146AH	146BH	146CH	146DH	146EH	146FH
Proportional band	Unit: 0.1 (°C or °F) Range: 0 ~ 9,999	1500H	1508H	1510H	1518H	1520H	1528H	1530H	1538H
Integration time	Unit: Second; Range: 0 ~ 9,999	1501H	1509H	1511H	1519H	1521H	1529H	1531H	1539H
Derivative time	Unit: Second; Range: 0 ~ 9,999	1502H	150AH	1512H	151AH	1522H	152AH	1532H	153AH

Name	Position	Min. value	Max. value	Default:	Access method	Description
Firmware version	2000H				Read Only	
Temperature units	2020H	0	1	1	Read/Write	0 = °F; 1 = °C
Channel disabled	2021H	0x00	0xFF	0x00	Read/Write	0 = Enabled; 1 = Disabled b0~b7: CH1~CH8
Start status setting	2022H	0x00	0xFF	0x00	Read/Write	0 = According to the channel settings 1 = Stop on startup
Time unit for slope control	2023H	0	1	0	Read/Write	0=Min; 1=Sec
Output reverse settings	2024H	0x00	0xFF	0x00	Read/Write	b0~b7: Output 1 b8~b15: AUX1~AUX8 0 = Positive; 1 = Negative

Error code

Error codes can be read from addresses 1000H ~ 1007H (corresponding to CH1 to CH8). When the input is normal, the functional addresses 1000H ~ 1007H will read as the input value. When there is an input error (except when stable and the input exceeds the range), it will read as the error messages of 0x8001 ~ 0x8006.

Return value	Description of error content
8001H	Initializing
8002H	Input sensor not connected
8005H	Measured temperature exceeds specifications
8006H	Channel disabled

Chapter 4 DTN-EIP

4.1 DTN-EIP Product Overview

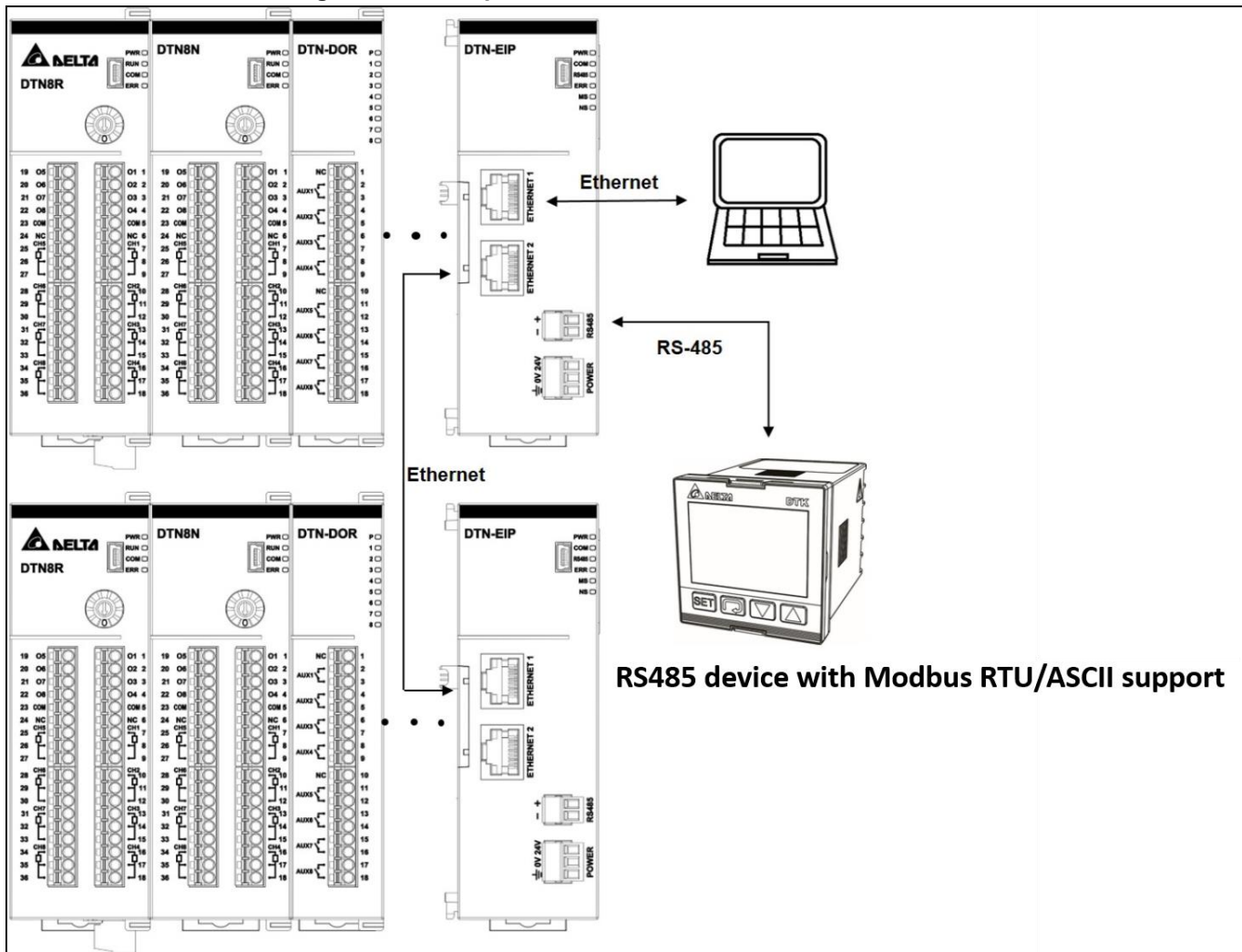
The DTN-EIP is an Ethernet/IP communication module specifically designed for the DTN main unit. The DTN main unit already has a built-in RS485 communication interface (slave). If an Ethernet communication interface is needed, the EIP module can be installed on the rightmost expansion slot for extended functionality.

The EIP module allows all parameter settings of the DTN main unit (8*8=64 channels) to be exchanged and stored in the module. It supports two communication protocols, Modbus TCP and EtherNet/IP, enabling communication with the upper-level devices for both reading and writing operations.

The EIP module itself also acts as an RS485 master with support for the Modbus ASCII/RTU serial communication protocol. It can proactively collect data from temperature controllers that have Modbus communication capability. The upper-level device only needs to have an Ethernet interface to communicate with other RS485 devices through the EIP module.

Each EIP module is equipped with two Ethernet ports, allowing the communication of multiple EIP modules without the need for an additional HUB. The second Ethernet port of one EIP module can be directly connected to the next EIP module.

■ Communications Configuration Example



4.2 Ordering Information

DTN - 1

Series name	Delta DTN series temperature controller accessories
1 Module type	EIP = EtherNet/IP module

4.3 Electrical Specifications

Input power	DC24V with isolated power switch
Operation voltage	90%~110% of rated voltage
Power consumption	5W max.
Installation method	DIN rail, the EtherNet/IP module needs to be installed on the right side of the DTN module
Weight	200g max
Internal connection functions	Provides internal connection terminals to send communications signals via the terminals.
Vibration resistance	10~55Hz @ 10 m/s ² in 3-axis for 10 min
Shock resistance	Max 300m/s ² in 3-axis and 6-orientation for 3-repetition
Operating temperature	0°C ~ +50°C
Storage temperature	-20°C ~ +65°C
Operating altitude	Lower than 2,000 m above sea level
Operating humidity	35% to 85% RH(no condensation)
Pollution level	2

4.4 Functional Specifications

Item		Specifications
LAN interface specifications	Communication protocol	Modbus TCP, EtherNet/IP
	Communication speed	10/100 Mbps Auto-Detection
	Communication mode	IEEE 802.3, IEEE 802.3u
	Cable	Category 5e shielding 100 M
	Interface	RJ-45 with Auto MDI/MDIX
	Number of Ethernet ports	2
Modbus TCP	Device category	Server
	Topology support	Star-shaped, Linear
	Supported function codes	03H, 06H, 10H
	Max. number of connections	16 (Calculated separately from EtherNet/IP)

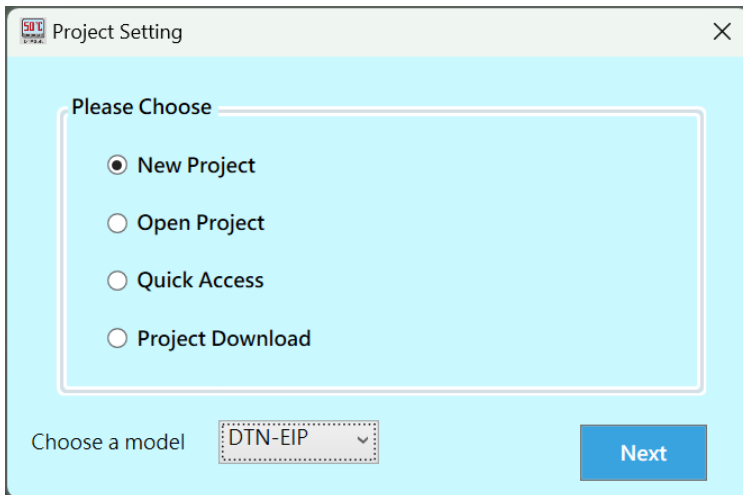
Item		Specifications
	Max. data length of a single connection	100 Words
EtherNet/IP	Device category	Adapter
	Max. number of connections	8 (Calculated separately from Modbus TCP, and all EIP modules are combined for calculation)
	Topology support	Star-shaped, Linear, Circular (DLR Ring Station)
	Requested packet interval (RPI)	5ms ~ 1000 ms
EtherNet/IP implicit messages (IO Connection)	Max. communication capacity (Packets per second)	400 pps
	Type	Class 3 (Connected Type) UCMM (Unconnected Type)
RS-485 interface specifications	Device category	Host
	Topology support	Multidrop
	Communication method	Half-duplex
	Communication protocol	Modbus ASCII Master, Modbus RTU Master
	Transmission speed (bps)	4800, 9600, 19200, 38400, 57600, 115200
	Data bits	7 or 8
	Parity bit	None, Even, Odd
	Stop bits	1 or 2
Regular collection of RS-485 parameters	Max. number of parameters	100
	Collector time interval	0.1~10 sec

4.5 Initial Software Execution Program

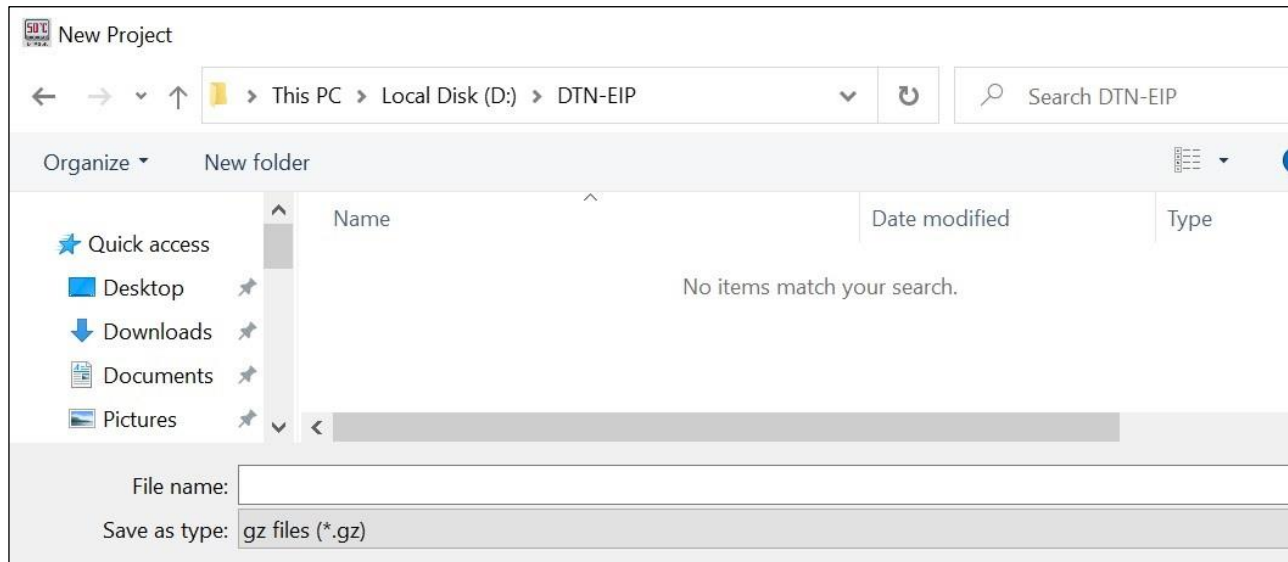
After the installation is complete, click on the [DTN Soft] software icon below to open the application. A project configuration window will appear, and you can enter the user interface by selecting either [New Project], [Open Project], [Quick Access], or [Project Download].



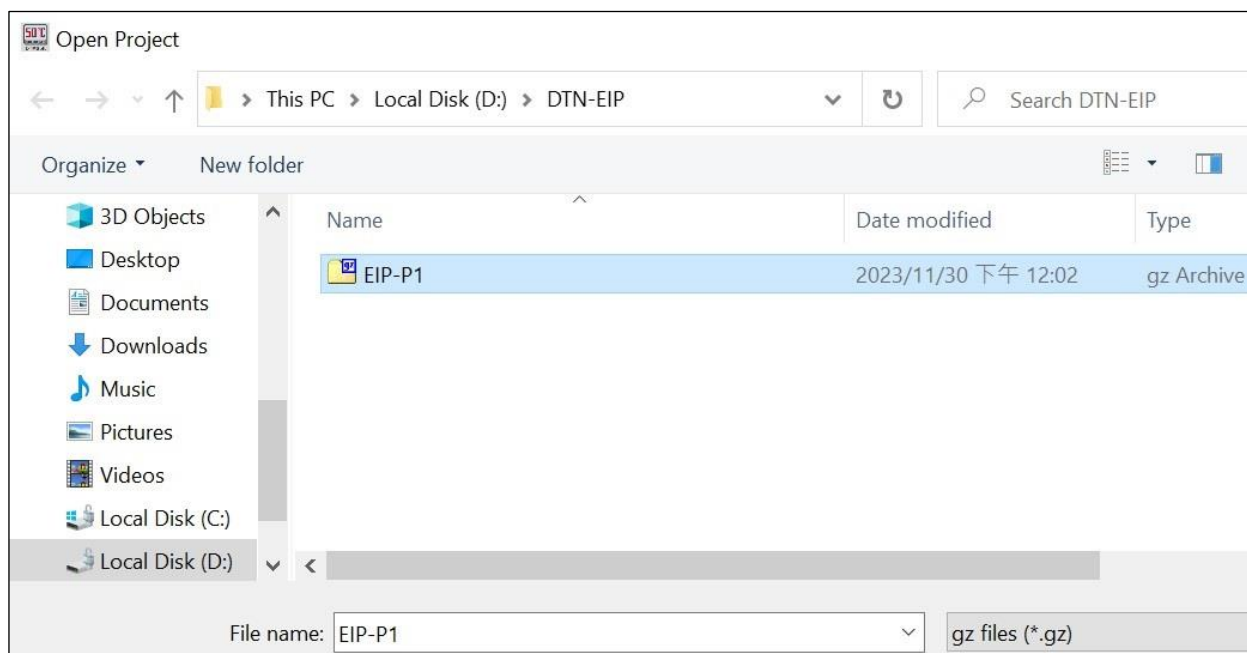
- Options in the initial **[Project Setting]** window:



- 1) New Project: The system will first ask you to enter the name of the file to be saved before opening it.

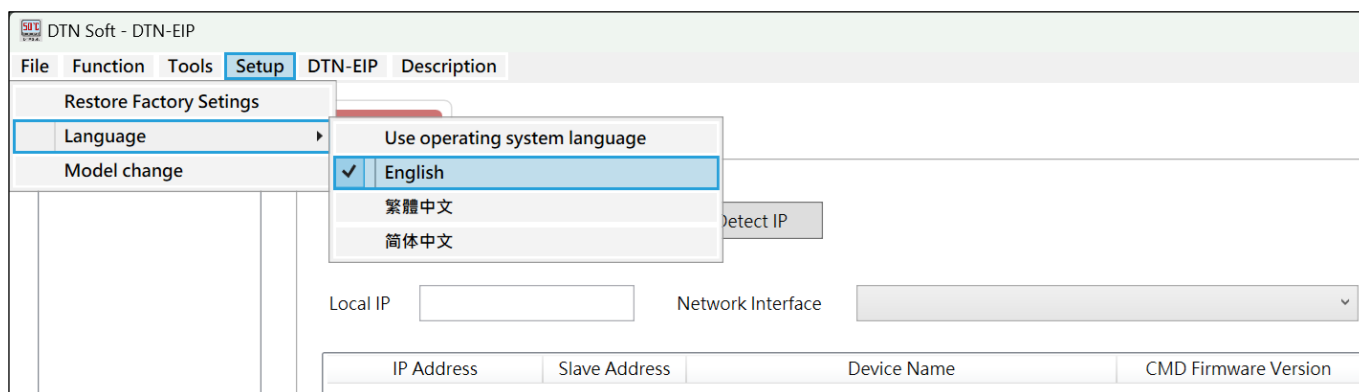


2) Open Project: Select the saved file to open.



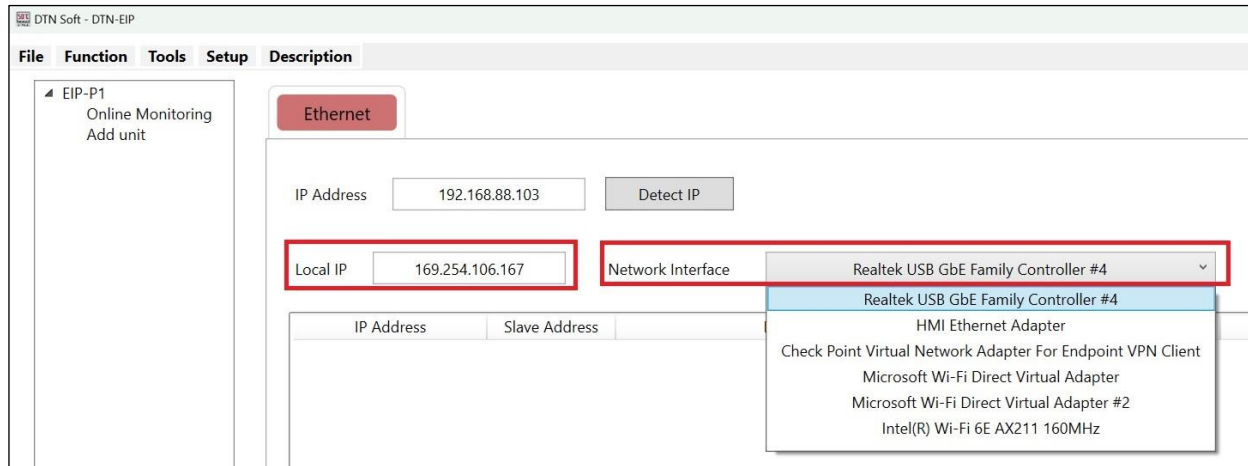
3) If you select [Quick Access], the main user interface will be loaded, as shown in the figure below:

DTN Soft will detect the operating system's language to set the default software language. If you need to change the language, you can change it through the toolbar by going to [Setup] > [Language].



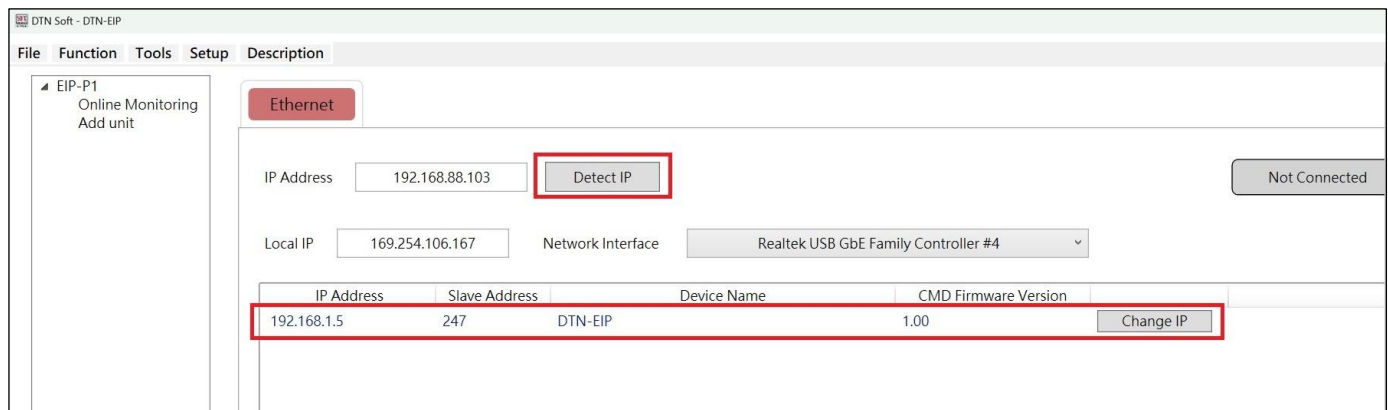
● Establishing Connection:

- 1) First, select the [Network Interface] that corresponds to the network interface card currently connected to the PC.
- 2) If the network interface is selected correctly, you will see the current IP address of the PC displayed in [Local IP].
(Note: For the method of viewing the network interface card and checking the PC's network IP address, please refer to Chapter 4.11.1 PC Network IP Address Settings.)

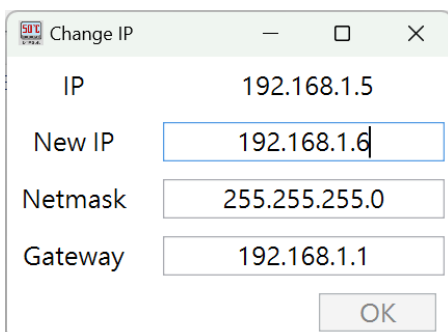


- 3) **The default IP address for DTN-EIP is 192.168.1.5.** When the IP address of DTN-EIP is not certain or has been changed, you can click on [Detect IP]. The software will then use broadcasting to detect the presence of DTN-EIP modules currently online.

(Note: From the figure below, it can be observed that the IP address of the PC is 169.254.106.167, and the IP address of EIP is 192.168.1.5. They are not in the same network domain. The IP detection is done using UDP broadcast, so even in different network domains, the detection can still be performed.)



- 4) By clicking [Change IP], you can modify the IP address. In this case, we changed the EIP's IP to 192.168.1.6.

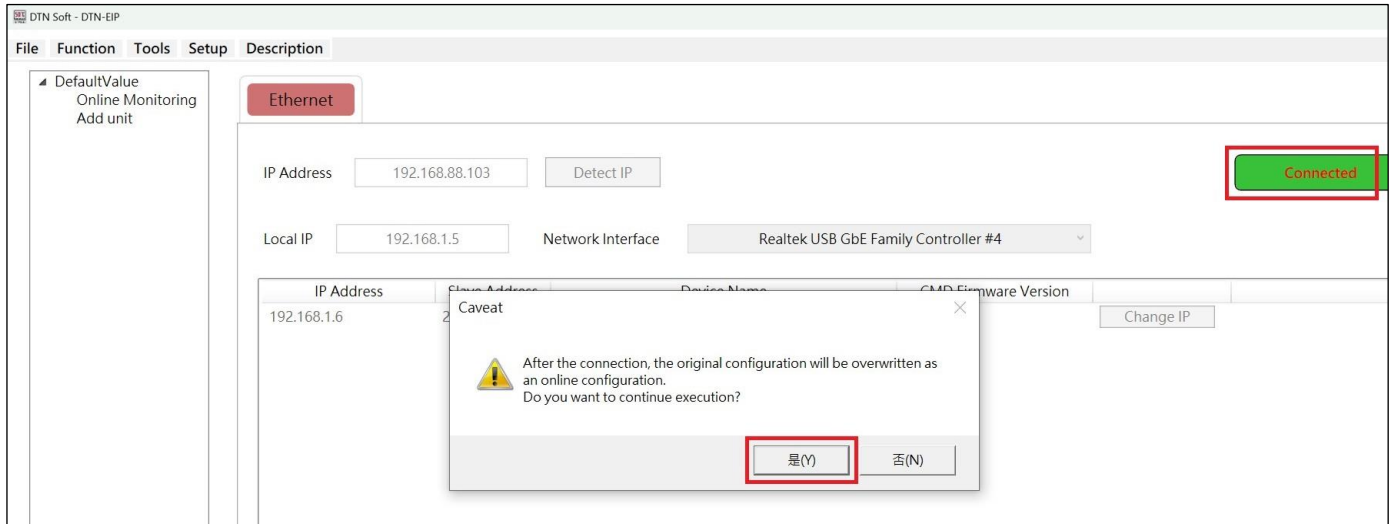


Note: After modifying the IP, press ENTER before clicking OK.

- 5) To establish a connection, both the PC and EIP need to be in the same network domain. In the following example, we changed the PC's IP address to 192.168.1.5 and then reopened the DTN Soft software. As a result, you can observe that the [Local IP] has been updated to the new IP address.

First, click on [Not Connected] on the right side. Then, click [OK] to initiate the connection.

(Note: To change the local IP, please refer to Chapter 4.11.1 PC Network IP Address Settings)

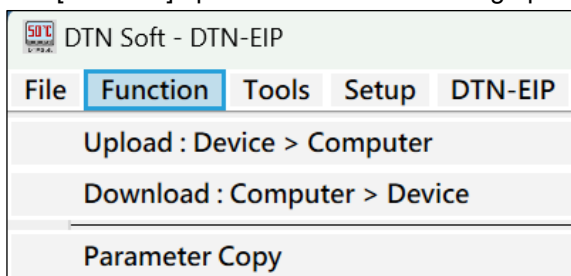


4.6 Toolbar > [Function] Functions

Once DTN Soft is connected to the EIP for communication, it will directly enter monitoring mode, and the configured settings will be written into the EIP controller in real-time.

If you want to perform upload or download actions, you must first disconnect the communication connection and enter offline mode. Only in offline mode can you perform functions such as upload, download, and parameter copying. When the actual upload and download actions begin, the EIP will automatically establish a connection. Users can utilize the upload, download, and parameter copy functions to perform parameter setting replication between multiple device units, saving a significant amount of time.

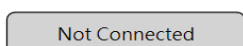
The [Function] options offer the 3 following operations.



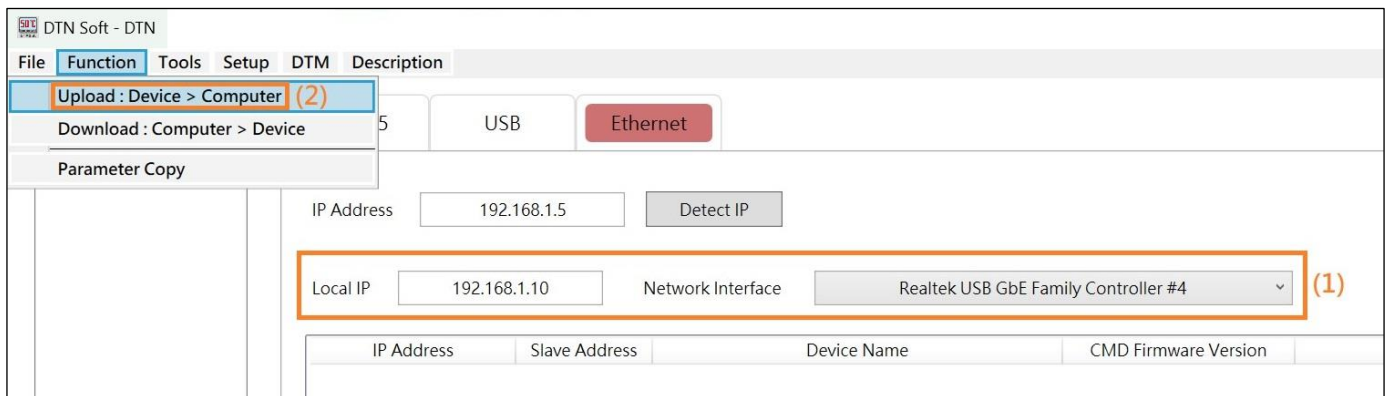
4.6.1 Upload / Download

The configuration steps are as follows:

- 1) First, set up the communication protocol. This needs to be done in the "Not Connected" state. Select the network card of the main unit PC.



2) Click on [Upload: Device -> Computer] to start uploading the EIP configuration parameters to the PC.

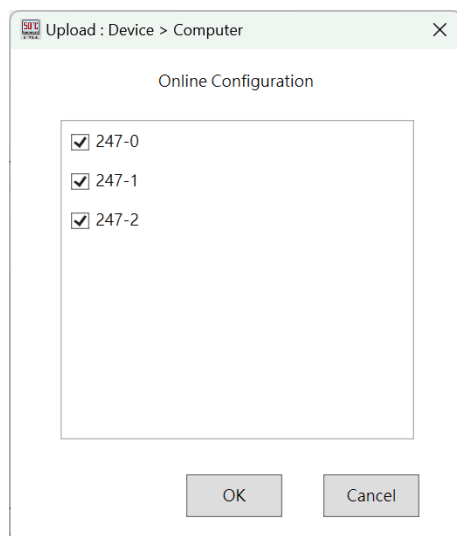


Name	Function	Remark
Upload: Device → Computer	Upload the DTN data to the software interface on the computer.	
Download: Computer → Device	Download the parameters configured in the computer software interface to the DTN.	When downloading, each Station ID of the "online configuration" must have a corresponding Station ID in the project in order to proceed with the download (even if only some of the machines are being downloaded).
Copy parameters	Copy across channels/units based on parameter types.	

Note: Online configuration represents each unit, including the EIP main unit, measurement main unit, and measurement expansion module.

3) Displays the upload progress window.

After completing the upload search, for example, it may display the discovery of Station ID 247-0 (EIP module) and Station IDs 247-1 (serial DTN Station ID 1) and 247-2 (serial DTN Station ID 2).



Click EIPP 247-0, DTN247-1, and DTN247-2 to start configuring offline setting parameters.

DTN Soft - DTN-EIP

le Function Tools Setup DTN-EIP Description

- Default Value
 - Online Monitoring
 - EIP 247-0
 - DTN 247-1
 - DTN 247-2
 - Station #247
 - Unit setting
 - EIP 247-0
 - DTN 247-1
 - DTN 247-2

Input Output Control Alarm IO Position

Parameter Name	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
Input type	K	K	K	K	K	K	K	K
SV upper limit	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0
SV lower limit	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0
Offset	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ggain	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Digital filtering factor	2	2	2	2	2	2	2	2
Digital filtering range	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Channel disable	Enable	Enable	Enable	Enable	Enable	Enable	Enable	Enable
CJC Setting	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.

- 4) After performing [Offline Modification of Project] or [Open Project] as mentioned above, if you want to download the project to the DTN, you can select [Download: Computer -> Device].

4.6.2 Parameter Copy

The following 2 copy methods are provided:

1) Copying of configuration parameters between different channels in the same main unit.

- First, select the [CH To CH] option, then choose the [Modbus Station] of the source EIP module and the parameter source channel.
- Choose the [Target] channels where you want to copy the parameters to from the source channels. Also, select the [Parameter Type] you want to copy. Once you have made the selections, click on the "OK" button to proceed.

The screenshot shows the 'Parameter Copy' dialog box with the 'CH To CH' tab selected. The 'Modbus Station' is set to 1, 'Internal Station' is 0, and 'Channel' is 1. Under 'Target', channels Ch 2, Ch 3, and Ch 7 are selected. Under 'Parameter Type', 'Input' and 'Control' are selected. The 'OK' button is highlighted.

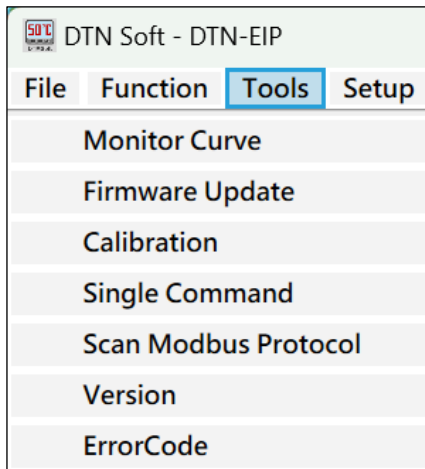
2) Copying of configuration parameters between different main units (i.e. different station IDs).

- First, select the [Unit To Unit] option, then choose the [Modbus Station] of the source EIP module from which you want to copy.
- Select the target station IDs to which you want to copy the parameters below. After making your selection, click the OK button to proceed.

The screenshot shows the 'Parameter Copy' dialog box with the 'Unit To Unit' tab selected. The 'Modbus Station' is set to 1 and 'Internal Station' is 0. Under 'Target', station ID 2 is selected. The 'OK' button is highlighted.

4.7 Toolbar > [Tools] Functions

The [Tools] option offers the following 7 operations.

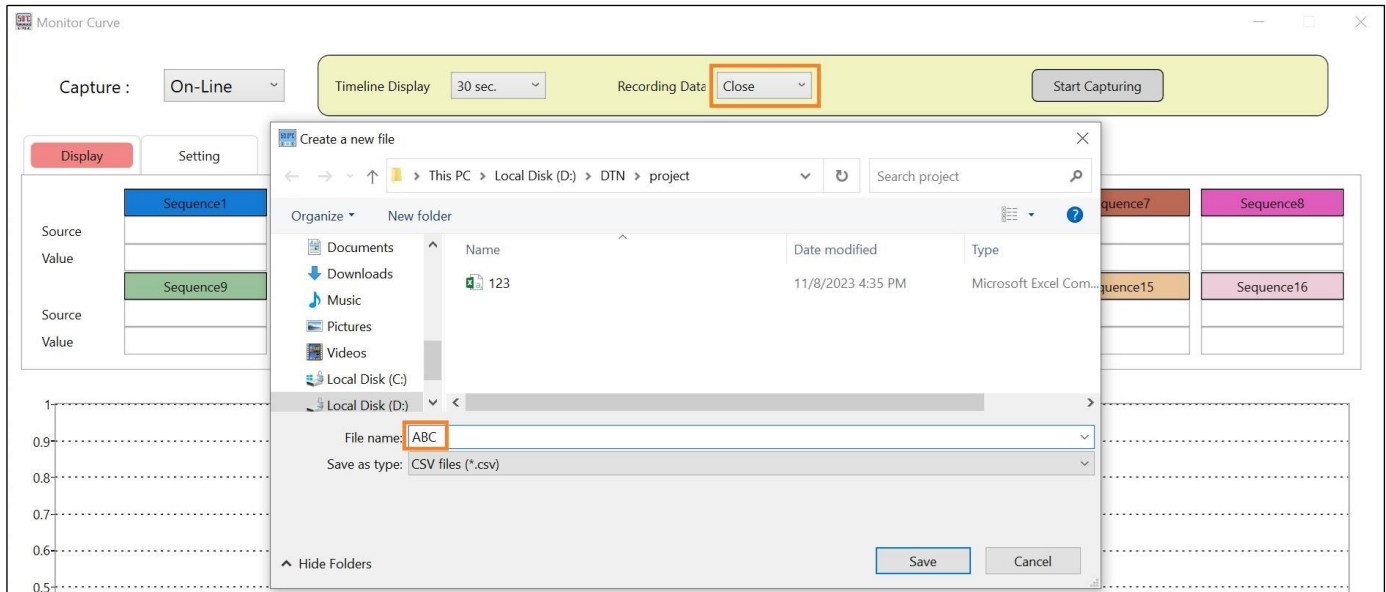


Name	Function
Monitor Curve	Select the required values to draw/record its graph.
Firmware Update	Use the RS485 interface to update firmware.
Calibration	Automatic calculation of the temperature error adjustment gain value.
Single Command	Manually input the Modbus communication address to conduct a single communication test.
Scan Modbus Protocol	Search for the selected communication format when offline.
Version	Check the current firmware version of all machines.
ErrorCode	Check the actual error condition of the error status.

4.7.1 Monitor Curve

Used to monitor the parameter values of the selected channel in real-time and record them for saving.

- 1) First, select [Open] for the [Recording Data] option. This will display the save dialog box where you can set the data storage location in CSV file format.

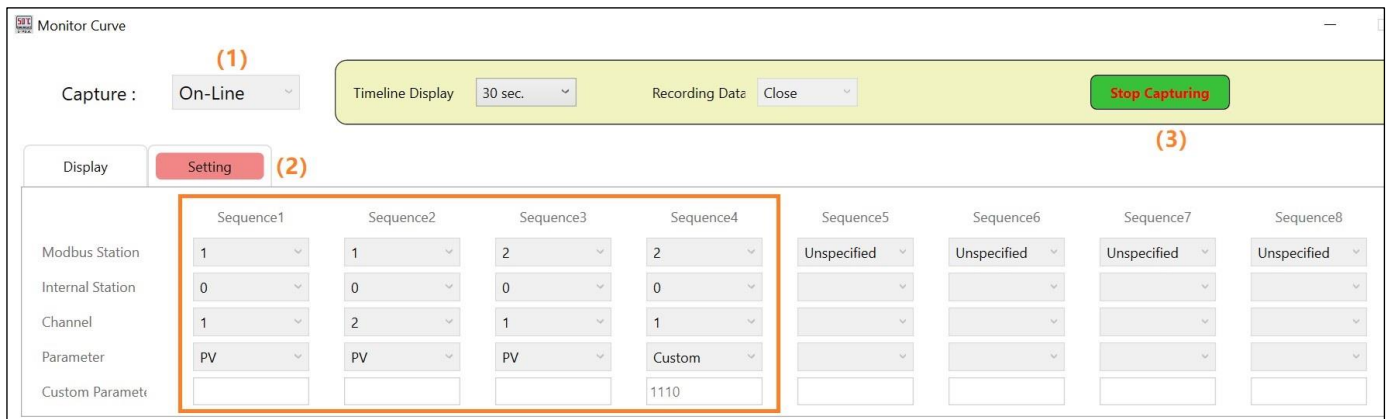


2) Start configuring the data to be monitored.

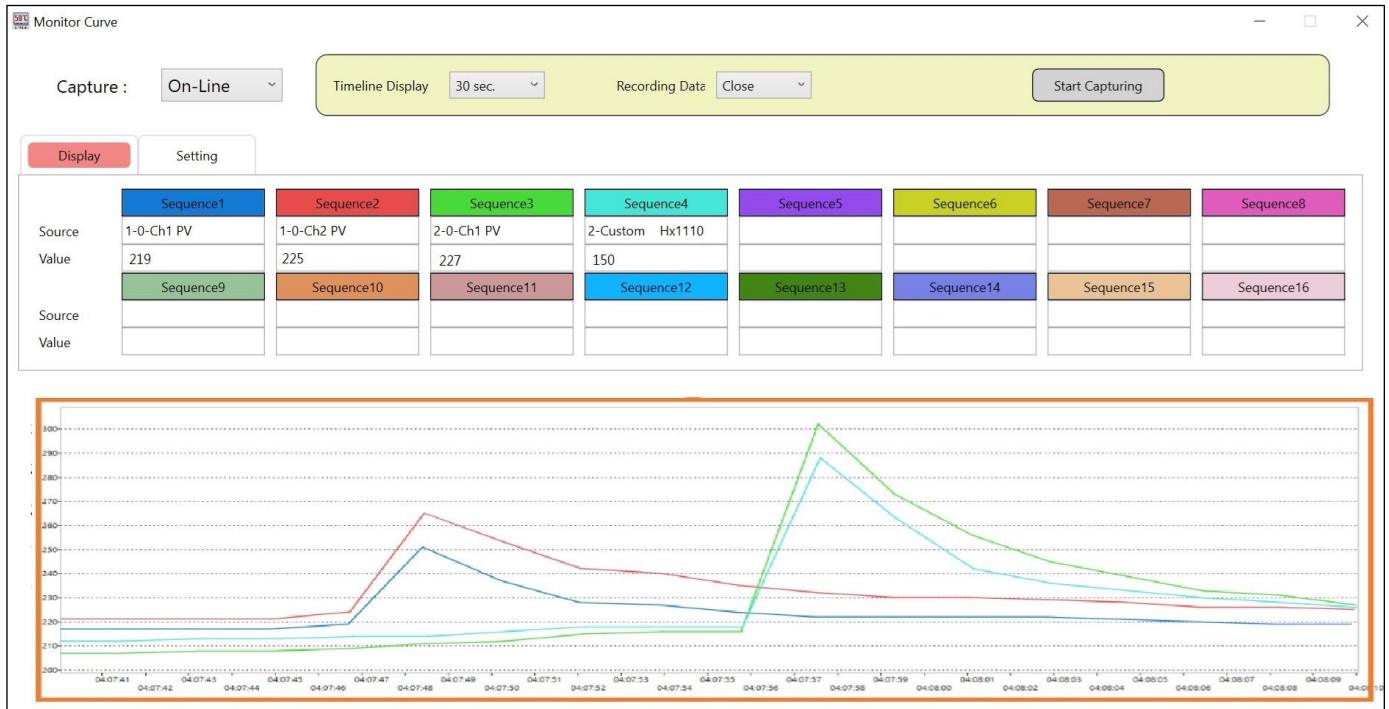
Step 1: Select [On-Line] first.

Step 2: Define the parameters to be monitored by selecting [Setting] (provides 16 sequences for monitoring settings).

- For example, [Sequence 1]: Configure monitoring station ID 1, channel 1, and PV value.
- For example, [Sequence 2]: Configure monitoring station ID 1, channel 2 (different channel of the same DTN), and PV value.
- For example, [Sequence 3]: Configure monitoring station ID 2 (different DTN), channel 1, and PV value.
- For example, [Sequence 4]: Configure monitoring station ID 2, channel 1 (same as Sequence 3), and custom 1110 (communication register position).



3) When [Display] is selected, the monitoring curves will be displayed in different colors.

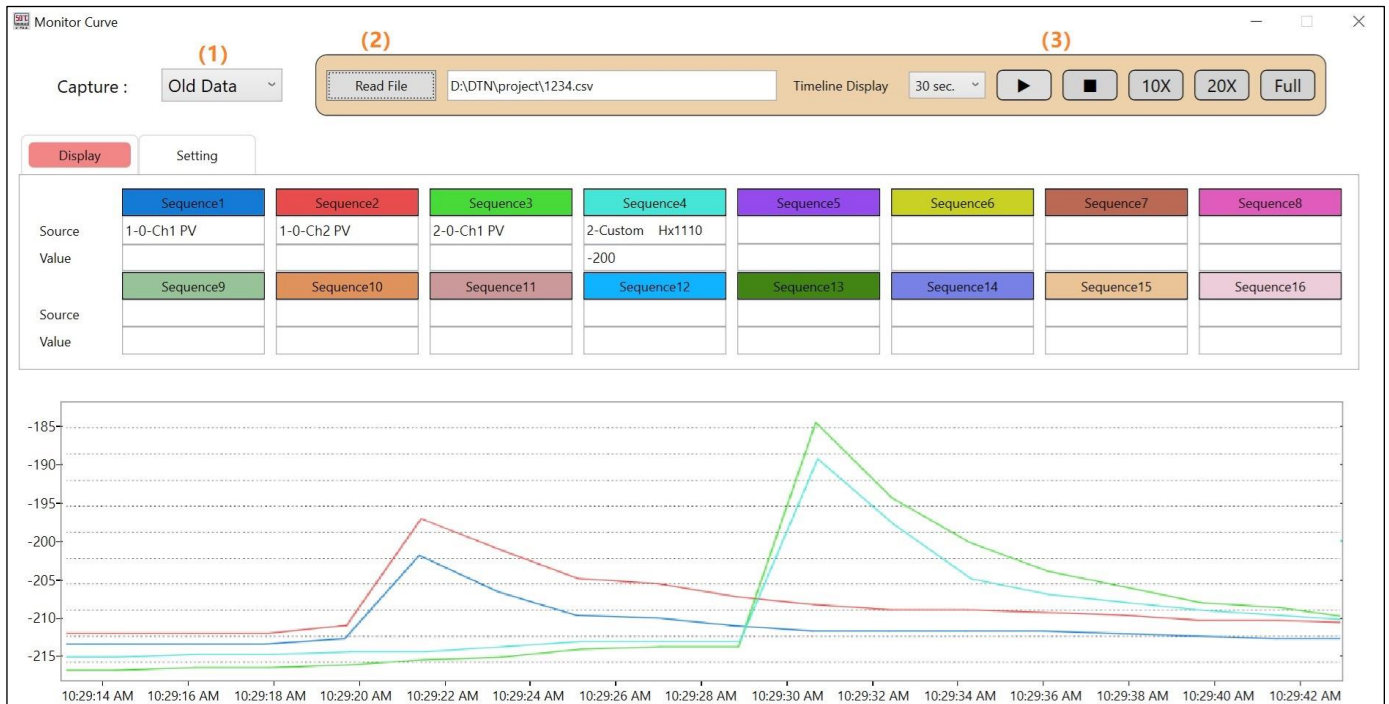


4) Allows previously saved data to be played back for historical review.

Step 1: Select [Old Data] first.

Step 2: Select [Read File] to open the saved CSV file.

Step 3: Perform play, pause, 10X/20X fast forward.

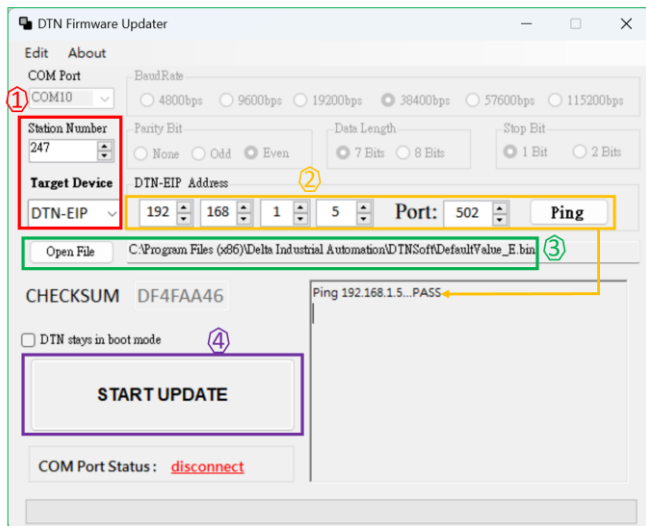


4.7.2 Firmware Update

When new functions are available for the DTN-EIP, you can upgrade its features via the EIP Ethernet interface using the Firmware Update operation. A dedicated DTN-EIP firmware file is required for the update. Normally, users should not perform the upgrade themselves — please contact your local product distributor for assistance.

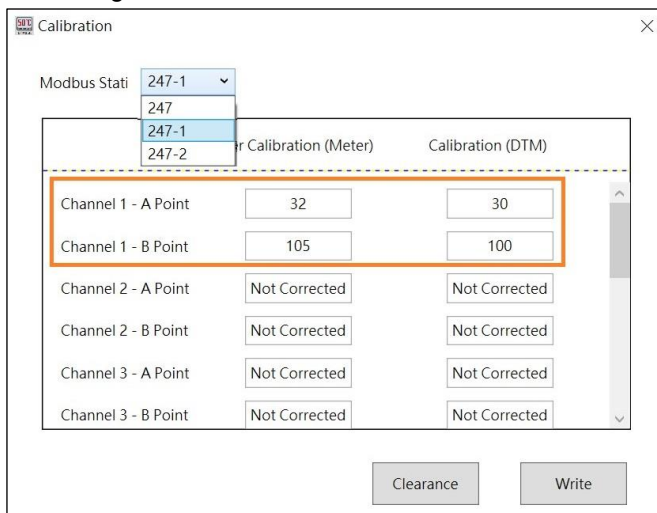
Update steps:

- 1) Confirm the DTN-EIP Station Number. The default value is 247. In the Target Device dropdown menu, select DTN-EIP.
- 2) Confirm the DTN-EIP Address. The default settings are 192.168.1.5 for the address and Port: 502. After configuration, click <Ping>. If the settings are correct, a PASS message will appear.
- 3) In Open File, select and open the dedicated DTN-EIP firmware file.
- 4) Click START UPDATE to begin the firmware update.



4.7.3 Calibration

Click on [Tools] in the top-left menu and select [Calibration], then the window as shown in the bottom-left image will appear. Selecting 247-1 indicates calibrating the DTN main measurement unit at station 1, while selecting 247-2 indicates calibrating the DTN measurement module at station 2.



Temperature calibration involves comparing the temperature values measured by the temperature controller channel itself with the temperature values measured by a third-party device at the same location. After a two-point comparison, the error and gain values are automatically calculated and written into the DTN parameters.

For example:

When the temperature displayed on Channel 1-A of the temperature controller is 30°C and the third-party measurement reads 32°C, and when the temperature displayed on Channel 1-B of the temperature controller is 100°C and the third-party measurement reads 105°C, simply input the respective values into the corresponding fields.

If a second calibration is required, the field for [Controller Display Temperature] must be filled in with the PV value measured after the first calibration.

	After Calibration (Meter)	Calibration (DTM)
Channel 1 - A Point	32	31.5
Channel 1 - B Point	105	104
Channel 2 - A Point	Not Corrected	Not Corrected
Channel 2 - B Point	Not Corrected	Not Corrected
Channel 3 - A Point	Not Corrected	Not Corrected
Channel 3 - B Point	Not Corrected	Not Corrected

For example:

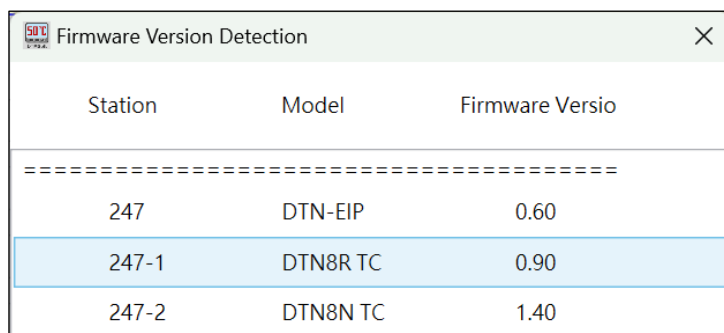
When the temperature is calibrated from 30°C to 31.5°C, the third-party measurement reads 32°C. When the temperature is calibrated from 100°C to 104°C, the third-party measurement reads 105°C. When the temperature displayed on Channel 1-A of the temperature controller is 31.5°C and the third-party measurement reads 32°C, and when the temperature displayed on Channel 1-B of the temperature controller is 104°C and the third-party measurement reads 105°C, input the respective values into the corresponding fields.

After entering the temperature calibration values, click on [Write], and the UI will automatically calculate the [Offset /Gain] values and write them directly to the registers of the DTN.

Parameter Name	Channel 1	Channel 2	Channel 3	Channel 4
Input type	Pt100	Pt100	Pt100	Pt100
SV upper limit	850.0	850.0	850.0	850.0
SV lower limit	-200.0	-200.0	-200.0	-200.0
Offset	0.7	0.0	0.0	0.0
Ggain	0.043	0.000	0.000	0.000
Digital filtering factor	2	2	2	2

4.7.4 Firmware Version Detection

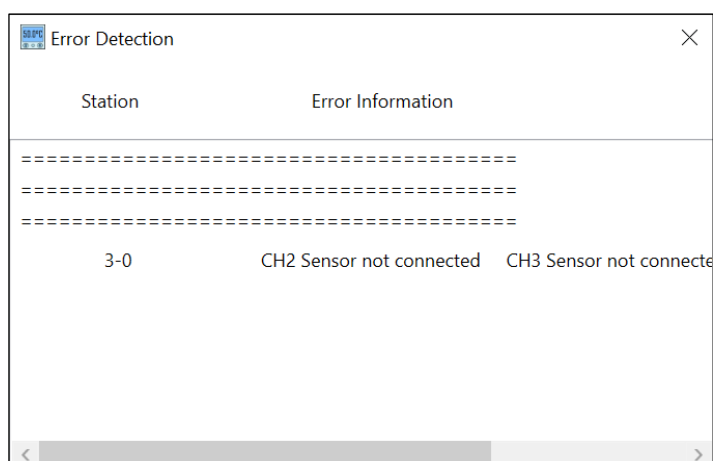
Displays the firmware version of all DTN measurement units for the current station numbers.



Station	Model	Firmware Versio
247	DTN-EIP	0.60
247-1	DTN8R TC	0.90
247-2	DTN8N TC	1.40

4.7.5 Error Detection

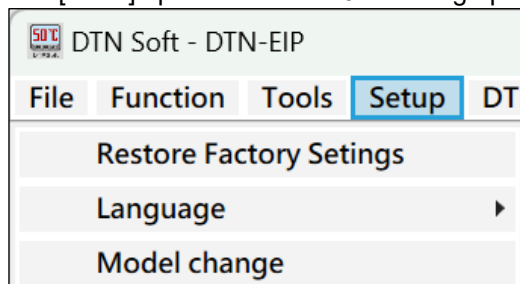
When an abnormal error occurs in the EIP, the cause of the error will be displayed.



Station	Error Information
3-0	CH2 Sensor not connected CH3 Sensor not connecte

4.8 Toolbar > [Setup] Functions

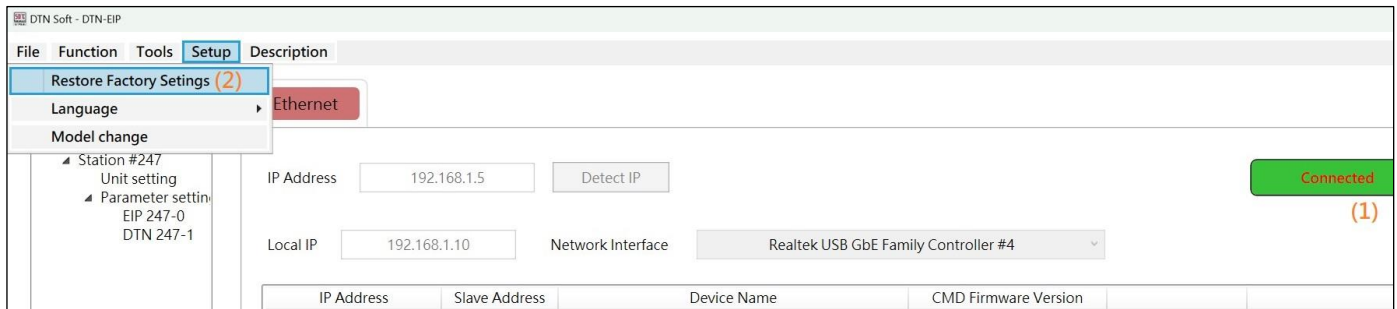
The [Tools] option offers the 3 following operations.



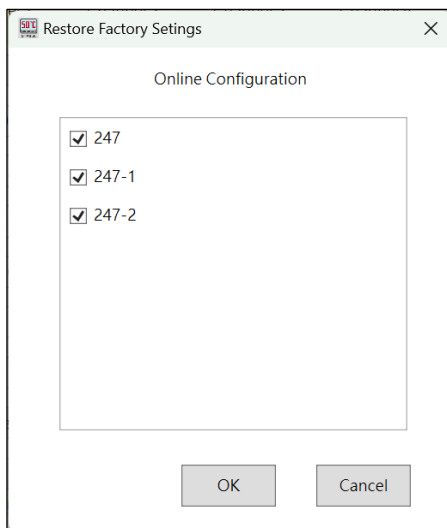
4.8.1 Restore Factory Settings

You can select the unit to restore to factory settings. After restoring, the parameters will return to the default factory configuration. It is recommended to check whether the project has been saved before executing the restore operation.

- 1) First establish [Communication Connection].
- 2) Choose [Setup] > [Restore Factory Settings]

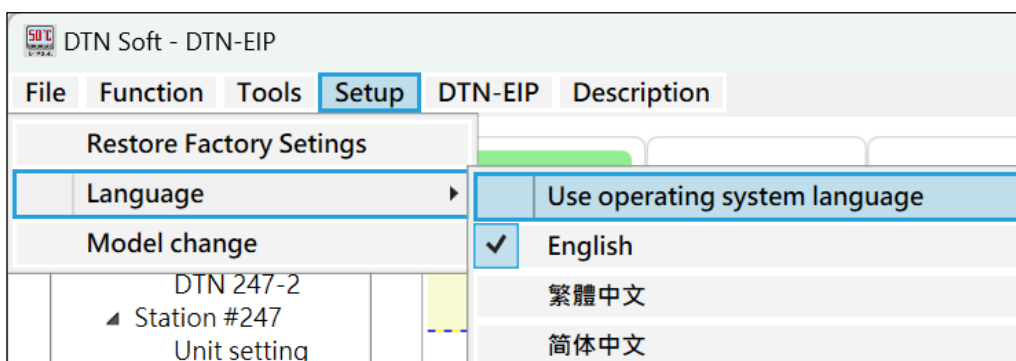


- 3) The screen will display the connected DTN-EIP Station ID (EIP Station ID is 247). Click the "OK" button to proceed.



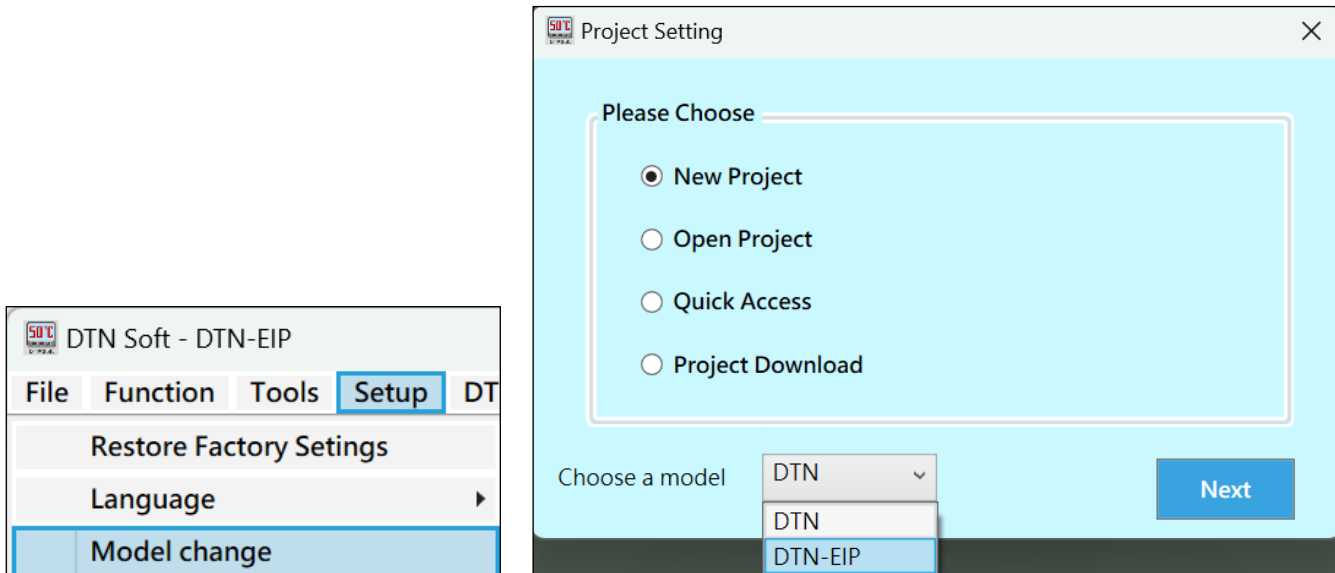
4.8.2 Language

Select the language interface of the software. Once you confirm your selection, the software will change its language interface upon restart.



4.8.3 Model Change

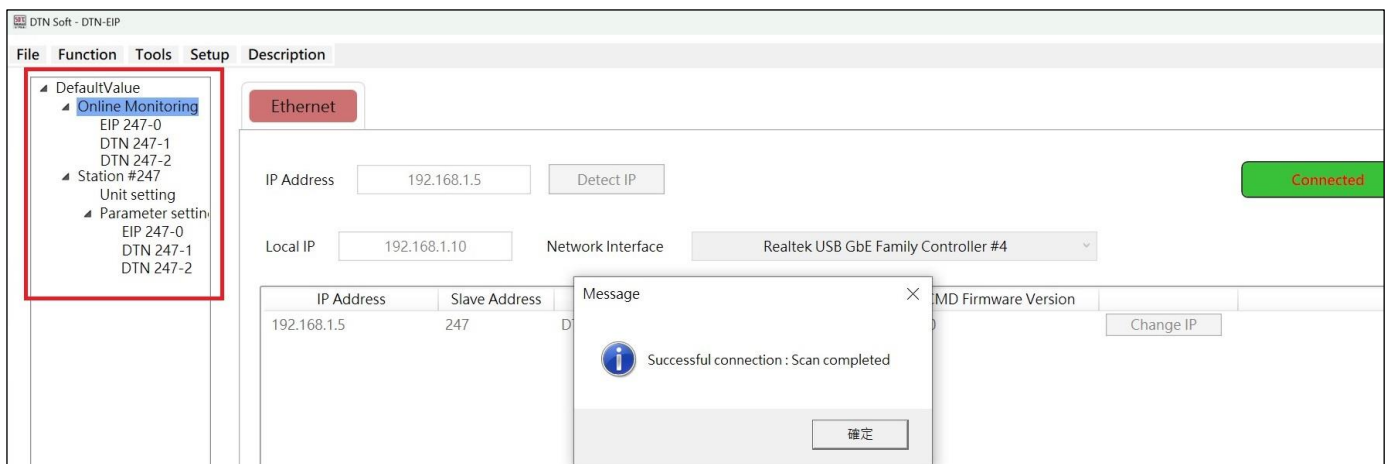
Since the software supports both DTN and DTN-EIP models, switching between models will automatically close and reopen the software. After restarting, you can also manually select DTN before proceeding.



4.9 Status Bar Settings

Description of Status List:

After a successful connection, the status bar on the left will display the current usage of DTN and EIP. The default Modbus station number for the EIP is 247. In this example, besides the connected EIP module (EIP247-0), the system is also connected through the EIP module to two cascaded DTN hosts: DTN247-1 (rotary switch station 1) and DTN247-2 (rotary switch station 2).



- 1) Select DTN247-1 to begin configuring the DTN parameters for cascaded station 1. Similarly, selecting DTN247-2 allows configuration of the DTN parameters for cascaded station 2.

Note: For detailed instructions on DTN parameter configuration, please refer to Chapter 3.6: DTN Control Parameter Settings of this manual.

The screenshot shows the 'DTN Soft - DTN-EIP' application window. The left sidebar shows a tree view with 'DTN 247-1' selected under 'Station #247'. The main window has tabs for 'Input', 'Output', 'Control', 'Alarm', and 'IO Position'. The 'Input' tab is active, displaying a table of parameters for 8 channels.

Parameter Name	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
Input type	K	K	K	K	K	K	K	K
SV upper limit	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0	1300.0
SV lower limit	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0
Offset	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ggain	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Digital filtering factor	2	2	2	2	2	2	2	2
Digital filtering range	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Channel disable	Enable	Enable	Enable	Enable	Enable	Enable	Enable	Enable
CJC Setting	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.	Internal C.

- 2) Select EIP247-0 to begin configuring the EIP parameters.

2-1) [System] displays the current EIP settings and connection status.

- [Number of Connections]: Displays the current number of DTN units connected to the EIP module.
- [Parameter Update Cycle]: Sets the data update time for EIP and the DTN units connected for communication. The minimum update time is 0.4 seconds, and the maximum update time is 4 seconds.
- [Station number]: Sets the communication station ID for EIP when using the Modbus protocol (the default value is 247).
- [RS485 Function Enabling]: Choose to enable RS485 function. Once enabled, you can configure [RS485 Master] and [Cyclic Collection] settings.

The screenshot shows the 'DTN Soft - DTN-EIP' application window. The left sidebar shows a tree view with 'EIP 247-0' selected under 'Station #247'. The main window has tabs for 'System', 'RS485 Master', 'Cyclic Collection', and 'EIP Builder'. The 'System' tab is active, displaying the 'DTN-EIP SYSTEM PARAMETER' section.

DTN online quantity	2
DTN update period	0.4
DTN-EIP station number	247
RS-485 function enable	Enable

- 2-2) The [RS485 Master] setting allows you to configure the communication protocol for RS485 data collection (this can only be operated when the above [RS485 Function Enabling] is set to Enable).
- [Communication Format], [Baud Rate], [Data Bit], [Check Bit], [Stop Bit]: The RS485 communication format can be configured when the [Quantity of Commands Collected by Parameters] is set to 0.
 - [Parameter Collection time interval]: Sets the interval between each communication—the minimum is 0.1 second and maximum is 10 seconds.
 - [RS-485 Master Timeout Settings]: Sets the response timeout time for lower devices.
 - [Quantity of Commands Collected by Parameters]: Sets the number of registers to communicate with all lower devices—minimum is 1 address and maximum is 100 addresses.

DTN Soft - DTN-EIP

File Function Tools Setup Description

Default Value

- Online Monitoring
 - EIP 247-0
 - DTN 247-1
 - DTN 247-2
- Station #247
 - Unit setting
 - Parameter setting
 - EIP 247-0
 - DTN 247-1
 - DTN 247-2

System RS485 Master Cyclic Collection EIP Builder

RS-485 Master Parameters

Communication Format ASCII

Baud Rate 9600

Data Bit 7 bits

Check Bit Even

Stop Bit 1 bit

Parameter Collection time interval 1.0

RS-485 Master Timeout Settings 0.7

Quantity of Commands Collected by Parameters 0

- 2-3) [Cyclic Collection]: Sets the communication address of lower devices to be collected. A maximum of 100 register data entries can be collected.
- A total of 5 groups are provided, with 20 communication commands per group, allowing up to $5 \times 20 = 100$ commands. The actual number of executable communication commands depends on the number of registers assigned to each command.

DTN Soft - DTN-EIP

File Function Tools Setup Description

Default Value

- Online Monitoring
 - EIP 247-0
 - DTN 247-1
 - DTN 247-2
- Station #247
 - Unit setting
 - Parameter setting
 - EIP 247-0
 - DTN 247-1
 - DTN 247-2

System RS485 Master Cyclic Collection EIP Builder

Group1 Group2 Group3 Group4 Group5

	ID / Function	Register	Length		ID / Function	Register	Length
1	0103	1000	0001	11	0103	1000	0001
2	0603	1000	0001	12	0403	1010	0001
3	0903	1000	0001	13	0703	1000	0001
4	0C03	1000	0001	14	0A03	1000	0001
5	0F03	1000	0001	15	0D03	FF00	0001
6	1203	1000	0001	16	1003	1000	0001
7	1503	1000	0001	17	1303	1000	0001
8	1803	1000	0001	18	1603	1000	0001
9	1B03	1000	0001	19	1903	1000	0001
10	1E03	1000	0001	20	1C03	1000	0001

For example: If the [Quantity of Commands Collected by Parameters] is set to 5 (i.e., collecting data from 5 communication registers), it will collect the PV at H1000 from DTK temperature controllers with station 1 to 5.

The configuration method is as follows:

First command: 0103 1000 0001 is a command to station 01. It executes the read command '03' to read data from position 1000, retrieving 0001 entries of data.

Similarly, for the second to fifth commands, the 03 Read command for station 2 to 5 will be executed, reading from the 1000 location, and each command will read 1 data entry.

ID / Function	Register	Length	ID / Function
1 0103	1000	0001	11 0103
2 0203	1000	0001	12 0403
3 0303	1000	0001	13 0703
4 0403	1000	0001	14 0A03
5 0503	1000	0001	15 0D03
6 1203	1000	0001	16 1003
7 1503	1000	0001	17 1303
8 1803	1000	0001	18 1603

For example: If the [Quantity of Commands Collected by Parameters] is set to 4 (i.e., collecting data from 4 communication registers), it will collect the PV/SV at H1000 to H1001 from DTK temperature controller with station 1 to 2. The configuration method is as follows:

First command: 0103 1000 0002 is a command to station 01. It executes the read command '03' to read data from position 1000, retrieving 0002 entries of data.

Similarly, for the second command, the 03 Read command for station 2 will be executed, reading from the 1000 location, and each command will read 0002 data entries.

ID / Function	Register	Length	ID / Function
1 0103	1000	0002	11 0103
2 0203	1000	0002	12 0403
3 0303	1000	0001	13 0703
4 0403	1000	0001	14 0A03
5 0503	1000	0001	15 0D03
6 1203	1000	0001	16 1003
7 1503	1000	0001	17 1303
8 1803	1000	0001	18 1603

Storage location of the data collected by RS485 Master: The 100 largest registers collected from the RS485 devices

will be stored in the EIP module at memory locations **H0300 to H0363**. This data can be accessed and read through the Modbus TCP communication protocol.

- The Station ID of the command is in the EIP Station ID settings: For example, if the default Station ID of the EIP is 247, to read 1 entry at H0300, the communication command will be XX XX XX XX XX XX F7 03 0300 0001.
Note: The hexadecimal value of 247 is F7.

Data ID	Communications register
Entry 1	H0300
Entry 2	H0301
Entry 3	H0302
...	...
Entry 100	H0363

2-4) [EIP Builder]: Configure the host controller (with EIP communication protocol) and the DTN-EIP module to perform automatic data exchange.

See Chapter 4.10.1 for details on the settings.

4.9.1 Ethernet Modbus TCP to Modbus RS-485 Conversion

Based on the communication format set in [RS485 Master], you can directly send commands to the connected RS-485 devices (such as DTK temperature controllers) through the Modbus TCP interface. The DTN-EIP module acts as a gateway, converting Ethernet Modbus TCP communication to Modbus RS-485.

- 1) The DTN-EIP will convert Modbus TCP commands into Modbus RS-485 commands and send them to the DTK. After receiving the Modbus RS-485 return value from the DTK, it converts it into a Modbus TCP return value for the master computer.
- 2) For example, if the station number of the lower device DTK temperature controller is 5, and you want to read two values, H1000 (PV) and H1001 (SV), the Modbus TCP communication command is XX XX XX XX XX XX 05 03 1000 0002. The EIP module will automatically convert it into a Modbus RS-485 communication command: 05 03 1000 0002 E6 CR LF and DTK temperature controller communications.

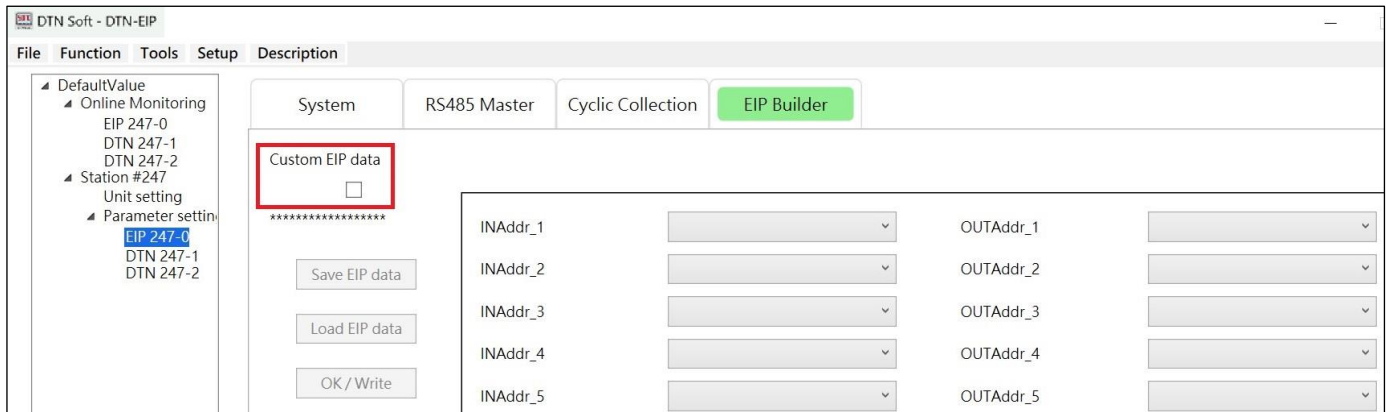
4.10 EIP Data Automatic Exchange Settings

The DTN-EIP module supports the EIP communication protocol, enabling automatic data exchange with upper-level controllers that have an EIP interface. The configuration process is divided into two methods: one for Delta PLCs with a DTN-EIP EDS file and the other for non-Delta PLCs without a DTN-EIP EDS file.

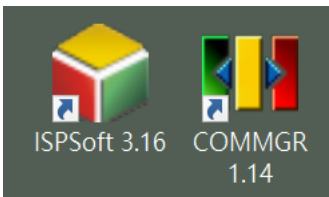
4.10.1 Delta PLC EIP Data Exchange Settings

When using a Delta PLC with a DTN-EIP EDS file, the configuration steps are as follows:

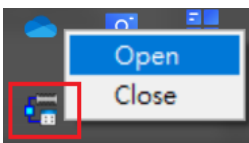
- 1) In DTN Soft software, the [Custom EIP data] in the [EIP Builder] **cannot be selected**. In this case, the PLC and DTN-EIP module will automatically perform data exchange, and the content of the exchange will be configured in the PLC software later.



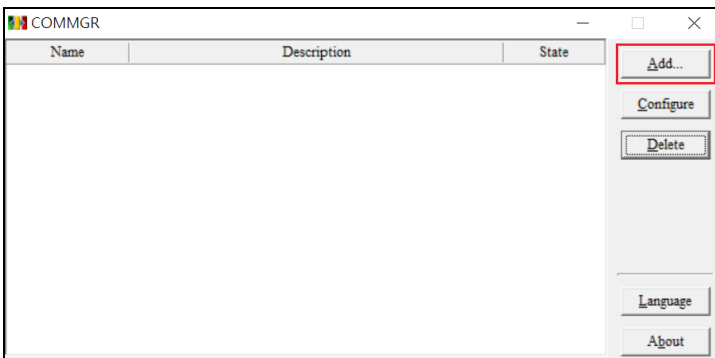
- 2) Please download the PLC software [ISPSoft] and [COMMGR] from the Delta website.



- 3) First, open the "COMMGR" software. Right-click on the icon displayed in the tools section at the bottom of the PC, and choose "Open" from the menu.



- 4) Click Add to establish the Driver for the PC-PLC connection.



- 5) Select the [Ethernet] type, then choose the Ethernet card currently on the PC, and click [Search] to start searching for devices online. If any unnecessary devices are found, they can be deleted, leaving only the PLC device to connect. (In the figure, the PLC IP is 192.168.1.21)

The 'Driver Properties' dialog box is shown with the following settings:

- Driver Name:** Driver1
- Connection Setup:** Type is set to **Ethernet**.
- Ethernet Card:** Description is set to **Realtek USB GbE Family Controller #4**. The IP address 192.168.1.10 is listed below.
- IP Address Setting:** Includes buttons for Add, Delete, All Delete, and Search. A table below lists the IP address settings:

IP Address	Port	Label	Type
192.168.1.5	502		AS332T
- Setup Responding Time:** Connect Retries is set to 3, and Connection Time-Out (Units: 100ms) is set to 30.

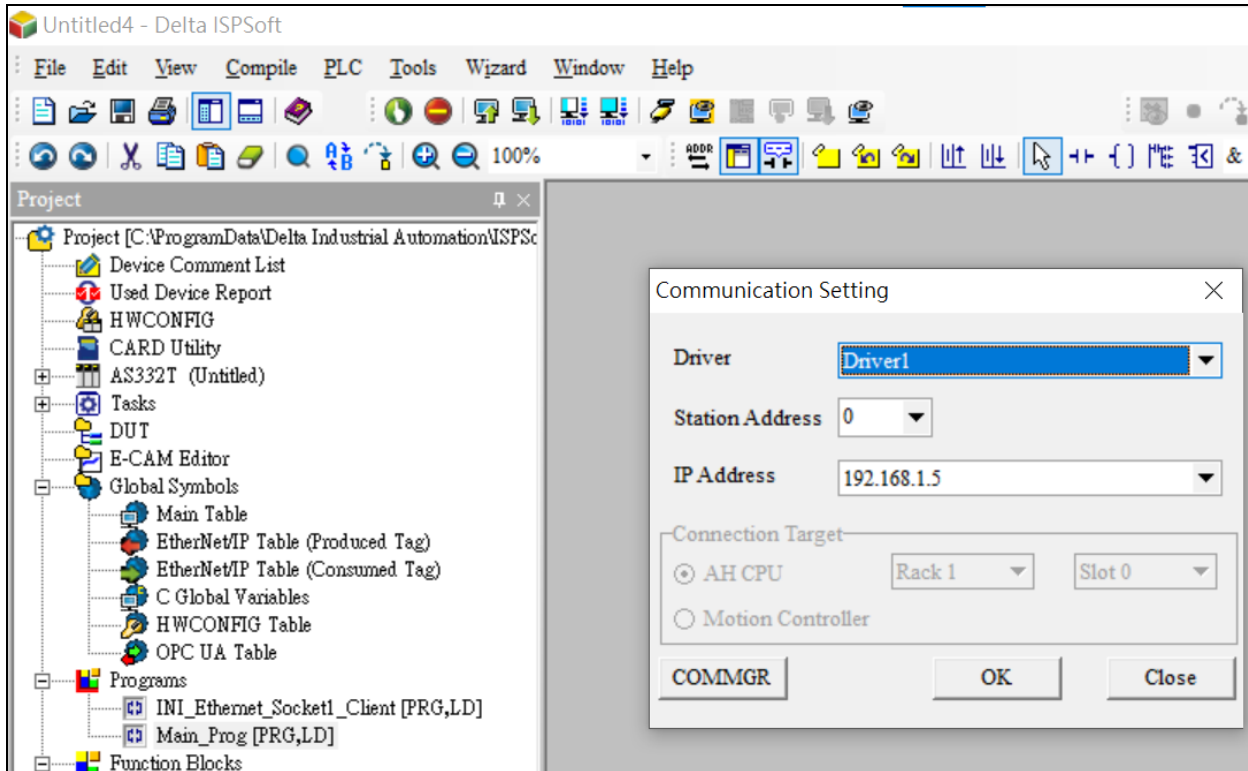
Buttons for OK and Cancel are at the bottom.

The 'COMMGR' window displays a table of drivers with the following data:

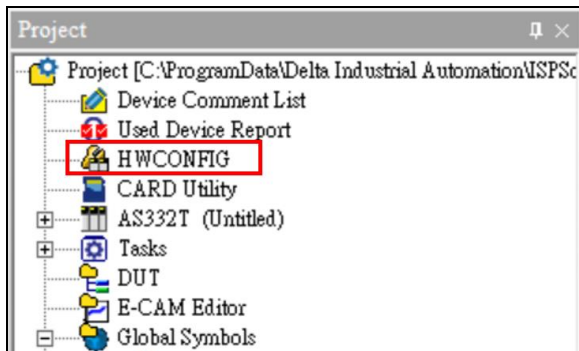
Name	Description	State
Driver1	Ethernet, Realtek USB GbE Family Controller #2, Local	OK (START)

Buttons for Add..., Configure, and Delete are located on the right side of the window.

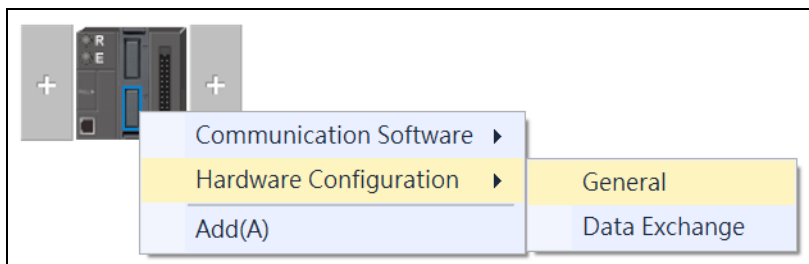
- 6) Open ISPSOft and click on [Tools] > [Communication Settings]. In [Driver], select "Driver1" of the COMMGR from above. This will enable communication with the PLC.



- 7) Click on HWCONFIG to configure EIP.

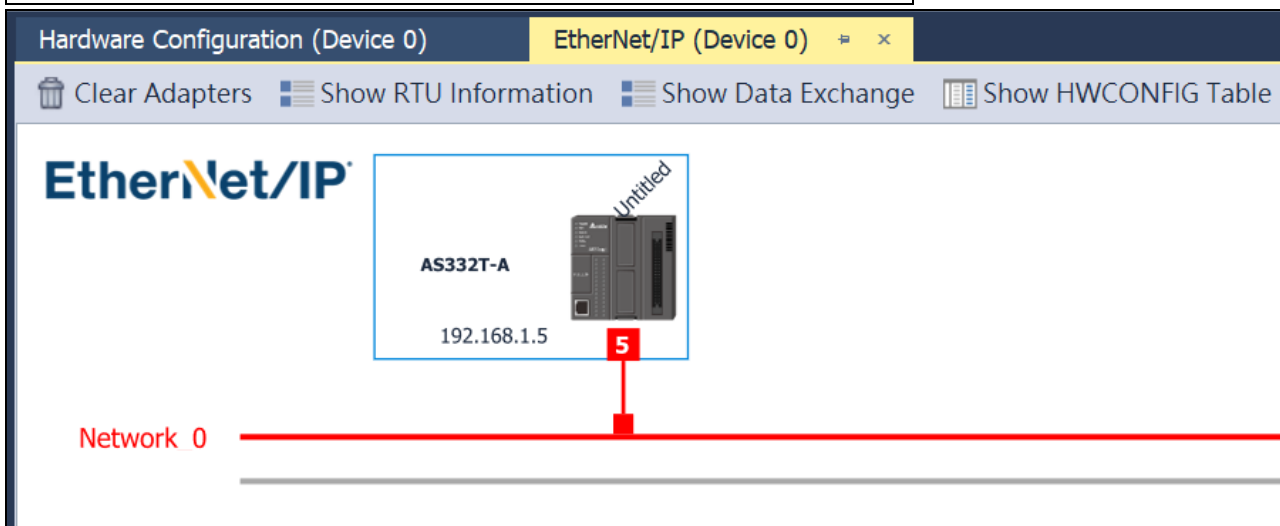
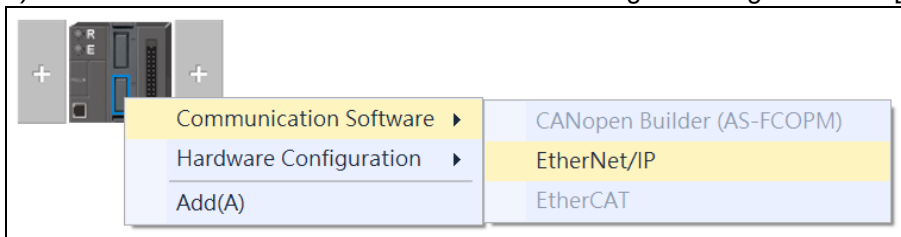


- 8) Place the mouse cursor over the PLC icon and right-click. Select [Hardware Configuration] > [General]. Then go to [Ethernet Port Basic Settings] to check if the IP address is 192.168.1.21. If it is not, you can click on the IP settings to edit it directly.

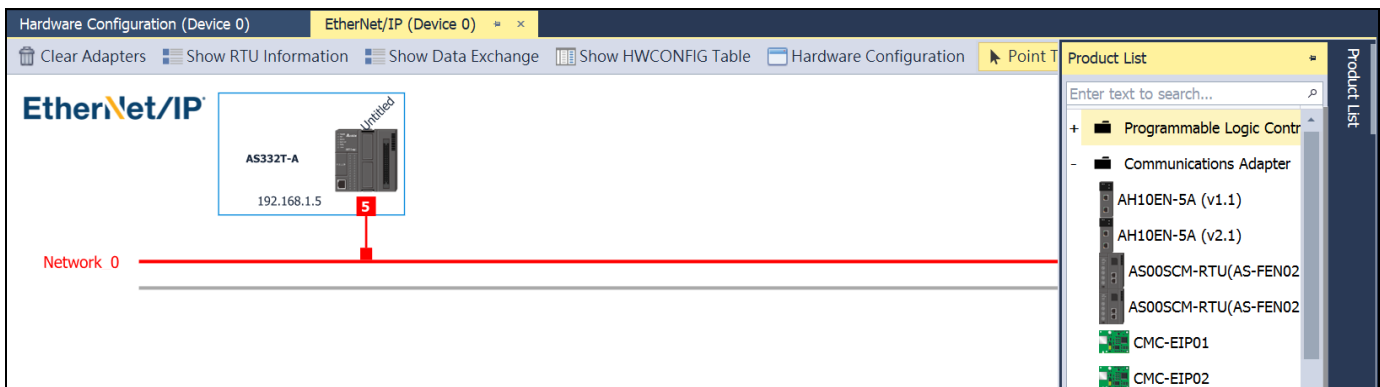


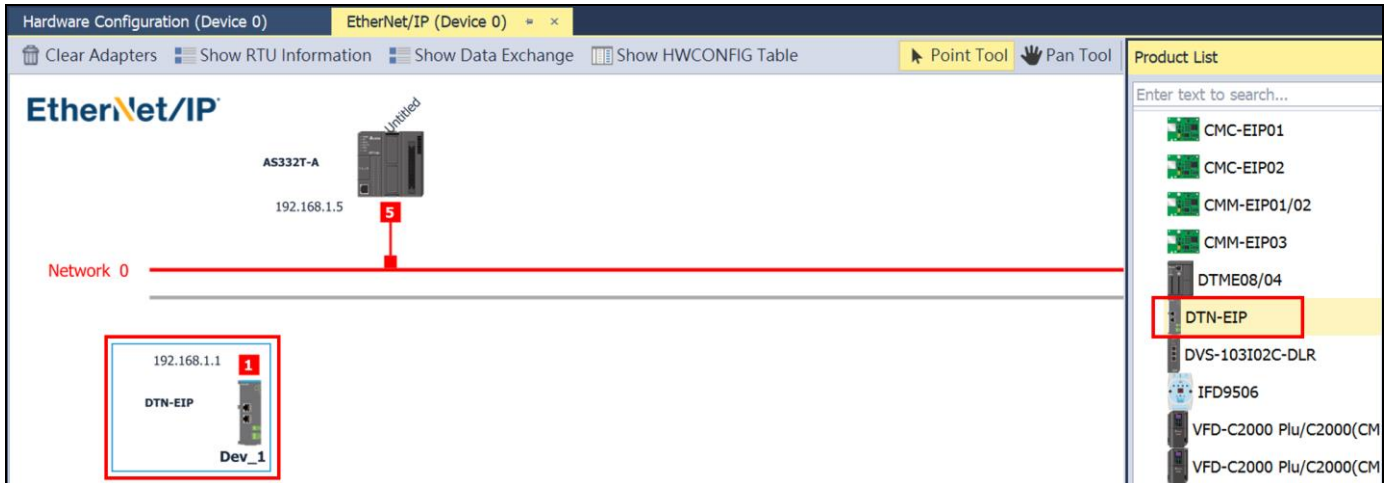
General	Data Exchange												
AS332T-A - System settings - COM1 Port Setting - COM2 Port Setting Ethernet Port Basic Setting - Ethernet Port Advanced Setting - Function Card 1 Setting													
Ethernet Port Basic Setting <table border="1"> <thead> <tr> <th>Name</th> <th>Setting Value</th> </tr> </thead> <tbody> <tr> <td>IP Address</td> <td>192.168.1.21</td> </tr> <tr> <td>Subnet Mask</td> <td>255.255.255.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.1</td> </tr> <tr> <td>TCP Keep Alive Timeout</td> <td>30</td> </tr> <tr> <td>Mode</td> <td>Static</td> </tr> </tbody> </table>		Name	Setting Value	IP Address	192.168.1.21	Subnet Mask	255.255.255.0	Gateway	192.168.1.1	TCP Keep Alive Timeout	30	Mode	Static
Name	Setting Value												
IP Address	192.168.1.21												
Subnet Mask	255.255.255.0												
Gateway	192.168.1.1												
TCP Keep Alive Timeout	30												
Mode	Static												

9) Place the mouse cursor over the PLC icon and right-click again. Select [Communication Software] > [EtherNet/IP].

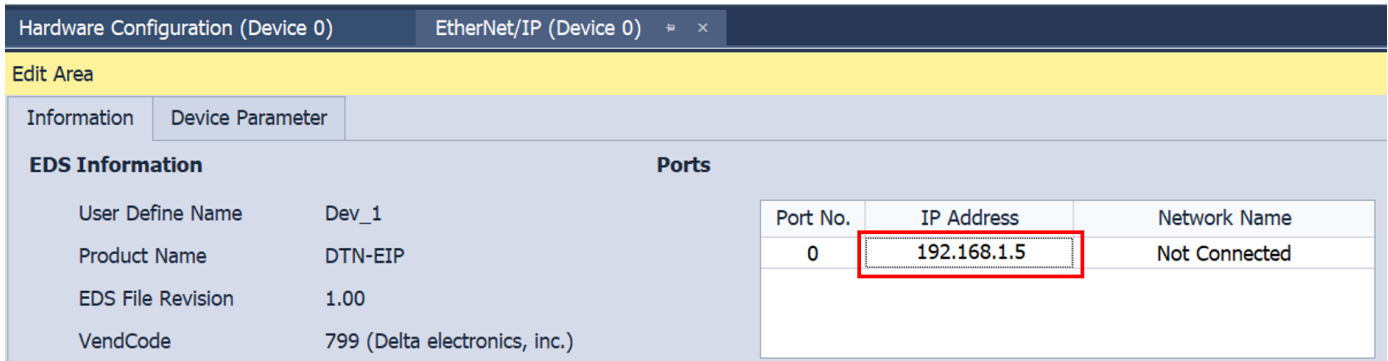
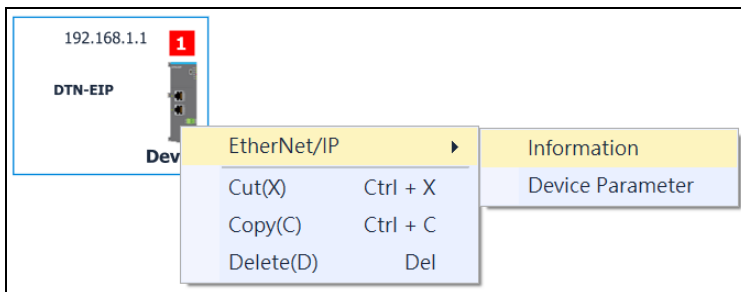


10) Open the product list on the right and select DTN-EIP under [Communications Adapter] to add it to the EtherNet/IP communication network.

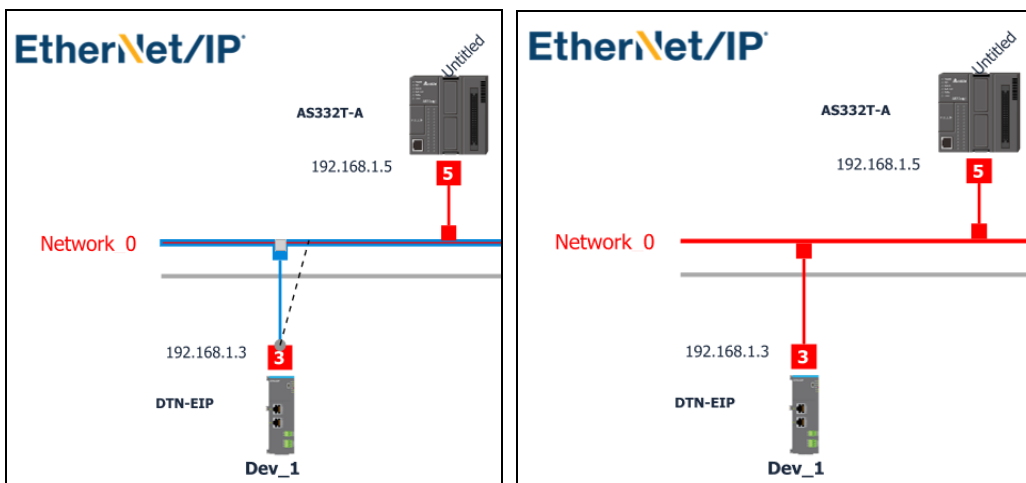




- 11) The newly added device has a default IP of 192.168.1.1, but the actual DTN-EIP module IP is 192.168.1.5. Right-click the DTN-EIP icon, select Properties, and change the IP to 192.168.1.5.



Drag and drop the DTN-EIP to connect to the network.



12) A single DTN-EIP module can exchange a maximum of 32 registers. The following demonstrates the configuration for the exchange content.

First, select the PLC's [Data Exchange] and click on the product name area to enter the exchange content settings.

The screenshot shows the 'Hardware Configuration (Device 0)' window with the 'Data Exchange' tab selected. The table below shows the configuration for the DTN-EIP module.

#	Enable	EIP Tag	Product Name	Name	IP Address	Scanner Start Address / EIP Tag	Direction	Adapter Start Address / EIP Tag / Parameter	Length (byte)
1	☒		DTN-EIP (v1.1)	Dev_1	192.168.1.3	D0	←	MON-PV1 CH1 PV	64
						D100	→	INP-SV1 CH1 SV	64

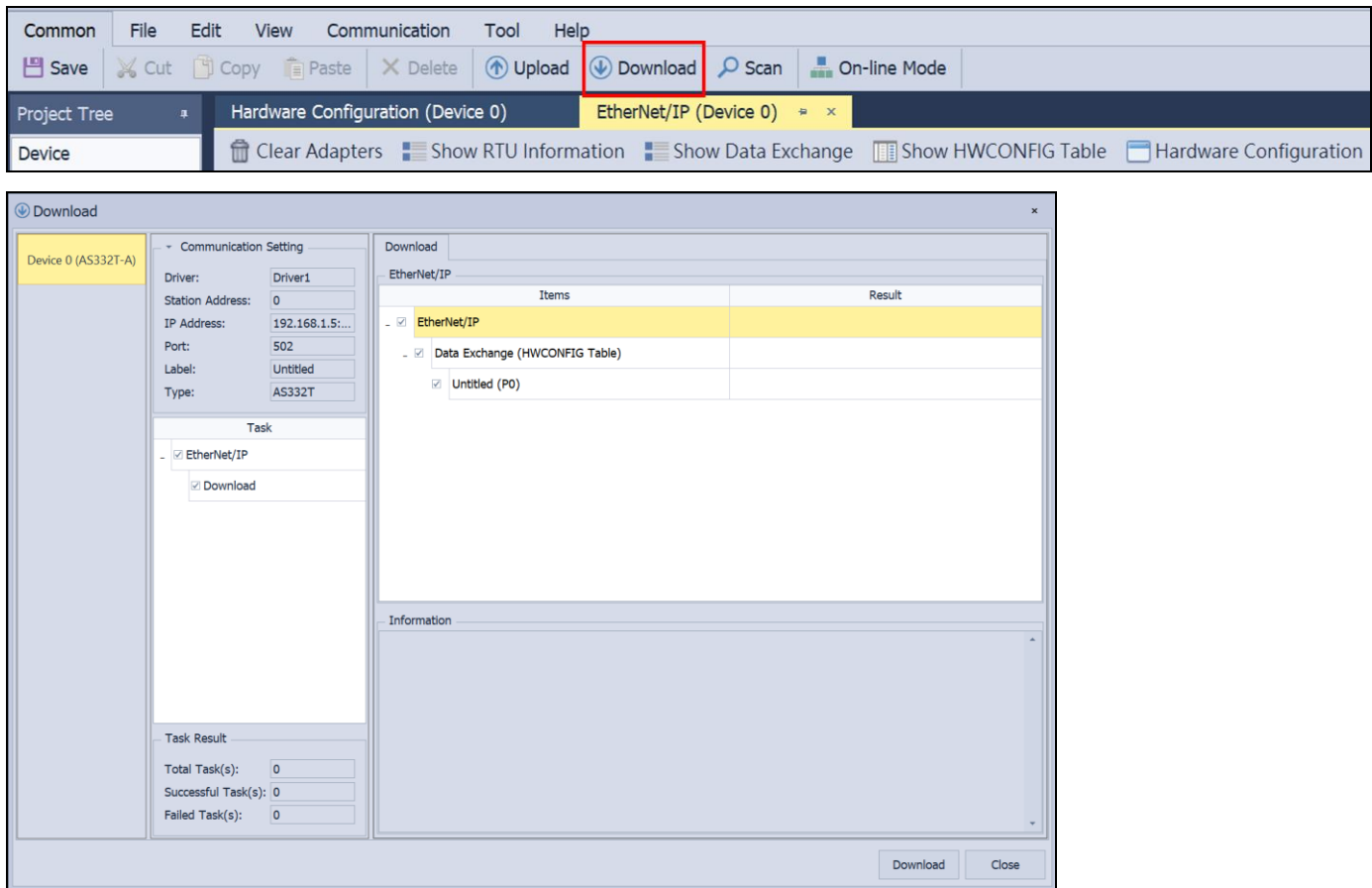
On the left side, you can set the register usage area of the PLC data exchange. For example, you can set the DTN-EIP data to be read into the PLC's D0 register, and the PLC's D100 register data will be written into the DTN-EIP.

On the right side, you can set the source of each data exchange. IN_Addr_1 represents the first source of data that the PLC reads from the DTN-EIP, while OUT_Addr_1 represents the first target location where the PLC writes data into the DTN-EIP.

The screenshot shows the 'Data Exchange device: DTN-EIP (v1.1) (Dev_1) Remote Address: 192.168.1.3' window. The 'Read' section shows the 'Scanner Start Address' set to 'D' and '0'. The 'Write' section shows the 'Scanner Start Address' set to 'D' and '100'. The 'Config Data' table shows the mapping of IN_Addr_1 to MON-PV1 CH1 PV.

#	Name	Value
1	IN_Addr_1	MON-PV1 CH1 PV
2	IN_Addr_2	MON-PV1 CH1 PV
3	IN_Addr_3	MON-PV2 CH2 PV
4	IN_Addr_4	MON-PV3 CH3 PV
5	IN_Addr_5	MON-PV4 CH4 PV
6	IN_Addr_6	MON-PV5 CH5 PV

After completing the above settings, click on "Download" to transfer the data exchange configuration to the PLC. Once done, you can close HWCONFIG to complete the process.



- 13) Open the ISPSost PLC editing software and use the device monitoring table for verification. In the diagram below, the first PV value of the DTN is displayed in the D0 register, and the SV value is set through D100. When D100 is set to 50.0 degrees, the ninth SV value displayed in the D8 register will also change synchronously to 50.0 degrees.

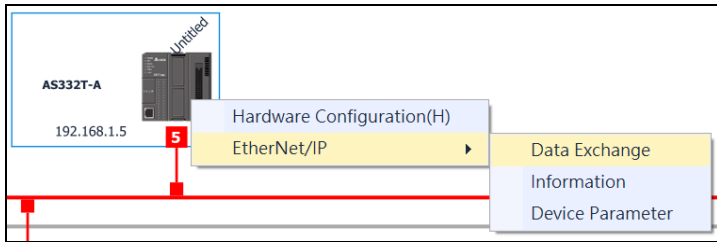
Untitled4 - Delta ISPSost - [Monitor Table1-int]

Object	Identifiers	Device Name	Status	Data Type	Value (16bits)	Value (32bits)	Float	Radix	Commen...
		D0			262	-2147352314	-0.000	Signed 1	
		D1			-32766	-2147319806	-0.000	Signed 1	
		D2			-32766	-2147319806	-0.000	Signed 1	
		D3			-32766	-2147319806	-0.000	Signed 1	
		D4			-32766	-2147319806	-0.000	Signed 1	
		D5			-32766	-2147319806	-0.000	Signed 1	
		D6			-32766	-2147319806	-0.000	Signed 1	
		D7			-32766	-2147319806	-0.000	Signed 1	
		D8			500	500	0.000	Signed 1	
		D9			0	0	0.000	Signed 1	
		D10			0	0	0.000	Signed 1	
		D11			0	0	0.000	Signed 1	
		D12			0	0	0.000	Signed 1	
		D13			0	0	0.000	Signed 1	
		D14			0	0	0.000	Signed 1	
		D15			0	0	0.000	Signed 1	
		D100			500	500	0.000	Signed 1	
		D101			0	0	0.000	Signed 1	
		D102			0	0	0.000	Signed 1	

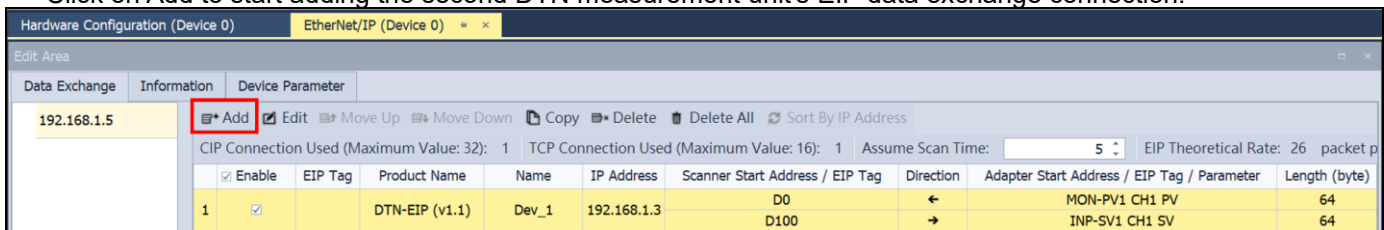
14) The DTN architecture can be connected with up to 8 main DTN measurement units/measurement modules. When using EIP communication with 2 to 8 DTN measurement modules in the DTN architecture, the configuration is as follows:

The order of EIP communication for 2 to 8 DTN modules is defined based on the physical installation sequence of the DTN units and is unrelated to the station ID setting on the DTN's rotary switch.

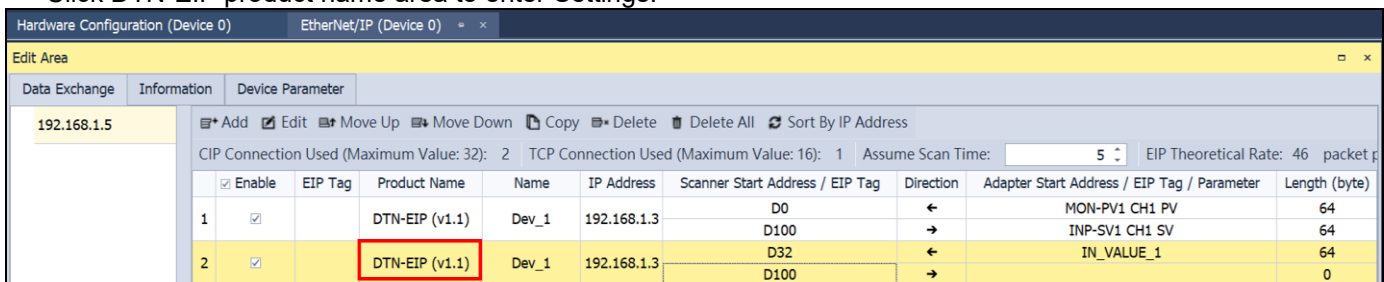
Go back to the HWCONFIG software. Place the mouse cursor over the PLC icon and right-click. Select [EtherNet/IP] > [Data Exchange].



Click on Add to start adding the second DTN measurement unit's EIP data exchange connection.



Click DTN-EIP product name area to enter Settings.



[ConnectionManager]: Because [Connection 2] was selected for the second unit, Connection 3 to Connection 8 will be assigned to the third to eighth units.

[Read> Scanner Start Address]: For the first device, the data exchange starts from D0. For the second device, you can choose to start from D32 in sequential order. The [Length] remains 64 bytes (32 words).

[Write> Scanner Start Address]: For the first device, the data exchange starts from D100. For the second device, you can choose to start from D132 in sequential order. The [Length] remains 64 bytes (32 words). On the right side, you can set the content source for each data exchange.

Data Exchange device: DTN-EIP (v1.1) (Dev_1) Remote Address: 192.168.1.3

General Setting

Connection Name: **Connection 2**

EDS Compare Rule: Compatible Keying

☒ Enable

☐ EtherNet/IP Tag

Connection Parameter Setting

RPI (ms): 100 ☐ Apply to all

Connection Type: Point To Point

Timeout: RPI x 4 ☐ Apply to all

Trigger Mode: Cyclic

Connection Path Setting

Input (T->O) Instance: 103

Output (O->T) Instance: 102

Configure Instance: 129

Read

Scanner Start Address: D 32

Adapter Parameter Setting: MON-PV1 CH1 PV

Length (byte): 64

Write

Scanner Start Address: D 132

Adapter Parameter Setting: INP-SV1 CH1 SV

Length (byte): 64

Config Data Data Type: UINT Minimum Value:0 Maximum Value:65535

Name	Value
IN_Addr_1	MON-PV1 CH1 PV
IN_Addr_2	MON-PV2 CH2 PV
IN_Addr_3	MON-PV3 CH3 PV
IN_Addr_4	MON-PV4 CH4 PV
IN_Addr_5	MON-PV5 CH5 PV
IN_Addr_6	MON-PV6 CH6 PV

Default OK Cancel

After completing the above settings, click on "Download" to transfer the data exchange configuration to the PLC. Once done, you can close HWCONFIG to complete the process.

Common File Edit View Communication Tool Help

Save Cut Copy Paste Delete Upload **Download** Scan On-line Mode

Project Tree Hardware Configuration (Device 0) **EtherNet/IP (Device 0)**

Device Clear Adapters Show RTU Information Show Data Exchange Show HWCONFIG Table

Open the ISPSOFT PLC editing software and go to the Device Monitor table. You can see the current temperature value of CH1 exchanged by the PLC's D32 register.

File Edit View Compile PLC Tools Wizard Window Help

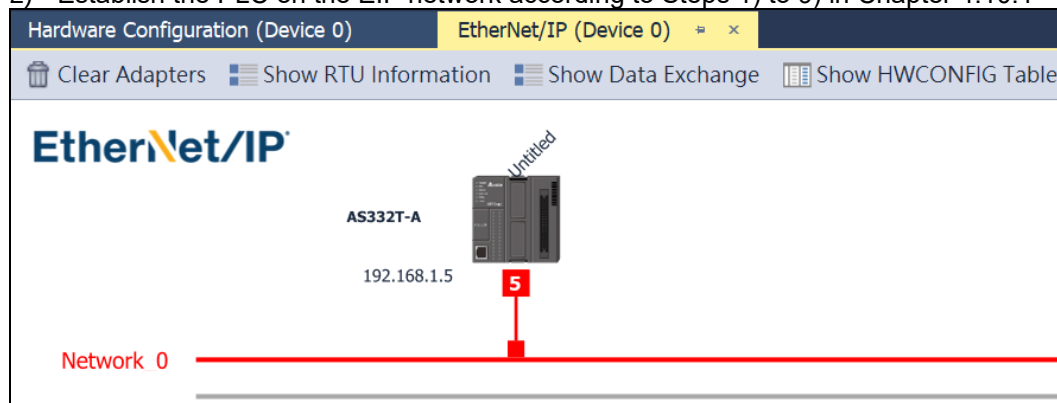
Project	Object	Identifiers	Device Name	Status	Data Type	Value (16bits)	Value (32bits)
Project [C:\ProgramDa			D0			-32766	-2147319806
Device Comment			D1			-32766	-2147319806
Used Device Rep			D2			-32766	-2147319806
HWCONFIG			D3			-32766	-2147319806
CARD Utility			D4			-32766	-2147319806
AS332T (Untitle			D5			-32766	-2147319806
Tasks			D6			-32766	-2147319806
DUT			D7			-32766	32770
E-CAM Editor			D8			0	0
Global Symbols			D9			0	0
Main Table			D32			275	-2147352301
EtherNet/IP			D33			-32766	-2147319806
EtherNet/IP			D34			-32766	-2147319806
C Global V							
HWCONFI							
OPC UA T							

4.10.2 Non-Delta PLC EIP Data Exchange Settings

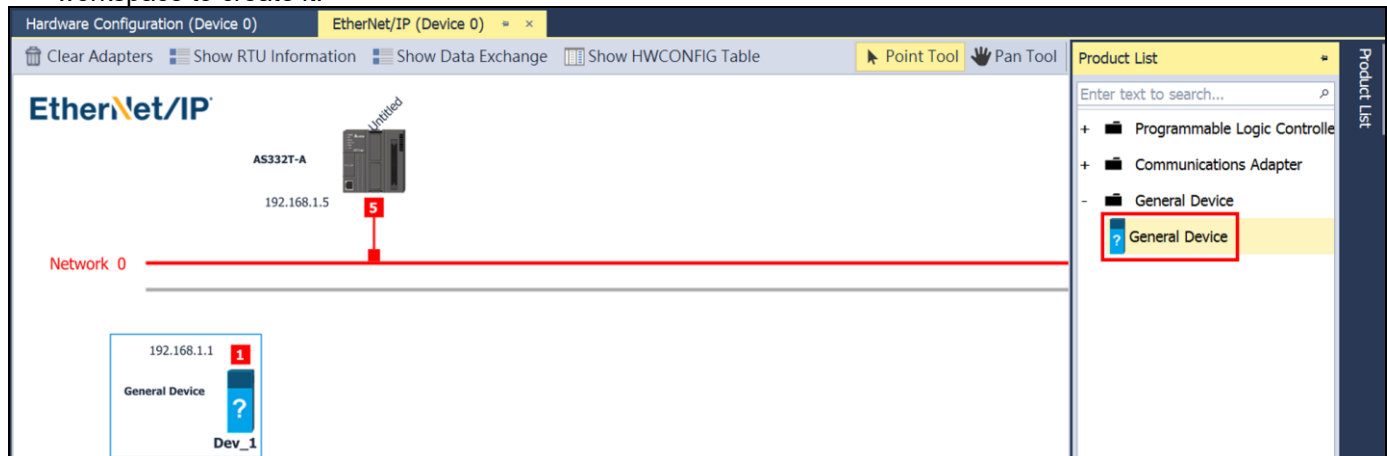
When using a non-Delta PLC, it will not have an EDS file. Therefore, you need to manually input the data exchange content from the DTN Soft temperature controller software using a custom method. The following explanation uses the Delta PLC operating interface as an example to illustrate the concept of configuration. When using PLCs from other brands, the operation methods and interfaces will be different. Please refer to the corresponding PLC manual or consult technical support personnel for specific instructions.

- 1) Select the [Custom EIP Data] option in the [EIP Builder] of the DTN Soft software. This will enable you to directly configure the data exchange content between the PLC and DTN-EIP within the DTN Soft software.
 [Custom EIP Data]: Once checked, the PLC will not use EDS and will connect using a custom method.
 [Connection1]: Displayed according to the number of DTN measurement units used. It can display up to 8 DTN measurement units (Connection1~8)
 [INAddr], [OUTAddr]: Configure the data exchange between the DTN and the PLC, with each DTN IN/OUT supporting 32 data entries.
 [Saving EIP Data], [Loading EIP Data], [Confirm/Write]: Can save the 32 IN and 32 OUT setting contents on this page.
 Each time there are changes in the settings, click on "OK/Write" to write the new configuration values into the DTN-EIP.

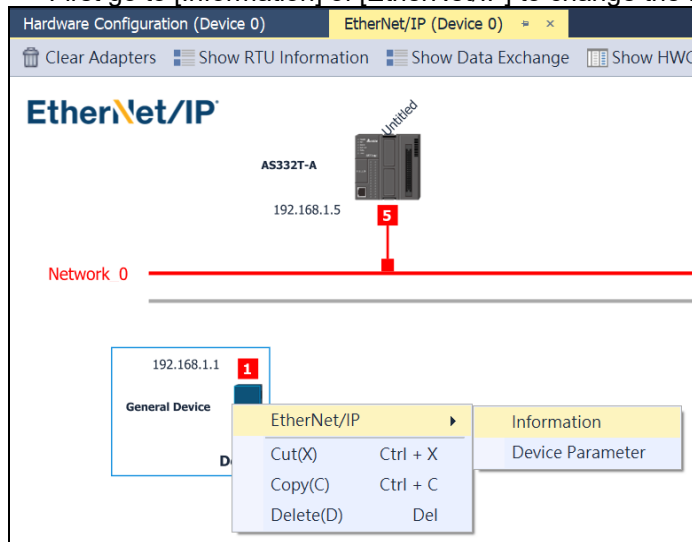
- 2) Establish the PLC on the EIP network according to Steps 1) to 9) in Chapter 4.10.1



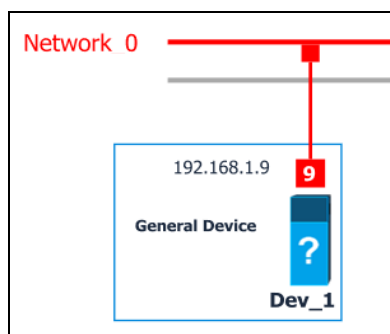
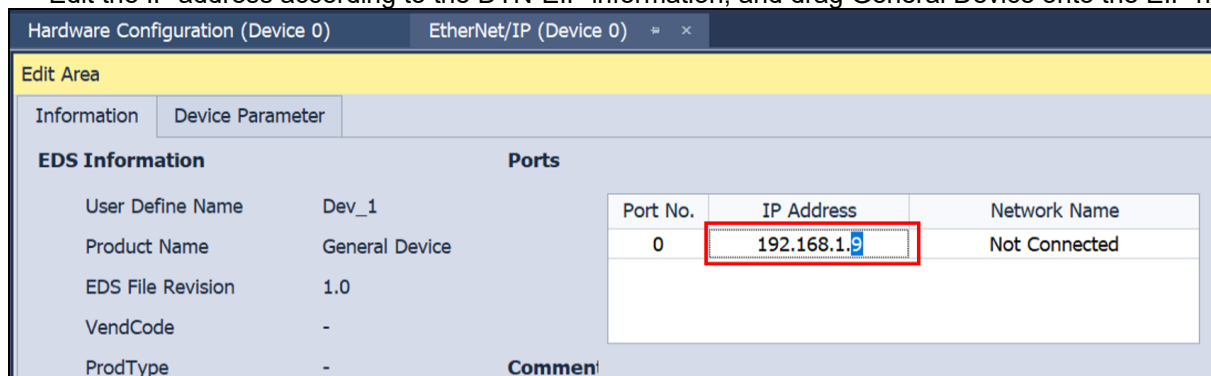
- 3) Since this is a connection with a non-EDS device, select [General Device] in the [Product List] and drag it into the workspace to create it.



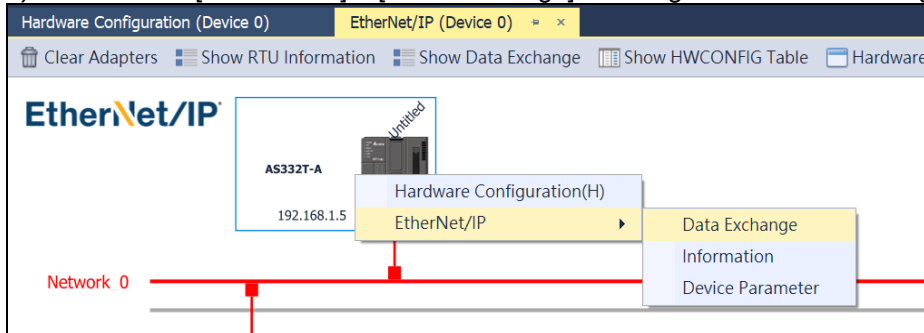
First go to [Information] of [EtherNet/IP] to change the IP address.



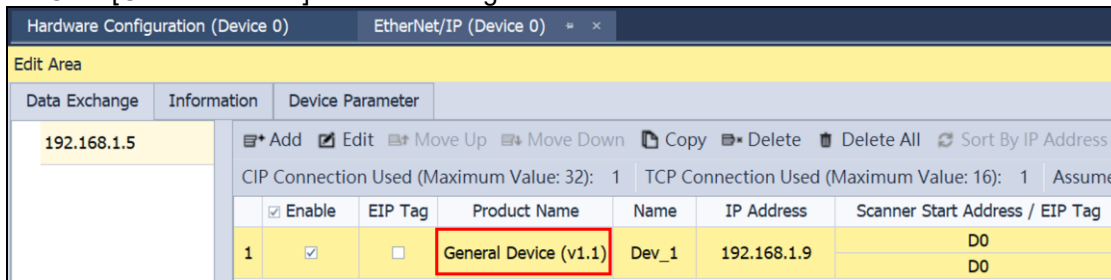
Edit the IP address according to the DTN-EIP information, and drag General Device onto the EIP network.



4) Select PLC [EtherNet/IP] > [Data Exchange] to configure the data exchange content.



Click [General Device] to enter Settings.



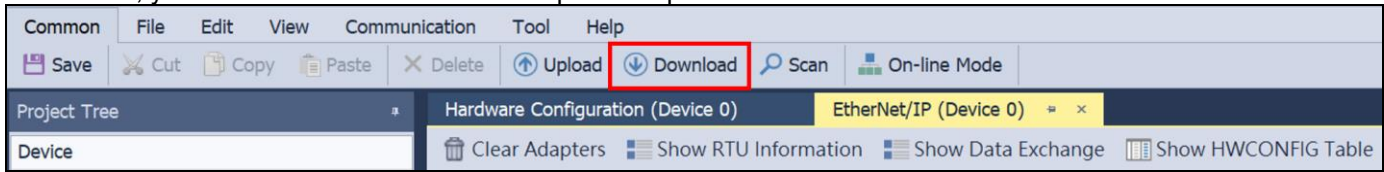
[Connection Path Setting]: Connect to exchange data with the first DTN. Please set [Input Instance=101] and [Output Instance=100].

On the left side, you can set the register usage area of the PLC data exchange. For example, you can set the DTN-EIP data to be read into the PLC's D0 register, and the PLC's D100 register data will be written into the DTN-EIP.

The content setting for each exchange data cannot be provided without the EDS file. It needs to be configured in the temperature controller DTN Soft.



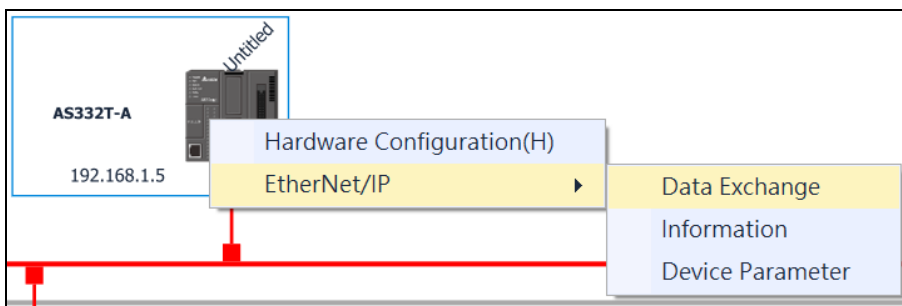
After completing the above settings, click on "Download" to transfer the data exchange configuration to the PLC. Once done, you can close HWCONFIG to complete the process.



- 5) Open the ISPSost PLC editing software and use the device monitoring table for verification. In the diagram below, the first PV value of the DTN is displayed in the D0 register, and the SV value is set through D100. When D100 is set to 50.0 degrees, the ninth SV value displayed in the D8 register will also change synchronously to 50.0 degrees.

Object	Identifiers	Device Name	Status	Data Type	Value (16bits)
		D0			247
		D1			-32766
		D2			-32766
		D3			-32766
		D4			-32766
		D5			-32766
		D6			-32766
		D7			-32766
		D8			500
		D9			0
		D100			500
		D11			0
		D101			0

- 6) The DTN architecture can be connected with up to 8 main DTN measurement units/measurement modules. When using EIP communication with 2 to 8 DTN measurement modules in the DTN architecture, the configuration is as follows: The order of EIP communication for 2 to 8 DTN modules is defined based on the physical installation sequence of the DTN units and is unrelated to the Station ID setting on the DTN's rotary switch. Go back to the HWCONFIG software. Place the mouse cursor over the PLC icon and right-click. Select [EtherNet/IP] > [Data Exchange].



Click on Add to add the second DTN measurement unit's EIP data exchange connection.

Enable	EIP Tag	Product Name	Name	IP Address	Scanner Start Address / EIP Tag	Direction	Adapter Start Address / EIP Tag / Parameter
☒	☐	General Device (v1.1)	Dev_1	192.168.1.9	D0	←	Input
					D100	→	Output

Click the General Device product name area to enter Settings.

Hardware Configuration (Device 0)		EtherNet/IP (Device 0)	
Edit Area			
Data Exchange	Information	Device Parameter	
192.168.1.5	Add Edit Move Up Move Down Copy Delete Delete All Sort By IP Address		
	CIP Connection Used (Maximum Value: 32): 2 TCP Connection Used (Maximum Value: 16): 1 Assume Scan Time: 5 EIP Theoretical Rate		
	☒ Enable	☐ EIP Tag	Product Name
	Name		IP Address
	Scanner Start Address / EIP Tag		Direction
	Adapter Start Address / EIP Tag / Parameter		
1	☒	☐	General Device (v1.1)
Dev_1		192.168.1.9	D0
			D100
2	☒	☐	General Device (v1.1)
Dev_1		192.168.1.9	D32
			D132

[Connection Path Setting]: The first device is set to [Input Instance=101] and [Output Instance=100]. The second is set to [Input Instance=103] and [Output Instance=102]. The third to eighth devices are set in ascending order accordingly.

[Read > Scanner Start Address]: For the first device, the data exchange starts from D0. For the second device, you can choose to start from D32 in sequential order. The [Length] remains 64 bytes (32 words)

[Write> Scanner Start Address]: For the first device, the data exchange starts from D100. For the second device, you can choose to start from D132 in sequential order. The [Length] remains 64 bytes (32 words)

General Setting

Connection Name

IO Connection

EDS Compare Rule

Disable Keying

☒ Enable

☐ EtherNet/IP Tag

Connection Parameter Setting

RPI (ms)

20

☐ Apply to all

Connection Type

Point To Point

Timeout

RPI x 4

☐ Apply to all

Trigger Mode

Cyclic

Connection Path Setting

Input (T->O) Instance

103

Output (O->T) Instance

102

Configure Instance

128

Read

Scanner Start Address

D

32

←

Input

Adapter Start Address

Input

Length (byte)

64

Input Transfer Format

Pure data

Write

Scanner Start Address

D

132

→

Output

Adapter Start Address

Output

Length (byte)

64

Output Transfer Format

32-Bit Run/ Idle Header

Port

Port Segement Enable

Disable

Port Number

1

Link Address

0

Config Data

Config Size (byte)

0

Default

OK

Cancel

After completing the above settings, click on "Download" to transfer the data exchange configuration to the PLC. Once done, you can close HWCONFIG to complete the process.

Common

File

Edit

View

Communication

Tool

Help

Save

Cut

Copy

Paste

Delete

Upload

Download

Scan

On-line Mode

Project Tree

Hardware Configuration (Device 0)

EtherNet/IP (Device 0)

Device

Clear Adapters

Show RTU Information

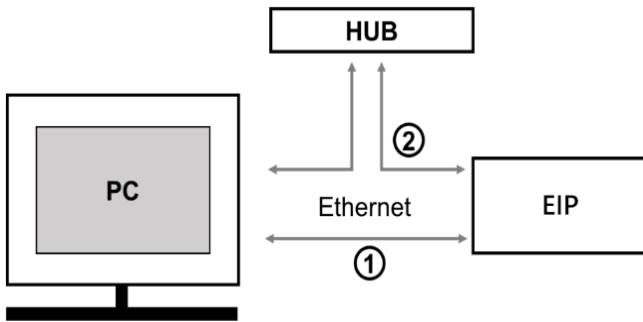
Show Data Exchange

Show HWCONFIG Table

4.11 DCISoft Software - EIP Address Settings

This appendix explains how to configure EIP using Delta's communication software, DCISoft, and describes the fields on each configuration page. Before opening a configuration page, DCISoft must first select Ethernet in the communication settings. After configuration, the EIP device configuration page can be accessed via broadcast search or by specifying an IP address.

There are two connection methods: the PC can connect directly to the EIP device or via a hub.

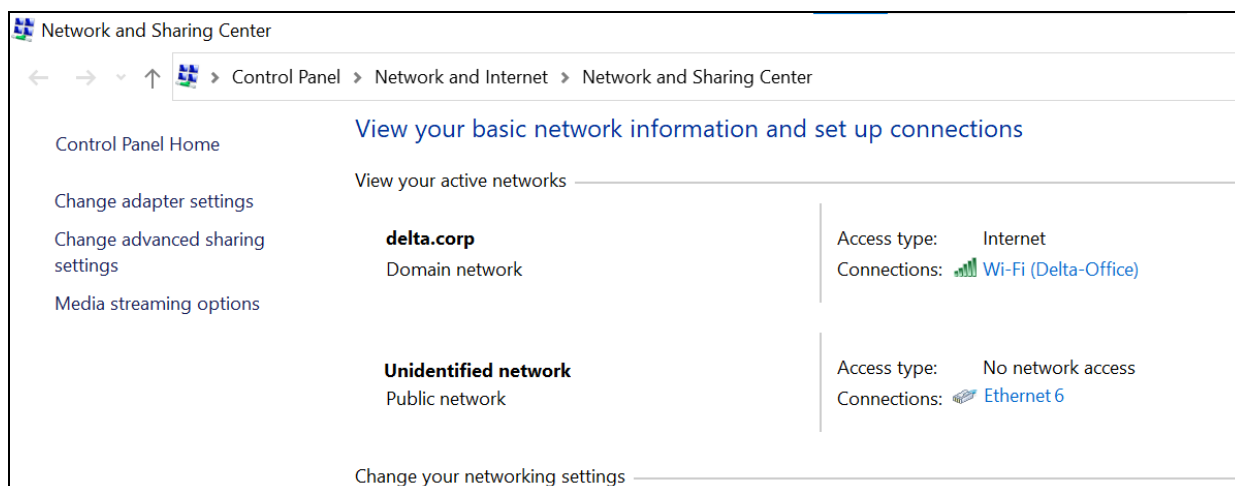


4.11.1 PC Network IP Address Settings

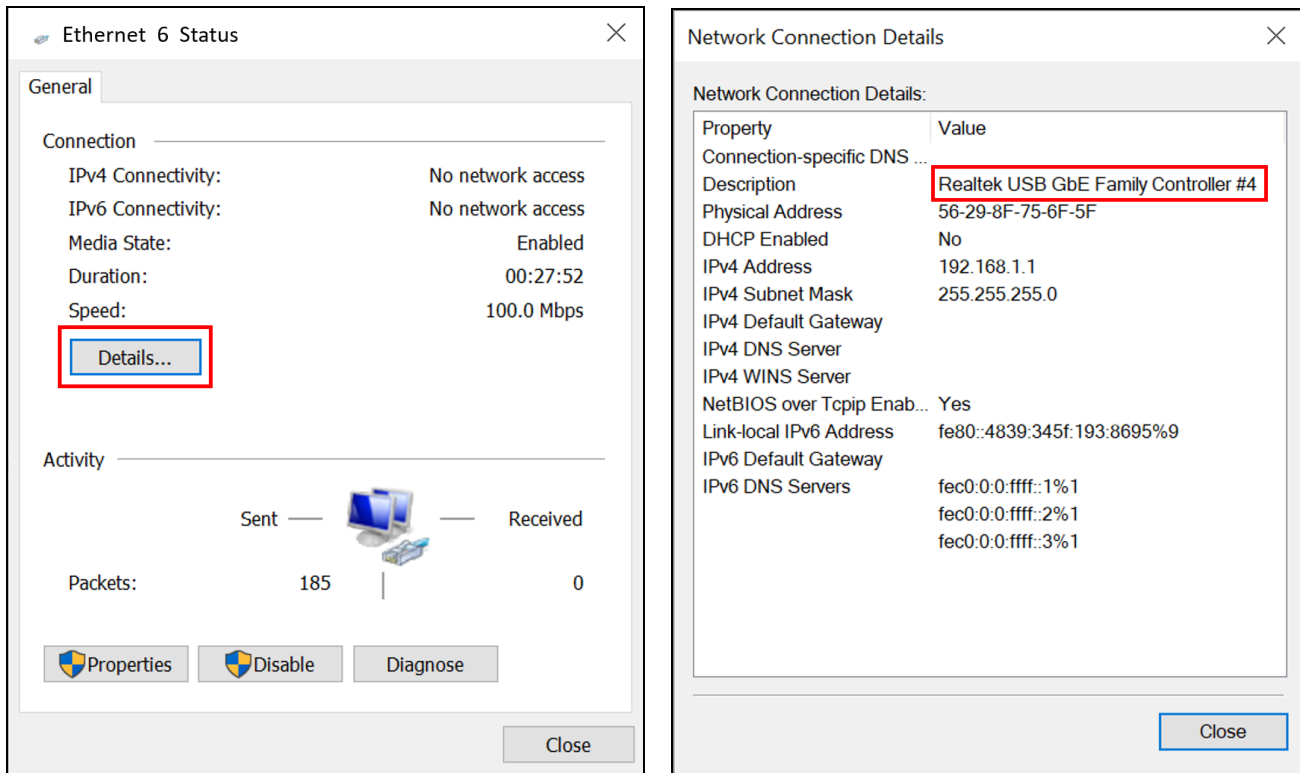
All network devices require an IP address (Internet Protocol) as the first step when connecting to a network. This IP address acts like an identification number, allowing each device on the network to be uniquely recognized.

■ PC Static IP Settings

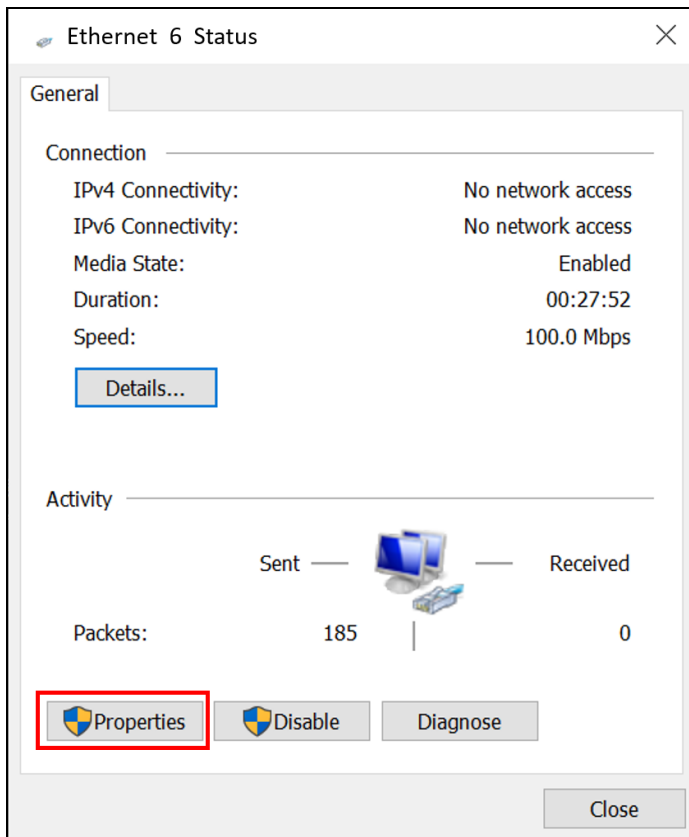
1) Enter Control Panel → Network and Sharing Center → Click the connected Local Area Connection [Ethernet].



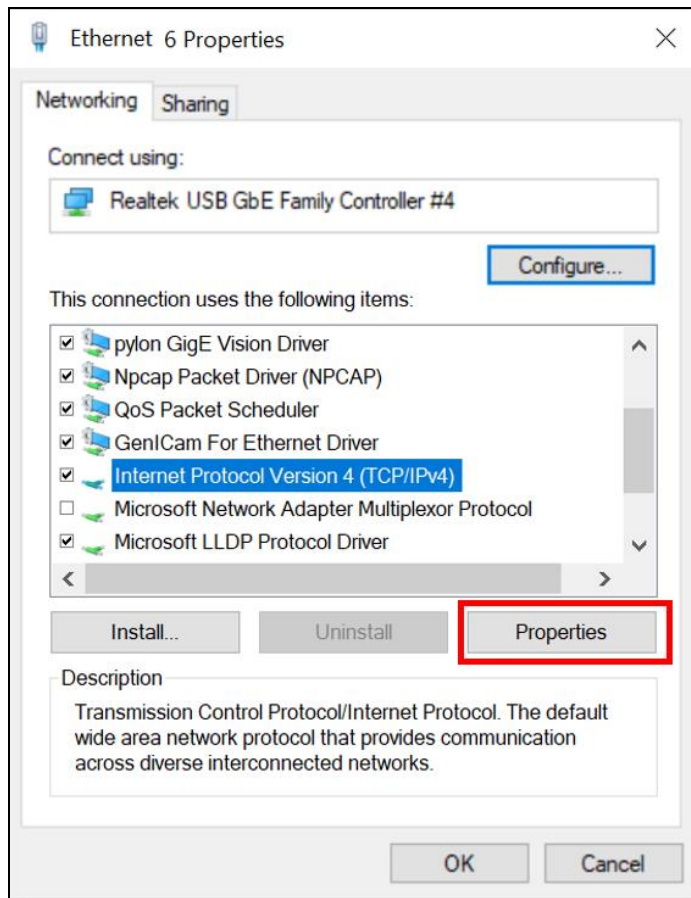
2) Click [Details] to view the currently used network card.



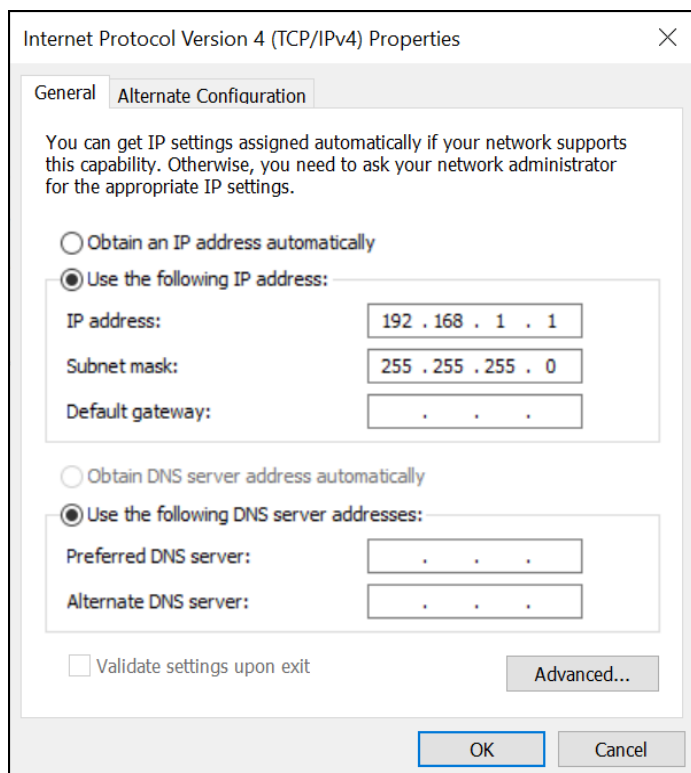
3) Click "Properties" to enter.



- 4) Select "Internet Protocol Version 4 (TCP/IPv4)" and click on "Properties" as indicated in the diagram.



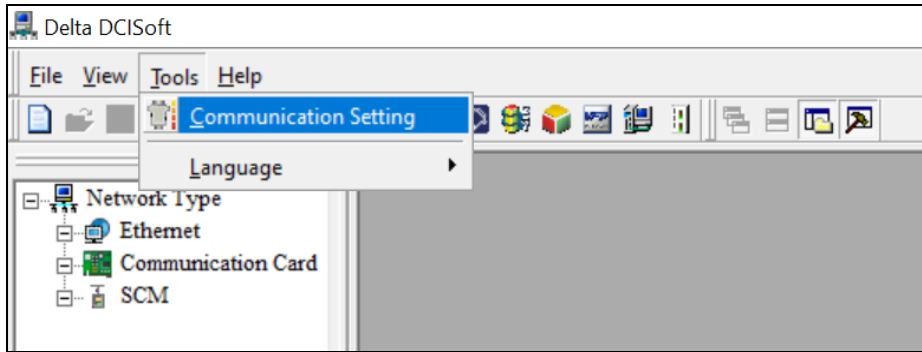
- 5) Enter "192.168.1.1" into the IP address field. Click "OK" to complete the IP address configuration for the PC.



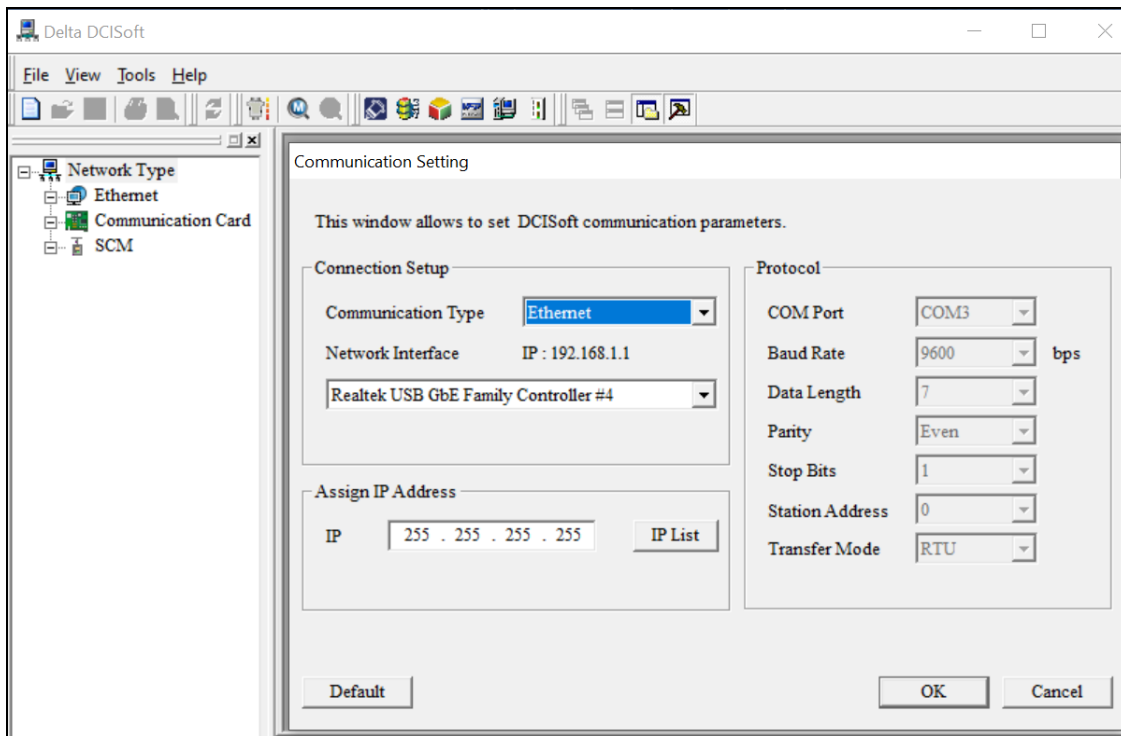
4.11.2 Communication Settings and Search Modules

■ Communication Settings

1) Open DCISoft on the PC and select "Tools" => "Communication Setting".

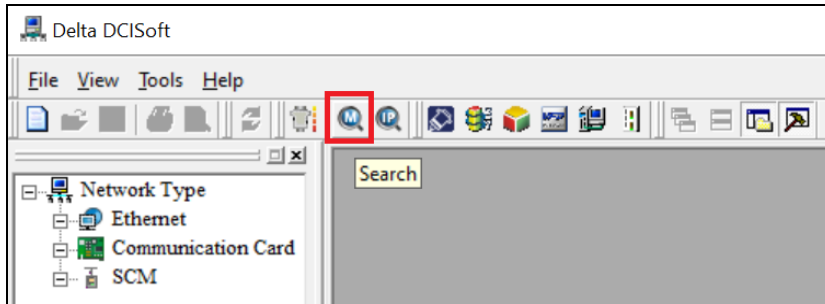


2) Select "Ethernet" as the Communication Type.

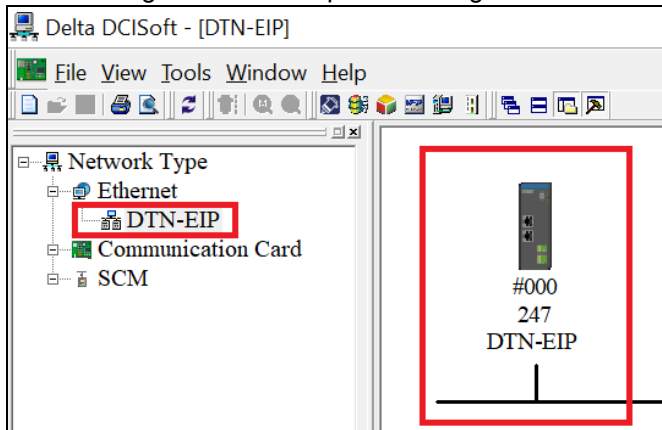


■ Broadcast Search

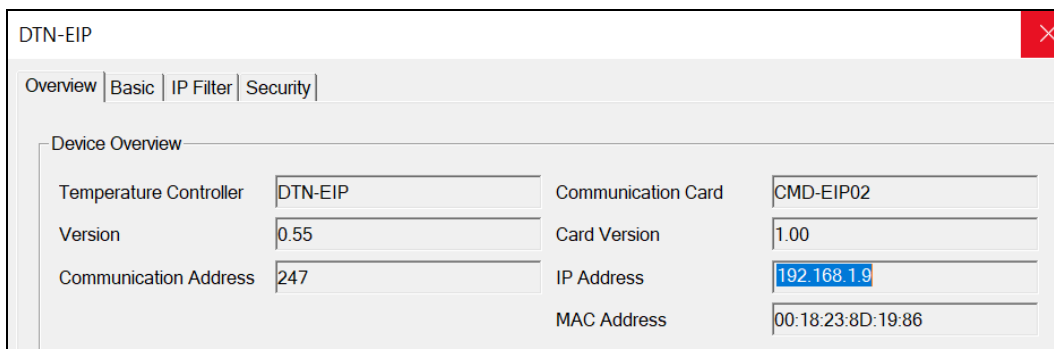
- 1) Click on the "Search" icon  in DCISoft to search for all Delta Ethernet products on the local network via the broadcast method. Device categories for products that have been located are displayed in the left panel, and the list of various devices is displayed on the right panel.



- 2) In the left window, select the device type. The right window will display the list of devices for that type. Click a device in the right window to open its configuration screen.

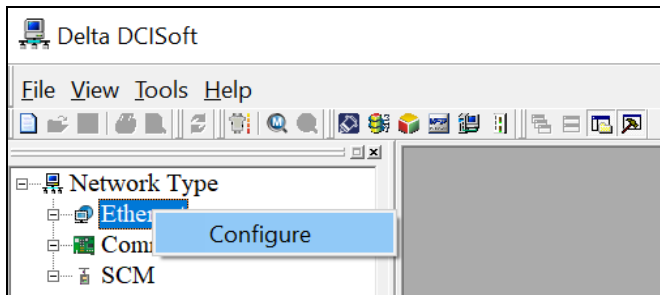


- 3) The DTN-EIP Configuration page is as shown in the figure below.

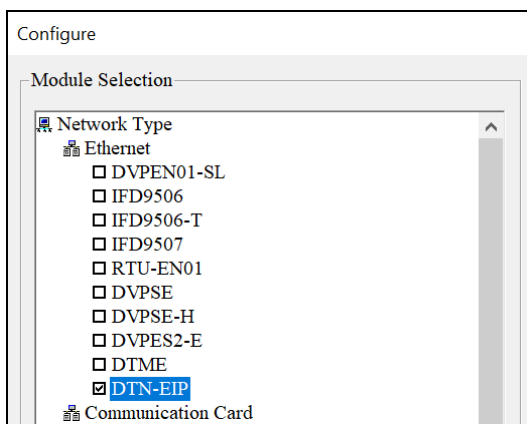


■ Search by a Specified Device

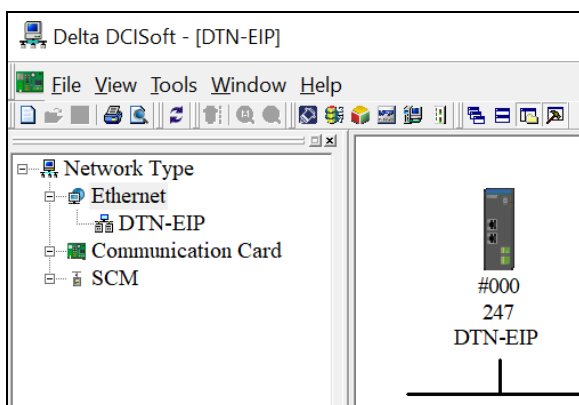
- 1) In the DCISoft workspace (left-side window), click on "Ethernet," then right-click and select "Configure" to specify the device type for searching.



- 2) After creating, select the desired device type "DTN-EIP" and click "OK" to automatically search for existing "DTN-EIP" devices on the network.

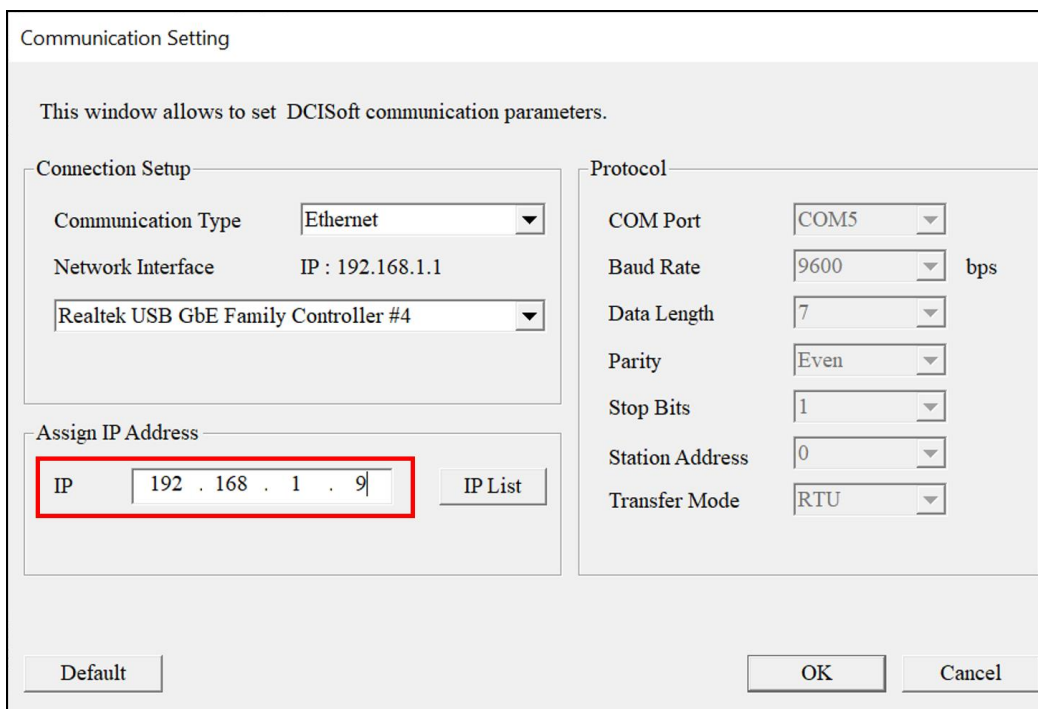
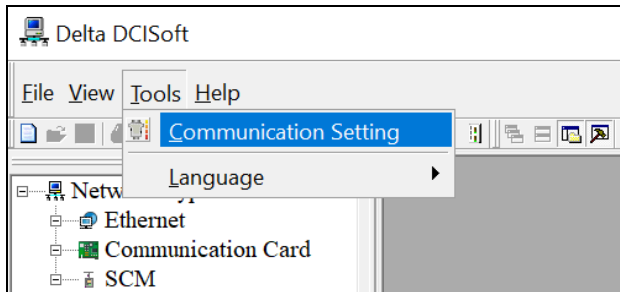


- 3) List of current DTN-EIP devices.

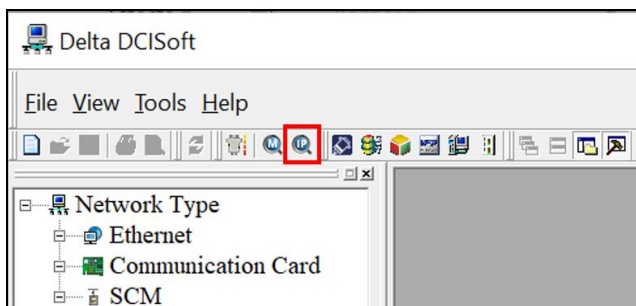


■ Search by a Specific IP Address

- 1) If the device and PC are not on the same local area network or cannot be found through broadcasting, please use the specify IP method for the search. Set the communication mode to "Ethernet" and enter the IP address of the target DTN-EIP in the address field. Click "OK" to close the window.



- 2) Click on the IP search icon  to start searching for the target IP address.



4.11.3 DTN-EIP Settings

After connecting to DTN-EIP using DCISoft, you can start the configuration by clicking on the DTN-EIP icon. The four sections of [Overview], [Basic], [IP Filter], and [Security] are available.

■ Overview:

This displays the current DTN-EIP device state.

The screenshot shows the 'DTN-EIP' configuration window with the 'Overview' tab selected. The window displays the following information:

Device Overview			
Temperature Controller	DTN-EIP	Communication Card	CMD-EIP02
Version	0.55	Card Version	1.00
Communication Address	247	IP Address	192.168.1.9
		MAC Address	00:18:23:8D:19:86

■ Basic:

The screenshot shows the 'DTN-EIP' configuration window with the 'Basic' tab selected. The window displays the following configuration options:

Device Name: DTN-EIP

Network Setup:

- IP Configuration: Static
- IP Address: 192 . 168 . 1 . 9
- Netmask: 255 . 255 . 255 . 0
- Gateway: 192 . 168 . 1 . 1

Timer Setting:

- Keep Alive Time (s): 30 (10 - 65535 s)

1) Device Name:

There may be several DTN-EIP modules present on the network. To select the correct equipment, you can assign a name to each module. The modules will then be correctly identified during search.

2) Network Setup:

(1) IP Configuration:

There are 2 types of IP configurations: Static IP and DHCP.

Static IP: Preset or manually modified by the user.

Dynamic IP address (DHCP): Automatically assigned by the DHCP server.

Option	Description
Static	The user manually enters the IP address, subnet mask, and gateway.
DHCP	The polled DHCP provides the IP address, subnet mask, and gateway.

(2) IP Address:

IP address is the location of a device on the network. Each device connected to the network must be assigned an IP address. An incorrectly assigned IP address will result in a device's connection failure. It may also cause other equipment to disconnect from the network. Consult a network administrator on how to set up the IP address. The default IP address of DTN-EIP is 192.168.1.5.

(3) Netmask:

Netmask is an important parameter for setting up the subnet. It is used to determine whether the IP address of a target device is located in the same subnet as the local equipment. If it is not in the same network, the device will send its packets to the gateway, and the gateway will send these packets to another subnet. Incorrect settings may cause the target device to be unable to communicate with the DTN-EIP properly. To see if your settings are correct, conduct a bitwise AND operation between your IP address and the netmask, and another bitwise AND operation between the IP address of the target device and the netmask. If these two values are the same, both IPs are in the same subnet. DTN-EIP's default netmask is 255.255.255.0.

(4) Gateway:

The gateway is the window of communication between two different subnets; it allows devices on two different subnets to communicate with each other. For example, if a LAN needs to be connected to the WAN, a gateway is necessary to bridge the two communication networks. The IP of the gateway has to be in the same subnet as the DTN-EIP. The default gateway of DTN-EIP is 192.168.1.1.

3) Timer Settings:

This sets up the Modbus TCP keep-alive time; unit: seconds; range: 10 – 65,535; Default value is 30 seconds. If the connection idle time exceeds the keep-alive time, DTN-EIP will disconnect the idle connection.

■ IP filter:

IP filtering is used to restrict network connections from unauthorized IP addresses, preventing potential errors. Only the IP addresses within the specified range can establish a connection, while all other IP addresses will be rejected.

DTN-EIP

Overview | Basic | IP Filter | Security

☒ Enable IP Filter (Only the IP address listed below are allowed to access)

IP Filter Setup

No.	Begin IP Address	End IP Address
1.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
2.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
3.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
4.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
5.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
6.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
7.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
8.	0 . 0 . 0 . 0	0 . 0 . 0 . 0

- 1) Enable IP Filter: Select to enable. After enabling, the IP filtering function will be applied based on the configured data.
- 2) Begin IP Address: Sets the IP start addresses allowed to establish connections. Up to 8 IPs can be configured.
- 3) End IP Address: Sets the IP end addresses allowed to establish connections. Up to 8 IPs can be configured.

■ Security:

DTN-EIP

Overview | Basic | IP Filter | Security

Login

Password

Password Setup

☐ Modify

Password

Confirm Password

Load Factory Default

☐ Reset Network Parameters to Factory Setting

- 1) Log in:

Password: After setting the password in [Password] below, you will be required to log in before accessing the Settings.

2) Password setup:

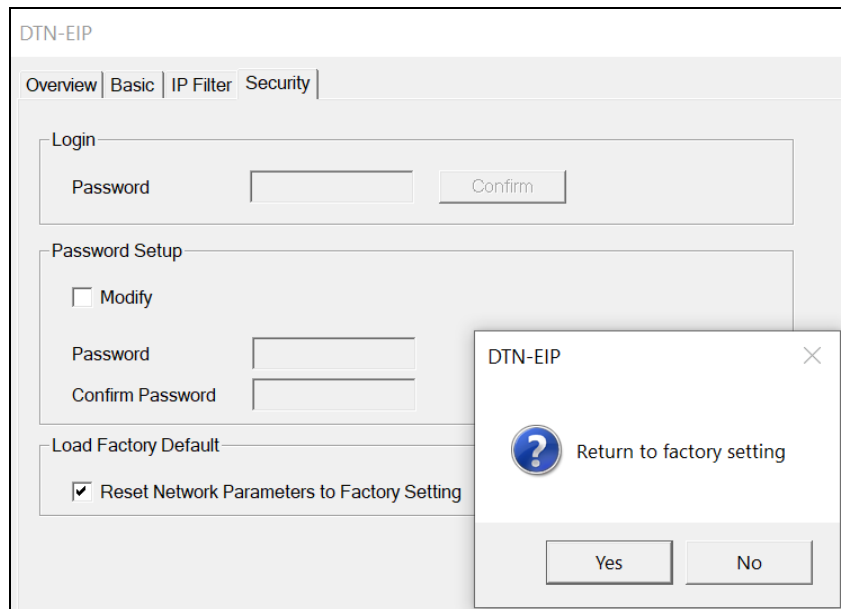
- **Modify:** Select to change password.
- **Password:** Sets the personal password. The maximum length of the password is 4 numbers. The password can be set to "Blank" to disable the password function.
- **Confirm password:** Re-enter the new password.
- ❖ *Caution: After being password locked, the password needs to be entered for every page to configure the settings.*

3) Reset Network Parameters to Factory Setting:

To clear all previous settings of the DTN-EIP and restore them to factory defaults, go to the "Load Factory Default" page and check the option to reset factory settings.

■ Load Factory Default:

Select the "Load Factory Default" option and press "Yes (Y)". All options of the DTN-EIP network parameters will be restored to the factory settings.



4.11.4 Application Example

■ Password Setup and Clearing

Function Description	Use DCISoft to set up and clear the password in DTN-EIP
Network Environment	(1) Set up a password in DTN-EIP (2) Unlock DTN-EIP (3) Clear password in DTN-EIP

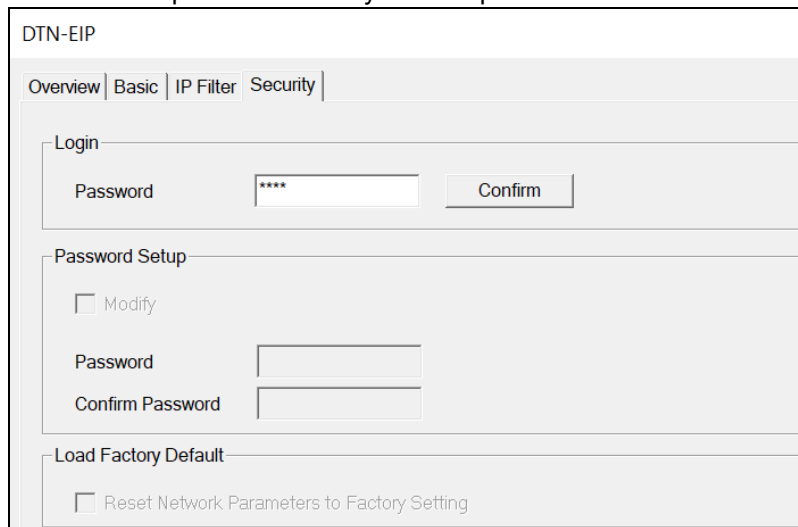
1) Launch the setup dialog for DTN-EIP and click on the "Security" tab.

The screenshot shows the 'DTN-EIP' configuration window with the 'Security' tab selected. The 'Login' section has a 'Password' text box and a 'Confirm' button. The 'Password Setup' section has a 'Modify' checkbox, a 'Password' text box, and a 'Confirm Password' text box. The 'Load Factory Default' section has a 'Reset Network Parameters to Factory Setting' checkbox.

2) Check "Modify" and enter password "1234" into the "Password" and "Confirm Password" text boxes; click on "Apply" to save the password.

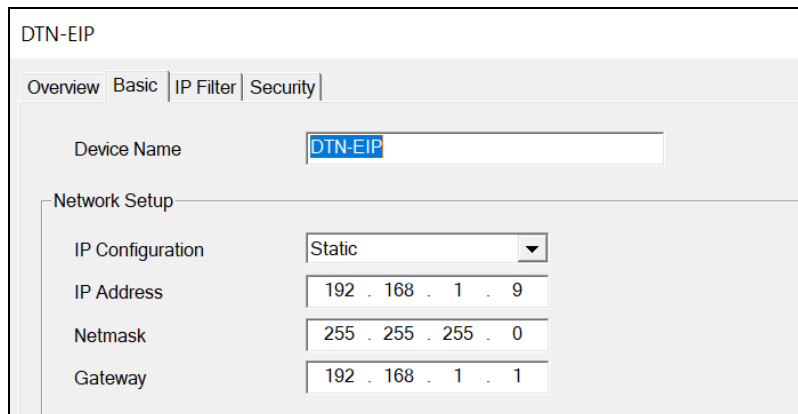
The screenshot shows the 'DTN-EIP' configuration window with the 'Security' tab selected. The 'Modify' checkbox is checked. The 'Password' and 'Confirm Password' text boxes contain '1234'. A small dialog box titled 'DTN-EIP' is overlaid on the main window, displaying a yellow warning icon and the text 'Configuration is successful'. The 'OK' button is visible at the bottom of the small dialog box.

- 3) Reopen the setup page and you will notice that all of the settings are now password locked and cannot be changed. Enter the password directly into the password box and click "OK".



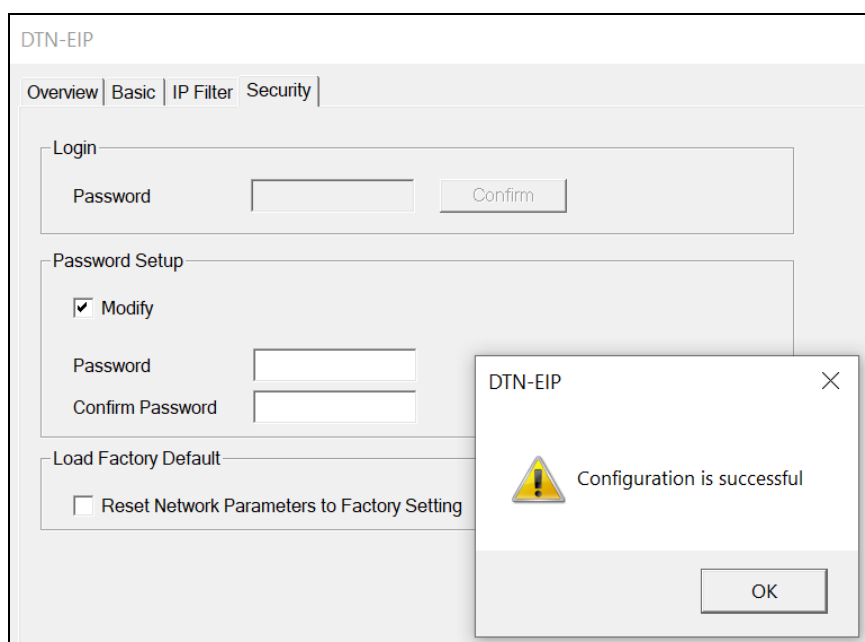
The screenshot shows the DTN-EIP configuration interface with the 'Security' tab selected. It features three sections: 'Login' with a password field (masked with asterisks) and a 'Confirm' button; 'Password Setup' with a 'Modify' checkbox, a 'Password' field, and a 'Confirm Password' field; and 'Load Factory Default' with a checkbox labeled 'Reset Network Parameters to Factory Setting'.

- 4) Enter the password to temporarily unlock the settings and modify parameters. If you close the setup dialog box, settings will be locked once again.



The screenshot shows the DTN-EIP configuration interface with the 'Basic' tab selected. It includes a 'Device Name' field containing 'DTN-EIP'. The 'Network Setup' section contains: 'IP Configuration' set to 'Static', 'IP Address' '192 . 168 . 1 . 9', 'Netmask' '255 . 255 . 255 . 0', and 'Gateway' '192 . 168 . 1 . 1'.

- 5) If you wish to clear the password, change the password to "Blank". Click "Apply (A)" to clear the password.



The screenshot shows the DTN-EIP configuration interface with the 'Security' tab selected. The 'Modify' checkbox in the 'Password Setup' section is checked. A modal dialog box titled 'DTN-EIP' is displayed in the foreground, showing a yellow warning icon and the message 'Configuration is successful', with an 'OK' button at the bottom.

- 6) After the password is cleared, you may modify any parameters you wish.

■ IP Filter Protection

Function Description	Setting up IP filter protection
Network Environment	(1) IP address of DTN-EIP is 192.168.0.4 (2) Only 192.168.0.7 and 172.16.0.1 to 172.16.0.254 can connect.

- 1) Launch the setup dialog for DTN-EIP and click on the "IP Filter" tab.
- 2) Check "Enable IP Filter". Enter "192.168.0.7" into Group 1's "Begin IP address" and "End IP address".

DTN-EIP

Overview | Basic | IP Filter | Security

☒ Enable IP Filter (Only the IP address listed below are allowed to access)

IP Filter Setup

No.	Begin IP Address	End IP Address
1.	192 . 168 . 0 . 7	192 . 168 . 0 . 7
2.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
3.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
4.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
5.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
6.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
7.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
8.	0 . 0 . 0 . 0	0 . 0 . 0 . 0

- 3) Enter "172.16.0.1" and "172.16.0.254" into Group 2's "Begin IP address" and "End IP address", respectively. Click "Apply (A)" to complete the configuration. Only devices within the permitted range of IP addresses are allowed to be connected after configuration.

DTN-EIP

Overview | Basic | IP Filter | Security

☒ Enable IP Filter (Only the IP address listed below are allowed to access)

IP Filter Setup

No.	Begin IP Address	End IP Address
1.	192 . 168 . 0 . 7	192 . 168 . 0 . 7
2.	172 . 16 . 0 . 1	172 . 16 . 0 . 254
3.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
4.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
5.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
6.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
7.	0 . 0 . 0 . 0	0 . 0 . 0 . 0
8.	0 . 0 . 0 . 0	0 . 0 . 0 . 0

4.12 MODBUS TCP Communications Register

The EIP module will collect the data from the connected DTN main unit and store it within the module. This allows the data to be accessed and communicated with the upper-level controller through the Ethernet interface. As the DTN main unit is assigned station ID 1 to 16 using the rotary switch, the EIP module has predefined communication locations for the parameters of each DTN main unit with station ID 1 to 16. When using the Modbus TCP protocol, you can refer to the following communication location table for communication.

To facilitate users in reading multiple sets of data at once, besides the basic DTN 1~16 Station ID register locations, integrated register locations are also provided based on the parameters. For example: To read the PV of all 64 channels, you can send a single read command to the H9000 location, and the response will include the content of all 64 channels within the length specified.

4.12.1 DTN Station ID. 1 to 16 Parameter Register (according to parameter)

According to the DTN main unit/extension module's rotary switch Station ID setting, the EIP module arranges the communication registers for different Station IDs in a sequential manner, following the parameter method. This enables users to read the same functional parameter from different Station IDs through a single communication command.

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Present value (PV) unit: 0.1°C	1	9000	9001	9002	9003	9004	9005	9006	9007
	2	9008	9009	900A	900B	900C	900D	900E	900F
	3	9010	9011	9012	9013	9014	9015	9016	9017
	4	9018	9019	901A	901B	901C	901D	901E	901F
	5	9020	9021	9022	9023	9024	9025	9026	9027
	6	9028	9029	902A	902B	902C	902D	902E	902F
	7	9030	9031	9032	9033	9034	9035	9036	9037
	8	9038	9039	903A	903B	903C	903D	903E	903F
	9	9040	9041	9042	9043	9044	9045	9046	9047
	10	9048	9049	904A	904B	904C	904D	904E	904F
	11	9050	9051	9052	9053	9054	9055	9056	9057
	12	9058	9059	905A	905B	905C	905D	905E	905F
	13	9060	9061	9062	9063	9064	9065	9066	9067
	14	9068	9069	906A	906B	906C	906D	906E	906F
	15	9070	9071	9072	9073	9074	9075	9076	9077
	16	9078	9079	907A	907B	907C	907D	907E	907F

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Set value (SV) unit: 0.1°C	1	9080	9081	9082	9083	9084	9085	9086	9087
	2	9088	9089	908A	908B	908C	908D	908E	908F
	3	9090	9091	9092	9093	9094	9095	9096	9097
	4	9098	9099	909A	909B	909C	909D	909E	909F
	5	90A0	90A1	90A2	90A3	90A4	90A5	90A6	90A7
	6	90A8	90A9	90AA	90AB	90AC	90AD	90AE	90AF
	7	90B0	90B1	90B2	90B3	90B4	90B5	90B6	90B7
	8	90B8	90B9	90BA	90BB	90BC	90BD	90BE	90BF
	9	90C0	90C1	90C2	90C3	90C4	90C5	90C6	90C7
	10	90C8	90C9	90CA	90CB	90CC	90CD	90CE	90CF
	11	90D0	90D1	90D2	90D3	90D4	90D5	90D6	90D7
	12	90D8	90D9	90DA	90DB	90DC	90DD	90DE	90DF
	13	90E0	90E1	90E2	90E3	90E4	90E5	90E6	90E7
	14	90E8	90E9	90EA	90EB	90EC	90ED	90EE	90EF
	15	90F0	90F1	90F2	90F3	90F4	90F5	90F6	90F7
	16	90F8	90F9	90FA	90FB	90FC	90FD	90FE	90FF

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Output 1 operating value (MV1)	1	9100	9101	9102	9103	9104	9105	9106	9107
	2	9108	9109	910A	910B	910C	910D	910E	910F
	3	9110	9111	9112	9113	9114	9115	9116	9117
	4	9118	9119	911A	911B	911C	911D	911E	911F
	5	9120	9121	9122	9123	9124	9125	9126	9127
	6	9128	9129	912A	912B	912C	912D	912E	912F
	7	9130	9131	9132	9133	9134	9135	9136	9137
	8	9138	9139	913A	913B	913C	913D	913E	913F
	9	9140	9141	9142	9143	9144	9145	9146	9147
	10	9148	9149	914A	914B	914C	914D	914E	914F
	11	9150	9151	9152	9153	9154	9155	9156	9157
	12	9158	9159	915A	915B	915C	915D	915E	915F
	13	9160	9161	9162	9163	9164	9165	9166	9167
	14	9168	9169	916A	916B	916C	916D	916E	916F
	15	9170	9171	9172	9173	9174	9175	9176	9177
	16	9178	9179	917A	917B	917C	917D	917E	917F

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Output 2 operating value (MV2)	1	9180	9181	9182	9183	9184	9185	9186	9187
	2	9188	9189	918A	918B	918C	918D	918E	918F
	3	9190	9191	9192	9193	9194	9195	9196	9197
	4	9198	9199	919A	919B	919C	919D	919E	919F
	5	91A0	91A1	91A2	91A3	91A4	91A5	91A6	91A7
	6	91A8	91A9	91AA	91AB	91AC	91AD	91AE	91AF
	7	91B0	91B1	91B2	91B3	91B4	91B5	91B6	91B7
	8	91B8	91B9	91BA	91BB	91BC	91BD	91BE	91BF
	9	91C0	91C1	91C2	91C3	91C4	91C5	91C6	91C7
	10	91C8	91C9	91CA	91CB	91CC	91CD	91CE	91CF
	11	91D0	91D1	91D2	91D3	91D4	91D5	91D6	91D7
	12	91D8	91D9	91DA	91DB	91DC	91DD	91DE	91DF
	13	91E0	91E1	91E2	91E3	91E4	91E5	91E6	91E7
	14	91E8	91E9	91EA	91EB	91EC	91ED	91EE	91EF
	15	91F0	91F1	91F2	91F3	91F4	91F5	91F6	91F7
	16	91F8	91F9	91FA	91FB	91FC	91FD	91FE	91FF

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
RUN/ STOP 0: Stop; 1: Run	1	9200	9201	9202	9203	9204	9205	9206	9207
	2	9208	9209	920A	920B	920C	920D	920E	920F
	3	9210	9211	9212	9213	9214	9215	9216	9217
	4	9218	9219	921A	921B	921C	921D	921E	921F
	5	9220	9221	9222	9223	9224	9225	9226	9227
	6	9228	9229	922A	922B	922C	922D	922E	922F
	7	9230	9231	9232	9233	9234	9235	9236	9237
	8	9238	9239	923A	923B	923C	923D	923E	923F
	9	9240	9241	9242	9243	9244	9245	9246	9247
	10	9248	9249	924A	924B	924C	924D	924E	924F
	11	9250	9251	9252	9253	9254	9255	9256	9257
	12	9258	9259	925A	925B	925C	925D	925E	925F
	13	9260	9261	9262	9263	9264	9265	9266	9267
	14	9268	9269	926A	926B	926C	926D	926E	926F
	15	9270	9271	9272	9273	9274	9275	9276	9277
	16	9278	9279	927A	927B	927C	927D	927E	927F

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Auto-tuning (AT) 0: Stop; 1: Executing	1	9280	9281	9282	9283	9284	9285	9286	9287
	2	9288	9289	928A	928B	928C	928D	928E	928F
	3	9290	9291	9292	9293	9294	9295	9296	9297
	4	9298	9299	929A	929B	929C	929D	929E	929F
	5	92A0	92A1	92A2	92A3	92A4	92A5	92A6	92A7
	6	92A8	92A9	92AA	92AB	92AC	92AD	92AE	92AF
	7	92B0	92B1	92B2	92B3	92B4	92B5	92B6	92B7
	8	92B8	92B9	92BA	92BB	92BC	92BD	92BE	92BF
	9	92C0	92C1	92C2	92C3	92C4	92C5	92C6	92C7
	10	92C8	92C9	92CA	92CB	92CC	92CD	92CE	92CF
	11	92D0	92D1	92D2	92D3	92D4	92D5	92D6	92D7
	12	92D8	92D9	92DA	92DB	92DC	92DD	92DE	92DF
	13	92E0	92E1	92E2	92E3	92E4	92E5	92E6	92E7
	14	92E8	92E9	92EA	92EB	92EC	92ED	92EE	92EF
	15	92F0	92F1	92F2	92F3	92F4	92F5	92F6	92F7
	16	92F8	92F9	92FA	92FB	92FC	92FD	92FE	92FF

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Alarm 1 High unit: 0.1°C	1	9300	9301	9302	9303	9304	9305	9306	9307
	2	9308	9309	930A	930B	930C	930D	930E	930F
	3	9310	9311	9312	9313	9314	9315	9316	9317
	4	9318	9319	931A	931B	931C	931D	931E	931F
	5	9320	9321	9322	9323	9324	9325	9326	9327
	6	9328	9329	932A	932B	932C	932D	932E	932F
	7	9330	9331	9332	9333	9334	9335	9336	9337
	8	9338	9339	933A	933B	933C	933D	933E	933F
	9	9340	9341	9342	9343	9344	9345	9346	9347
	10	9348	9349	934A	934B	934C	934D	934E	934F
	11	9350	9351	9352	9353	9354	9355	9356	9357
	12	9358	9359	935A	935B	935C	935D	935E	935F
	13	9360	9361	9362	9363	9364	9365	9366	9367
	14	9368	9369	936A	936B	936C	936D	936E	936F
	15	9370	9371	9372	9373	9374	9375	9376	9377
	16	9378	9379	937A	937B	937C	937D	937E	937F

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Alarm 1 Low unit: 0.1℃	1	9380	9381	9382	9383	9384	9385	9386	9387
	2	9388	9389	938A	938B	938C	938D	938E	938F
	3	9390	9391	9392	9393	9394	9395	9396	9397
	4	9398	9399	939A	939B	939C	939D	939E	939F
	5	93A0	93A1	93A2	93A3	93A4	93A5	93A6	93A7
	6	93A8	93A9	93AA	93AB	93AC	93AD	93AE	93AF
	7	93B0	93B1	93B2	93B3	93B4	93B5	93B6	93B7
	8	93B8	93B9	93BA	93BB	93BC	93BD	93BE	93BF
	9	93C0	93C1	93C2	93C3	93C4	93C5	93C6	93C7
	10	93C8	93C9	93CA	93CB	93CC	93CD	93CE	93CF
	11	93D0	93D1	93D2	93D3	93D4	93D5	93D6	93D7
	12	93D8	93D9	93DA	93DB	93DC	93DD	93DE	93DF
	13	93E0	93E1	93E2	93E3	93E4	93E5	93E6	93E7
	14	93E8	93E9	93EA	93EB	93EC	93ED	93EE	93EF
	15	93F0	93F1	93F2	93F3	93F4	93F5	93F6	93F7
	16	93F8	93F9	93FA	93FB	93FC	93FD	93FE	93FF

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Alarm 2 High unit: 0.1℃	1	9400	9401	9402	9403	9404	9405	9406	9407
	2	9408	9409	940A	940B	940C	940D	940E	940F
	3	9410	9411	9412	9413	9414	9415	9416	9417
	4	9418	9419	941A	941B	941C	941D	941E	941F
	5	9420	9421	9422	9423	9424	9425	9426	9427
	6	9428	9429	942A	942B	942C	942D	942E	942F
	7	9430	9431	9432	9433	9434	9435	9436	9437
	8	9438	9439	943A	943B	943C	943D	943E	943F
	9	9440	9441	9442	9443	9444	9445	9446	9447
	10	9448	9449	944A	944B	944C	944D	944E	944F
	11	9450	9451	9452	9453	9454	9455	9456	9457
	12	9458	9459	945A	945B	945C	945D	945E	945F
	13	9460	9461	9462	9463	9464	9465	9466	9467
	14	9468	9469	946A	946B	946C	946D	946E	946F
	15	9470	9471	9472	9473	9474	9475	9476	9477
	16	9478	9479	947A	947B	947C	947D	947E	947F

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Alarm 2 Low unit: 0.1℃	1	9480	9481	9482	9483	9484	9485	9486	9487
	2	9488	9489	948A	948B	948C	948D	948E	948F
	3	9490	9491	9492	9493	9494	9495	9496	9497
	4	9498	9499	949A	949B	949C	949D	949E	949F
	5	94A0	94A1	94A2	94A3	94A4	94A5	94A6	94A7
	6	94A8	94A9	94AA	94AB	94AC	94AD	94AE	94AF
	7	94B0	94B1	94B2	94B3	94B4	94B5	94B6	94B7
	8	94B8	94B9	94BA	94BB	94BC	94BD	94BE	94BF
	9	94C0	94C1	94C2	94C3	94C4	94C5	94C6	94C7
	10	94C8	94C9	94CA	94CB	94CC	94CD	94CE	94CF
	11	94D0	94D1	94D2	94D3	94D4	94D5	94D6	94D7
	12	94D8	94D9	94DA	94DB	94DC	94DD	94DE	94DF
	13	94E0	94E1	94E2	94E3	94E4	94E5	94E6	94E7
	14	94E8	94E9	94EA	94EB	94EC	94ED	94EE	94EF
	15	94F0	94F1	94F2	94F3	94F4	94F5	94F6	94F7
	16	94F8	94F9	94FA	94FB	94FC	94FD	94FE	94FF

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Alarm 3 High unit: 0.1℃	1	9500	9501	9502	9503	9504	9505	9506	9507
	2	9508	9509	950A	950B	950C	950D	950E	950F
	3	9510	9511	9512	9513	9514	9515	9516	9517
	4	9518	9519	951A	951B	951C	951D	951E	951F
	5	9520	9521	9522	9523	9524	9525	9526	9527
	6	9528	9529	952A	952B	952C	952D	952E	952F
	7	9530	9531	9532	9533	9534	9535	9536	9537
	8	9538	9539	953A	953B	953C	953D	953E	953F
	9	9540	9541	9542	9543	9544	9545	9546	9547
	10	9548	9549	954A	954B	954C	954D	954E	954F
	11	9550	9551	9552	9553	9554	9555	9556	9557
	12	9558	9559	955A	955B	955C	955D	955E	955F
	13	9560	9561	9562	9563	9564	9565	9566	9567
	14	9568	9569	956A	956B	956C	956D	956E	956F
	15	9570	9571	9572	9573	9574	9575	9576	9577
	16	9578	9579	957A	957B	957C	957D	957E	957F

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Alarm 3 Low unit: 0.1℃	1	9580	9581	9582	9583	9584	9585	9586	9587
	2	9588	9589	958A	958B	958C	958D	958E	958F
	3	9590	9591	9592	9593	9594	9595	9596	9597
	4	9598	9599	959A	959B	959C	959D	959E	959F
	5	95A0	95A1	95A2	95A3	95A4	95A5	95A6	95A7
	6	95A8	95A9	95AA	95AB	95AC	95AD	95AE	95AF
	7	95B0	95B1	95B2	95B3	95B4	95B5	95B6	95B7
	8	95B8	95B9	95BA	95BB	95BC	95BD	95BE	95BF
	9	95C0	95C1	95C2	95C3	95C4	95C5	95C6	95C7
	10	95C8	95C9	95CA	95CB	95CC	95CD	95CE	95CF
	11	95D0	95D1	95D2	95D3	95D4	95D5	95D6	95D7
	12	95D8	95D9	95DA	95DB	95DC	95DD	95DE	95DF
	13	95E0	95E1	95E2	95E3	95E4	95E5	95E6	95E7
	14	95E8	95E9	95EA	95EB	95EC	95ED	95EE	95EF
	15	95F0	95F1	95F2	95F3	95F4	95F5	95F6	95F7
	16	95F8	95F9	95FA	95FB	95FC	95FD	95FE	95FF

Parameters	Station No.								
Control mode 0: PID; 1: ON-OFF	1	9600	9601	9602	9603	9604	9605	9606	9607
	2	9608	9609	960A	960B	960C	960D	960E	960F
	3	9610	9611	9612	9613	9614	9615	9616	9617
	4	9618	9619	961A	961B	961C	961D	961E	961F
	5	9620	9621	9622	9623	9624	9625	9626	9627
	6	9628	9629	962A	962B	962C	962D	962E	962F
	7	9630	9631	9632	9633	9634	9635	9636	9637
	8	9638	9639	963A	963B	963C	963D	963E	963F
	9	9640	9641	9642	9643	9644	9645	9646	9647
	10	9648	9649	964A	964B	964C	964D	964E	964F
	11	9650	9651	9652	9653	9654	9655	9656	9657
	12	9658	9659	965A	965B	965C	965D	965E	965F
	13	9660	9661	9662	9663	9664	9665	9666	9667
	14	9668	9669	966A	966B	966C	966D	966E	966F
	15	9670	9671	9672	9673	9674	9675	9676	9677
	16	9678	9679	967A	967B	967C	967D	967E	967F

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Manual switching (Auto / Manual) 0: Auto; 1: Manual	1	9680	9681	9682	9683	9684	9685	9686	9687
	2	9688	9689	968A	968B	968C	968D	968E	968F
	3	9690	9691	9692	9693	9694	9695	9696	9697
	4	9698	9699	969A	969B	969C	969D	969E	969F
	5	96A0	96A1	96A2	96A3	96A4	96A5	96A6	96A7
	6	96A8	96A9	96AA	96AB	96AC	96AD	96AE	96AF
	7	96B0	96B1	96B2	96B3	96B4	96B5	96B6	96B7
	8	96B8	96B9	96BA	96BB	96BC	96BD	96BE	96BF
	9	96C0	96C1	96C2	96C3	96C4	96C5	96C6	96C7
	10	96C8	96C9	96CA	96CB	96CC	96CD	96CE	96CF
	11	96D0	96D1	96D2	96D3	96D4	96D5	96D6	96D7
	12	96D8	96D9	96DA	96DB	96DC	96DD	96DE	96DF
	13	96E0	96E1	96E2	96E3	96E4	96E5	96E6	96E7
	14	96E8	96E9	96EA	96EB	96EC	96ED	96EE	96EF
	15	96F0	96F1	96F2	96F3	96F4	96F5	96F6	96F7
	16	96F8	96F9	96FA	96FB	96FC	96FD	96FE	96FF

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
SV Slope setting (SP Ramp Rate) unit: 0.1°C	1	9700	9701	9702	9703	9704	9705	9706	9707
	2	9708	9709	970A	970B	970C	970D	970E	970F
	3	9710	9711	9712	9713	9714	9715	9716	9717
	4	9718	9719	971A	971B	971C	971D	971E	971F
	5	9720	9721	9722	9723	9724	9725	9726	9727
	6	9728	9729	972A	972B	972C	972D	972E	972F
	7	9730	9731	9732	9733	9734	9735	9736	9737
	8	9738	9739	973A	973B	973C	973D	973E	973F
	9	9740	9741	9742	9743	9744	9745	9746	9747
	10	9748	9749	974A	974B	974C	974D	974E	974F
	11	9750	9751	9752	9753	9754	9755	9756	9757
	12	9758	9759	975A	975B	975C	975D	975E	975F
	13	9760	9761	9762	9763	9764	9765	9766	9767
	14	9768	9769	976A	976B	976C	976D	976E	976F
	15	9770	9771	9772	9773	9774	9775	9776	9777
	16	9778	9779	977A	977B	977C	977D	977E	977F

Parameters	Station No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
LED status	1	9780	9781	9782	9783	9784	9785	9786	9787
	2	9788	9789	978A	978B	978C	978D	978E	978F
	3	9790	9791	9792	9793	9794	9795	9796	9797
	4	9798	9799	979A	979B	979C	979D	979E	979F
	5	97A0	97A1	97A2	97A3	97A4	97A5	97A6	97A7
	6	97A8	97A9	97AA	97AB	97AC	97AD	97AE	97AF
	7	97B0	97B1	97B2	97B3	97B4	97B5	97B6	97B7
	8	97B8	97B9	97BA	97BB	97BC	97BD	97BE	97BF
	9	97C0	97C1	97C2	97C3	97C4	97C5	97C6	97C7
	10	97C8	97C9	97CA	97CB	97CC	97CD	97CE	97CF
	11	97D0	97D1	97D2	97D3	97D4	97D5	97D6	97D7
	12	97D8	97D9	97DA	97DB	97DC	97DD	97DE	97DF
	13	97E0	97E1	97E2	97E3	97E4	97E5	97E6	97E7
	14	97E8	97E9	97EA	97EB	97EC	97ED	97EE	97EF
	15	97F0	97F1	97F2	97F3	97F4	97F5	97F6	97F7
	16	97F8	97F9	97FA	97FB	97FC	97FD	97FE	97FF

4.12.2 DTN Station ID. 1 to 16 Parameter Register (according to Station ID)

Please configure with the rotary switch Station ID of the DTN main unit/measurement expansion module. The following are the communications registers corresponding to the Station ID of the EIP module.

Station ID 1:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	0800H	Read/Write; Default: 1; 0: °F; 1: °C						
Channel disabled	0801H	Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled						
Start status setting	0802H	Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop						
Time unit for slope control	0803H	Read/Write; Default: 0; 0: Minute 1: Second						
Reverse setting of output 1	0804H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Auxiliary output reverse settings	0805H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Start/stop for all channels	0806H	Read/Write; Default: 0; 0: Stop; 1: Start						
AT switch for all channels	0807H	Read/Write; Default: 0; 0: Stop; 1: Start						
Read auxiliary output status	0808H	Read only	bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8					

LED indicator status (device)	0809H	Read only	bit0: Run; bit1: Comm; bit2: Error					
PV	0840	0938	0A30	0B28	0C20	0D18	0E10	0F08
SV	0841	0939	0A31	0B29	0C21	0D19	0E11	0F09
Output 1 Operating value	0842	093A	0A32	0B2A	0C22	0D1A	0E12	0F0A
Output 2 Operating value	0843	093B	0A33	0B2B	0C23	0D1B	0E13	0F0B
Run/stop	0844	093C	0A34	0B2C	0C24	0D1C	0E14	0F0C
Auto-tuning	0845	093D	0A35	0B2D	0C25	0D1D	0E15	0F0D
Manual switching	0846	093E	0A36	0B2E	0C26	0D1E	0E16	0F0E
SV slope setting	0847	093F	0A37	0B2F	0C27	0D1F	0E17	0F0F
LED indicator status (channel)	0848	0940	0A38	0B30	0C28	0D20	0E18	0F10
Input sensor	0860	0958	0A50	0B48	0C40	0D38	0E30	0F28
Upper limit of SV configured value	0861	0959	0A51	0B49	0C41	0D39	0E31	0F29
Lower limit of SV configured value	0862	095A	0A52	0B4A	0C42	0D3A	0E32	0F2A
PV filter strength	0863	095B	0A53	0B4B	0C43	0D3B	0E33	0F2B
PV filter range	0864	095C	0A54	0B4C	0C44	0D3C	0E34	0F2C
Input error offset value	0865	095D	0A55	0B4D	0C45	0D3D	0E35	0F2D
Input error gain value	0866	095E	0A56	0B4E	0C46	0D3E	0E36	0F2E
Cold junction compensation selection	0867	095F	0A57	0B4F	0C47	0D3F	0E37	0F2F
Output 1 Function distribution	0880	0978	0A70	0B68	0C60	0D58	0E50	0F48
Output 1 Control cycle	0881	0979	0A71	0B69	0C61	0D59	0E51	0F49
Output 1 Upper limit	0882	097A	0A72	0B6A	0C62	0D5A	0E52	0F4A
Output 1 Lower limit	0883	097B	0A73	0B6B	0C63	0D5B	0E53	0F4B
Analog output 1 Lower limit adjustment	0884	097C	0A74	0B6C	0C64	0D5C	0E54	0F4C
Analog output 1 Upper limit adjustment	0885	097D	0A75	0B6D	0C65	0D5D	0E55	0F4D
Retransmission selected type	0886	097E	0A76	0B6E	0C66	0D5E	0E56	0F4E
Retransmission update time	0887	097F	0A77	0B6F	0C67	0D5F	0E57	0F4F
Retransmission corresponding to the low point	0888	0980	0A78	0B70	0C68	0D60	0E58	0F50

Retransmission corresponding value of the high point	0889	0981	0A79	0B71	0C69	0D61	0E59	0F51
Assignment of auxiliary output sources	088A	0982	0A7A	0B72	0C6A	0D62	0E5A	0F52
Assignment of auxiliary output functions	088B	0983	0A7B	0B73	0C6B	0D63	0E5B	0F53
Auxiliary output control cycle	088C	0984	0A7C	0B74	0C6C	0D64	0E5C	0F54
Output 2 Upper limit	088D	0985	0A7D	0B75	0C6D	0D65	0E5D	0F55
Output 2 Lower limit	088E	0986	0A7E	0B76	0C6E	0D66	0E5E	0F56
Assignment of secondary output sources	088F	0987						
Assignment of secondary output functions	0890	0988						
Secondary output control cycle	0891	0989						
Alarm 1 Mode	08A0	0998	0A90	0B88	0C80	0D78	0E70	0F68
Alarm 1 Delay	08A1	0999	0A91	0B89	0C81	0D79	0E71	0F69
Alarm 1 Function	08A2	099A	0A92	0B8A	0C82	0D7A	0E72	0F6A
Alarm 1 Upper limit	08A3	099B	0A93	0B8B	0C83	0D7B	0E73	0F6B
Alarm 1 Lower	08A4	099C	0A94	0B8C	0C84	0D7C	0E74	0F6C
Alarm 2 Mode	08A7	099F	0A97	0B8F	0C87	0D7F	0E77	0F6F
Alarm 2 Delay	08A8	09A0	0A98	0B90	0C88	0D80	0E78	0F70
Alarm 2 Function	08A9	09A1	0A99	0B91	0C89	0D81	0E79	0F71
Alarm 2 Upper limit	08AA	09A2	0A9A	0B92	0C8A	0D82	0E7A	0F72
Alarm 2 Lower	08AB	09A3	0A9B	0B93	0C8B	0D83	0E7B	0F73
Alarm 3 Mode	08AE	09A6	0A9E	0B96	0C8E	0D86	0E7E	0F76
Alarm 3 Delay	08AF	09A7	0A9F	0B97	0C8F	0D87	0E7F	0F77
Alarm 3 Function	08B0	09A8	0AA0	0B98	0C90	0D88	0E80	0F78
Alarm 3 Upper limit	08B1	09A9	0AA1	0B99	0C91	0D89	0E81	0F79
Alarm 3 Lower	08B2	09AA	0AA2	0B9A	0C92	0D8A	0E82	0F7A
Alarm reset settings	08B5	09AD	0AA5	0B9D	0C95	0D8D	0E85	0F7D
Alarm 1 Highest peak	08B6	09AE	0AA6	0B9E	0C96	0D8E	0E86	0F7E
Alarm 1 Lowest peak	08B7	09AF	0AA7	0B9F	0C97	0D8F	0E87	0F7F
Alarm 2 Highest peak	08B8	09B0	0AA8	0BA0	0C98	0D90	0E88	0F80
Alarm 2 Lowest peak	08B9	09B1	0AA9	0BA1	0C99	0D91	0E89	0F81
Alarm 3 Highest peak	08BA	09B2	0AAA	0BA2	0C9A	0D92	0E8A	0F82
Alarm 3 Lowest peak	08BB	09B3	0AAB	0BA3	0C9B	0D93	0E8B	0F83

Control method	08C0	09B8	0AB0	0BA8	0CA0	0D98	0E90	0F88
Control actions	08C1	09B9	0AB1	0BA9	0CA1	0D99	0E91	0F89
PID mode options	08C2	09BA	0AB2	0BAA	0CA2	0D9A	0E92	0F8A
Proportional control error compensation	08C6	09BE	0AB6	0BAE	0CA6	0D9E	0E96	0F8E
Heating/cooling control dead zone	08C7	09BF	0AB7	0BAF	0CA7	0D9F	0E97	0F8F
ON-OFF heating sensitivity adjustment	08C8	09C0	0AB8	0BB0	0CA8	0DA0	0E98	0F90
ON-OFF cooling sensitivity adjustment	08C9	09C1	0AB9	0BB1	0CA9	0DA1	0E99	0F91
Read manual output 1 Operating quantity	08CA	09C2	0ABA	0BB2	0CAA	0DA2	0E9A	0F92
Read manual output 2 Operating quantity	08CB	09C3	0ABB	0BB3	0CAB	0DA3	0E9B	0F93
Output 1 when PV is abnormal Operating quantity	08CC	09C4	0ABC	0BB4	0CAC	0DA4	0E9C	0F94
Output 2 when PV is abnormal Operating quantity	08CD	09C5	0ABD	0BB5	0CAD	0DA5	0E9D	0F95
Proportional band	08E0	09D8	0AD0	0BC8	0CC0	0DB8	0EB0	0FA8
Integration time	08E1	09D9	0AD1	0BC9	0CC1	0DB9	0EB1	0FA9
Derivative time	08E2	09DA	0AD2	0BCA	0CC2	0DBA	0EB2	0FAA
Cooling side Proportional band	08E3	09DB	0AD3	0BCB	0CC3	0DBB	0EB3	0FAB
Cooling side Integration time	08E4	09DC	0AD4	0BCC	0CC4	0DBC	0EB4	0FAC
Cooling side Derivative time	08E5	09DD	0AD5	0BCD	0CC5	0DBD	0EB5	0FAD

Station ID 2:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	1000H	Read/Write; Default: 1; 0: °F; 1: °C						
Channel disabled	1001H	Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled						
Start status setting	1002H	Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop						
Time unit for slope control	1003H	Read/Write; Default: 0; 0: Minute 1: Second						
Reverse setting of output 1	1004H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Auxiliary output reverse	1005H	Read/Write; Default: 0; 0: Positive; 1: Negative						

settings								
Start/stop for all channels	1006H	Read/Write; Default: 0; 0: Stop; 1: Start						
AT switch for all channels	1007H	Read/Write; Default: 0; 0: Stop; 1: Start						
Read auxiliary output status	1008H	Read only	bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8					
LED indicator status (device)	1009H	Read only	bit0: Run; bit1: Comm; bit2: Error					
PV	1040	1138	1230	1328	1420	1518	1610	1708
SV	1041	1139	1231	1329	1421	1519	1611	1709
Output 1 Operating value	1042	113A	1232	132A	1422	151A	1612	170A
Output 2 Operating value	1043	113B	1233	132B	1423	151B	1613	170B
Run/stop	1044	113C	1234	132C	1424	151C	1614	170C
Auto-tuning	1045	113D	1235	132D	1425	151D	1615	170D
Manual switching	1046	113E	1236	132E	1426	151E	1616	170E
SV slope setting	1047	113F	1237	132F	1427	151F	1617	170F
LED indicator status (channel)	1048	1140	1238	1330	1428	1520	1618	1710
Input sensor	1060	1158	1250	1348	1440	1538	1630	1728
Upper limit of SV configured value	1061	1159	1251	1349	1441	1539	1631	1729
Lower limit of SV configured value	1062	115A	1252	134A	1442	153A	1632	172A
PV filter strength	1063	115B	1253	134B	1443	153B	1633	172B
PV filter range	1064	115C	1254	134C	1444	153C	1634	172C
Input error offset value	1065	115D	1255	134D	1445	153D	1635	172D
Input error gain value	1066	115E	1256	134E	1446	153E	1636	172E
Cold junction compensation selection	1067	115F	1257	134F	1447	153F	1637	172F
Output 1 Function distribution	1080	1178	1270	1368	1460	1558	1650	1748
Output 1 Control cycle	1081	1179	1271	1369	1461	1559	1651	1749
Output 1 Upper limit	1082	117A	1272	136A	1462	155A	1652	174A
Output 1 Lower limit	1083	117B	1273	136B	1463	155B	1653	174B
Analog output 1 Lower limit adjustment	1084	117C	1274	136C	1464	155C	1654	174C
Analog output 1 Upper limit adjustment	1085	117D	1275	136D	1465	155D	1655	174D
Retransmission selected type	1086	117E	1276	136E	1466	155E	1656	174E
Retransmission update time	1087	117F	1277	136F	1467	155F	1657	174F

Retransmission corresponding to the low point	1088	1180	1278	1370	1468	1560	1658	1750
Retransmission corresponding value of the high point	1089	1181	1279	1371	1469	1561	1659	1751
Assignment of auxiliary output sources	108A	1182	127A	1372	146A	1562	165A	1752
Assignment of auxiliary output functions	108B	1183	127B	1373	146B	1563	165B	1753
Auxiliary output control cycle	108C	1184	127C	1374	146C	1564	165C	1754
Output 2 Upper limit	108D	1185	127D	1375	146D	1565	165D	1755
Output 2 Lower limit	108E	1186	127E	1376	146E	1566	165E	1756
Assignment of secondary output sources	108F	1187						
Assignment of secondary output functions	1090	1188						
Secondary output control cycle	1091	1189						
Alarm 1 Mode	10A0	1198	1290	1388	1480	1578	1670	1768
Alarm 1 Delay	10A1	1199	1291	1389	1481	1579	1671	1769
Alarm 1 Function	10A2	119A	1292	138A	1482	157A	1672	176A
Alarm 1 Upper limit	10A3	119B	1293	138B	1483	157B	1673	176B
Alarm 1 Lower	10A4	119C	1294	138C	1484	157C	1674	176C
Alarm 2 Mode	10A7	119F	1297	138F	1487	157F	1677	176F
Alarm 2 Delay	10A8	11A0	1298	1390	1488	1580	1678	1770
Alarm 2 Function	10A9	11A1	1299	1391	1489	1581	1679	1771
Alarm 2 Upper limit	10AA	11A2	129A	1392	148A	1582	167A	1772
Alarm 2 Lower	10AB	11A3	129B	1393	148B	1583	167B	1773
Alarm 3 Mode	10AE	11A6	129E	1396	148E	1586	167E	1776
Alarm 3 Delay	10AF	11A7	129F	1397	148F	1587	167F	1777
Alarm 3 Function	10B0	11A8	12A0	1398	1490	1588	1680	1778
Alarm 3 Upper limit	10B1	11A9	12A1	1399	1491	1589	1681	1779
Alarm 3 Lower	10B2	11AA	12A2	139A	1492	158A	1682	177A
Alarm reset settings	10B5	11AD	12A5	139D	1495	158D	1685	177D
Alarm 1 Highest peak	10B6	11AE	12A6	139E	1496	158E	1686	177E
Alarm 1 Lowest peak	10B7	11AF	12A7	139F	1497	158F	1687	177F
Alarm 2 Highest peak	10B8	11B0	12A8	13A0	1498	1590	1688	1780

Alarm 2 Lowest peak	10B9	11B1	12A9	13A1	1499	1591	1689	1781
Alarm 3 Highest peak	10BA	11B2	12AA	13A2	149A	1592	168A	1782
Alarm 3 Lowest peak	10BB	11B3	12AB	13A3	149B	1593	168B	1783
Control method	10C0	11B8	12B0	13A8	14A0	1598	1690	1788
Control actions	10C1	11B9	12B1	13A9	14A1	1599	1691	1789
PID mode options	10C2	11BA	12B2	13AA	14A2	159A	1692	178A
Proportional control error compensation	10C6	11BE	12B6	13AE	14A6	159E	1696	178E
Heating/cooling control dead zone	10C7	11BF	12B7	13AF	14A7	159F	1697	178F
ON-OFF heating sensitivity adjustment	10C8	11C0	12B8	13B0	14A8	15A0	1698	1790
ON-OFF cooling sensitivity adjustment	10C9	11C1	12B9	13B1	14A9	15A1	1699	1791
Read manual output 1 Operating quantity	10CA	11C2	12BA	13B2	14AA	15A2	169A	1792
Read manual output 2 Operating quantity	10CB	11C3	12BB	13B3	14AB	15A3	169B	1793
Output 1 when PV is abnormal Operating quantity	10CC	11C4	12BC	13B4	14AC	15A4	169C	1794
Output 2 when PV is abnormal Operating quantity	10CD	11C5	12BD	13B5	14AD	15A5	169D	1795
Proportional band	10E0	11D8	12D0	13C8	14C0	15B8	16B0	17A8
Integration time	10E1	11D9	12D1	13C9	14C1	15B9	16B1	17A9
Derivative time	10E2	11DA	12D2	13CA	14C2	15BA	16B2	17AA
Cooling side Proportional band	10E3	11DB	12D3	13CB	14C3	15BB	16B3	17AB
Cooling side Integration time	10E4	11DC	12D4	13CC	14C4	15BC	16B4	17AC
Cooling side Derivative time	10E5	11DD	12D5	13CD	14C5	15BD	16B5	17AD

Station ID 3:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	1800H Read/Write; Default: 1; 0: °F; 1: °C							
Channel disabled	1801H Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled							
Start status setting	1802H Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop							

Time unit for slope control	1803H	Read/Write; Default: 0; 0: Minute 1: Second						
Reverse setting of output 1	1804H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Auxiliary output reverse settings	1805H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Start/stop for all channels	1806H	Read/Write; Default: 0; 0: Stop; 1: Start						
AT switch for all channels	1807H	Read/Write; Default: 0; 0: Stop; 1: Start						
Read auxiliary output status	1808H	Read only	bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8					
LED indicator status (device)	1809H	Read only	bit0: Run; bit1: Comm; bit2: Error					
PV	1840	1938	1A30	1B28	1C20	1D18	1E10	1F08
SV	1841	1939	1A31	1B29	1C21	1D19	1E11	1F09
Output 1 Operating value	1842	193A	1A32	1B2A	1C22	1D1A	1E12	1F0A
Output 2 Operating value	1843	193B	1A33	1B2B	1C23	1D1B	1E13	1F0B
Run/stop	1844	193C	1A34	1B2C	1C24	1D1C	1E14	1F0C
Auto-tuning	1845	193D	1A35	1B2D	1C25	1D1D	1E15	1F0D
Manual switching	1846	193E	1A36	1B2E	1C26	1D1E	1E16	1F0E
SV slope setting	1847	193F	1A37	1B2F	1C27	1D1F	1E17	1F0F
LED indicator status (channel)	1848	1940	1A38	1B30	1C28	1D20	1E18	1F10
Input sensor	1860	1958	1A50	1B48	1C40	1D38	1E30	1F28
Upper limit of SV configured value	1861	1959	1A51	1B49	1C41	1D39	1E31	1F29
Lower limit of SV configured value	1862	195A	1A52	1B4A	1C42	1D3A	1E32	1F2A
PV filter strength	1863	195B	1A53	1B4B	1C43	1D3B	1E33	1F2B
PV filter range	1864	195C	1A54	1B4C	1C44	1D3C	1E34	1F2C
Input error offset value	1865	195D	1A55	1B4D	1C45	1D3D	1E35	1F2D
Input error gain value	1866	195E	1A56	1B4E	1C46	1D3E	1E36	1F2E
Cold junction compensation selection	1867	195F	1A57	1B4F	1C47	1D3F	1E37	1F2F
Output 1 Function distribution	1880	1978	1A70	1B68	1C60	1D58	1E50	1F48
Output 1 Control cycle	1881	1979	1A71	1B69	1C61	1D59	1E51	1F49
Output 1 Upper limit	1882	197A	1A72	1B6A	1C62	1D5A	1E52	1F4A
Output 1 Lower limit	1883	197B	1A73	1B6B	1C63	1D5B	1E53	1F4B
Analog output 1 Lower limit adjustment	1884	197C	1A74	1B6C	1C64	1D5C	1E54	1F4C
Analog output 1 Upper limit adjustment	1885	197D	1A75	1B6D	1C65	1D5D	1E55	1F4D

Retransmission selected type	1886	197E	1A76	1B6E	1C66	1D5E	1E56	1F4E
Retransmission update time	1887	197F	1A77	1B6F	1C67	1D5F	1E57	1F4F
Retransmission corresponding to the low point	1888	1980	1A78	1B70	1C68	1D60	1E58	1F50
Retransmission corresponding value of the high point	1889	1981	1A79	1B71	1C69	1D61	1E59	1F51
Assignment of auxiliary output sources	188A	1982	1A7A	1B72	1C6A	1D62	1E5A	1F52
Assignment of auxiliary output functions	188B	1983	1A7B	1B73	1C6B	1D63	1E5B	1F53
Auxiliary output control cycle	188C	1984	1A7C	1B74	1C6C	1D64	1E5C	1F54
Output 2 Upper limit	188D	1985	1A7D	1B75	1C6D	1D65	1E5D	1F55
Output 2 Lower limit	188E	1986	1A7E	1B76	1C6E	1D66	1E5E	1F56
Assignment of secondary output sources	188F	1987						
Assignment of secondary output functions	1890	1988						
Secondary output control cycle	1891	1989						
Alarm 1 Mode	18A0	1998	1A90	1B88	1C80	1D78	1E70	1F68
Alarm 1 Delay	18A1	1999	1A91	1B89	1C81	1D79	1E71	1F69
Alarm 1 Function	18A2	199A	1A92	1B8A	1C82	1D7A	1E72	1F6A
Alarm 1 Upper limit	18A3	199B	1A93	1B8B	1C83	1D7B	1E73	1F6B
Alarm 1 Lower	18A4	199C	1A94	1B8C	1C84	1D7C	1E74	1F6C
Alarm 2 Mode	18A7	199F	1A97	1B8F	1C87	1D7F	1E77	1F6F
Alarm 2 Delay	18A8	19A0	1A98	1B90	1C88	1D80	1E78	1F70
Alarm 2 Function	18A9	19A1	1A99	1B91	1C89	1D81	1E79	1F71
Alarm 2 Upper limit	18AA	19A2	1A9A	1B92	1C8A	1D82	1E7A	1F72
Alarm 2 Lower	18AB	19A3	1A9B	1B93	1C8B	1D83	1E7B	1F73
Alarm 3 Mode	18AE	19A6	1A9E	1B96	1C8E	1D86	1E7E	1F76
Alarm 3 Delay	18AF	19A7	1A9F	1B97	1C8F	1D87	1E7F	1F77
Alarm 3 Function	18B0	19A8	1AA0	1B98	1C90	1D88	1E80	1F78
Alarm 3 Upper limit	18B1	19A9	1AA1	1B99	1C91	1D89	1E81	1F79
Alarm 3 Lower	18B2	19AA	1AA2	1B9A	1C92	1D8A	1E82	1F7A
Alarm reset settings	18B5	19AD	1AA5	1B9D	1C95	1D8D	1E85	1F7D
Alarm 1 Highest peak	18B6	19AE	1AA6	1B9E	1C96	1D8E	1E86	1F7E

Alarm 1 Lowest peak	18B7	19AF	1AA7	1B9F	1C97	1D8F	1E87	1F7F
Alarm 2 Highest peak	18B8	19B0	1AA8	1BA0	1C98	1D90	1E88	1F80
Alarm 2 Lowest peak	18B9	19B1	1AA9	1BA1	1C99	1D91	1E89	1F81
Alarm 3 Highest peak	18BA	19B2	1AAA	1BA2	1C9A	1D92	1E8A	1F82
Alarm 3 Lowest peak	18BB	19B3	1AAB	1BA3	1C9B	1D93	1E8B	1F83
Control method	18C0	19B8	1AB0	1BA8	1CA0	1D98	1E90	1F88
Control actions	18C1	19B9	1AB1	1BA9	1CA1	1D99	1E91	1F89
PID mode options	18C2	19BA	1AB2	1BAA	1CA2	1D9A	1E92	1F8A
Proportional control error compensation	18C6	19BE	1AB6	1BAE	1CA6	1D9E	1E96	1F8E
Heating/cooling control dead zone	18C7	19BF	1AB7	1BAF	1CA7	1D9F	1E97	1F8F
ON-OFF heating sensitivity adjustment	18C8	19C0	1AB8	1BB0	1CA8	1DA0	1E98	1F90
ON-OFF cooling sensitivity adjustment	18C9	19C1	1AB9	1BB1	1CA9	1DA1	1E99	1F91
Read manual output 1 Operating quantity	18CA	19C2	1ABA	1BB2	1CAA	1DA2	1E9A	1F92
Read manual output 2 Operating quantity	18CB	19C3	1ABB	1BB3	1CAB	1DA3	1E9B	1F93
Output 1 when PV is abnormal Operating quantity	18CC	19C4	1ABC	1BB4	1CAC	1DA4	1E9C	1F94
Output 2 when PV is abnormal Operating quantity	18CD	19C5	1ABD	1BB5	1CAD	1DA5	1E9D	1F95
Proportional band	18E0	19D8	1AD0	1BC8	1CC0	1DB8	1EB0	1FA8
Integration time	18E1	19D9	1AD1	1BC9	1CC1	1DB9	1EB1	1FA9
Derivative time	18E2	19DA	1AD2	1BCA	1CC2	1DBA	1EB2	1FAA
Cooling side Proportional band	18E3	19DB	1AD3	1BCB	1CC3	1DBB	1EB3	1FAB
Cooling side Integration time	18E4	19DC	1AD4	1BCC	1CC4	1DBC	1EB4	1FAC
Cooling side Derivative time	18E5	19DD	1AD5	1BCD	1CC5	1DBD	1EB5	1FAD

Station ID 4:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	2000H	Read/Write; Default: 1; 0: °F; 1: °C						
Channel disabled	2001H	Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled						
Start status setting	2002H	Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop						
Time unit for slope control	2003H	Read/Write; Default: 0; 0: Minute 1: Second						

Reverse setting of output 1	2004H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Auxiliary output reverse settings	2005H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Start/stop for all channels	2006H	Read/Write; Default: 0; 0: Stop; 1: Start						
AT switch for all channels	2007H	Read/Write; Default: 0; 0: Stop; 1: Start						
Read auxiliary output status	2008H	Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8						
LED indicator status (device)	2009H	Read only bit0: Run; bit1: Comm; bit2: Error						
PV	2040	2138	2230	2328	2420	2518	2610	2708
SV	2041	2139	2231	2329	2421	2519	2611	2709
Output 1 Operating value	2042	213A	2232	232A	2422	251A	2612	270A
Output 2 Operating value	2043	213B	2233	232B	2423	251B	2613	270B
Run/stop	2044	213C	2234	232C	2424	251C	2614	270C
Auto-tuning	2045	213D	2235	232D	2425	251D	2615	270D
Manual switching	2046	213E	2236	232E	2426	251E	2616	270E
SV slope setting	2047	213F	2237	232F	2427	251F	2617	270F
LED indicator status (channel)	2048	2140	2238	2330	2428	2520	2618	2710
Input sensor	2060	2158	2250	2348	2440	2538	2630	2728
Upper limit of SV configured value	2061	2159	2251	2349	2441	2539	2631	2729
Lower limit of SV configured value	2062	215A	2252	234A	2442	253A	2632	272A
PV filter strength	2063	215B	2253	234B	2443	253B	2633	272B
PV filter range	2064	215C	2254	234C	2444	253C	2634	272C
Input error offset value	2065	215D	2255	234D	2445	253D	2635	272D
Input error gain value	2066	215E	2256	234E	2446	253E	2636	272E
Cold junction compensation selection	2067	215F	2257	234F	2447	253F	2637	272F
Output 1 Function distribution	2080	2178	2270	2368	2460	2558	2650	2748
Output 1 Control cycle	2081	2179	2271	2369	2461	2559	2651	2749
Output 1 Upper limit	2082	217A	2272	236A	2462	255A	2652	274A
Output 1 Lower limit	2083	217B	2273	236B	2463	255B	2653	274B
Analog output 1 Lower limit adjustment	2084	217C	2274	236C	2464	255C	2654	274C
Analog output 1 Upper limit adjustment	2085	217D	2275	236D	2465	255D	2655	274D
Retransmission selected type	2086	217E	2276	236E	2466	255E	2656	274E
Retransmission update time	2087	217F	2277	236F	2467	255F	2657	274F

Retransmission corresponding to the low point	2088	2180	2278	2370	2468	2560	2658	2750
Retransmission corresponding value of the high point	2089	2181	2279	2371	2469	2561	2659	2751
Assignment of auxiliary output sources	208A	2182	227A	2372	246A	2562	265A	2752
Assignment of auxiliary output functions	208B	2183	227B	2373	246B	2563	265B	2753
Auxiliary output control cycle	208C	2184	227C	2374	246C	2564	265C	2754
Output 2 Upper limit	208D	2185	227D	2375	246D	2565	265D	2755
Output 2 Lower limit	208E	2186	227E	2376	246E	2566	265E	2756
Assignment of secondary output sources	208F	2187						
Assignment of secondary output functions	2090	2188						
Secondary output control cycle	2091	2189						
Alarm 1 Mode	20A0	2198	2290	2388	2480	2578	2670	2768
Alarm 1 Delay	20A1	2199	2291	2389	2481	2579	2671	2769
Alarm 1 Function	20A2	219A	2292	238A	2482	257A	2672	276A
Alarm 1 Upper limit	20A3	219B	2293	238B	2483	257B	2673	276B
Alarm 1 Lower	20A4	219C	2294	238C	2484	257C	2674	276C
Alarm 2 Mode	20A7	219F	2297	238F	2487	257F	2677	276F
Alarm 2 Delay	20A8	21A0	2298	2390	2488	2580	2678	2770
Alarm 2 Function	20A9	21A1	2299	2391	2489	2581	2679	2771
Alarm 2 Upper limit	20AA	21A2	229A	2392	248A	2582	267A	2772
Alarm 2 Lower	20AB	21A3	229B	2393	248B	2583	267B	2773
Alarm 3 Mode	20AE	21A6	229E	2396	248E	2586	267E	2776
Alarm 3 Delay	20AF	21A7	229F	2397	248F	2587	267F	2777
Alarm 3 Function	20B0	21A8	22A0	2398	2490	2588	2680	2778
Alarm 3 Upper limit	20B1	21A9	22A1	2399	2491	2589	2681	2779
Alarm 3 Lower	20B2	21AA	22A2	239A	2492	258A	2682	277A
Alarm reset settings	20B5	21AD	22A5	239D	2495	258D	2685	277D
Alarm 1 Highest peak	20B6	21AE	22A6	239E	2496	258E	2686	277E
Alarm 1 Lowest peak	20B7	21AF	22A7	239F	2497	258F	2687	277F
Alarm 2 Highest peak	20B8	21B0	22A8	23A0	2498	2590	2688	2780
Alarm 2 Lowest peak	20B9	21B1	22A9	23A1	2499	2591	2689	2781

Alarm 3 Highest peak	20BA	21B2	22AA	23A2	249A	2592	268A	2782
Alarm 3 Lowest peak	20BB	21B3	22AB	23A3	249B	2593	268B	2783
Control method	20C0	21B8	22B0	23A8	24A0	2598	2690	2788
Control actions	20C1	21B9	22B1	23A9	24A1	2599	2691	2789
PID mode options	20C2	21BA	22B2	23AA	24A2	259A	2692	278A
Proportional control error compensation	20C6	21BE	22B6	23AE	24A6	259E	2696	278E
Heating/cooling control dead zone	20C7	21BF	22B7	23AF	24A7	259F	2697	278F
ON-OFF heating sensitivity adjustment	20C8	21C0	22B8	23B0	24A8	25A0	2698	2790
ON-OFF cooling sensitivity adjustment	20C9	21C1	22B9	23B1	24A9	25A1	2699	2791
Read manual output 1 Operating quantity	20CA	21C2	22BA	23B2	24AA	25A2	269A	2792
Read manual output 2 Operating quantity	20CB	21C3	22BB	23B3	24AB	25A3	269B	2793
Output 1 when PV is abnormal Operating quantity	20CC	21C4	22BC	23B4	24AC	25A4	269C	2794
Output 2 when PV is abnormal Operating quantity	20CD	21C5	22BD	23B5	24AD	25A5	269D	2795
Proportional band	20E0	21D8	22D0	23C8	24C0	25B8	26B0	27A8
Integration time	20E1	21D9	22D1	23C9	24C1	25B9	26B1	27A9
Derivative time	20E2	21DA	22D2	23CA	24C2	25BA	26B2	27AA
Cooling side Proportional band	20E3	21DB	22D3	23CB	24C3	25BB	26B3	27AB
Cooling side Integration time	20E4	21DC	22D4	23CC	24C4	25BC	26B4	27AC
Cooling side Derivative time	20E5	21DD	22D5	23CD	24C5	25BD	26B5	27AD

Station ID 5:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	2800H	Read/Write; Default: 1; 0: °F; 1: °C						
Channel disabled	2801H	Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled						
Start status setting	2802H	Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop						
Time unit for slope control	2803H	Read/Write; Default: 0; 0: Minute 1: Second						
Reverse setting of output 1	2804H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Auxiliary output reverse settings	2805H	Read/Write; Default: 0; 0: Positive; 1: Negative						

Start/stop for all channels	2806H Read/Write; Default: 0; 0: Stop; 1: Start							
AT switch for all channels	2807H Read/Write; Default: 0; 0: Stop; 1: Start							
Read auxiliary output status	2808H Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8							
LED indicator status (device)	2809H Read only bit0: Run; bit1: Comm; bit2: Error							
PV	2840	2938	2A30	2B28	2C20	2D18	2E10	2F08
SV	2841	2939	2A31	2B29	2C21	2D19	2E11	2F09
Output 1 Operating value	2842	293A	2A32	2B2A	2C22	2D1A	2E12	2F0A
Output 2 Operating value	2843	293B	2A33	2B2B	2C23	2D1B	2E13	2F0B
Run/stop	2844	293C	2A34	2B2C	2C24	2D1C	2E14	2F0C
Auto-tuning	2845	293D	2A35	2B2D	2C25	2D1D	2E15	2F0D
Manual switching	2846	293E	2A36	2B2E	2C26	2D1E	2E16	2F0E
SV slope setting	2847	293F	2A37	2B2F	2C27	2D1F	2E17	2F0F
LED indicator status (channel)	2848	2940	2A38	2B30	2C28	2D20	2E18	2F10
Input sensor	2860	2958	2A50	2B48	2C40	2D38	2E30	2F28
Upper limit of SV configured value	2861	2959	2A51	2B49	2C41	2D39	2E31	2F29
Lower limit of SV configured value	2862	295A	2A52	2B4A	2C42	2D3A	2E32	2F2A
PV filter strength	2863	295B	2A53	2B4B	2C43	2D3B	2E33	2F2B
PV filter range	2864	295C	2A54	2B4C	2C44	2D3C	2E34	2F2C
Input error offset value	2865	295D	2A55	2B4D	2C45	2D3D	2E35	2F2D
Input error gain value	2866	295E	2A56	2B4E	2C46	2D3E	2E36	2F2E
Cold junction compensation selection	2867	295F	2A57	2B4F	2C47	2D3F	2E37	2F2F
Output 1 Function distribution	2880	2978	2A70	2B68	2C60	2D58	2E50	2F48
Output 1 Control cycle	2881	2979	2A71	2B69	2C61	2D59	2E51	2F49
Output 1 Upper limit	2882	297A	2A72	2B6A	2C62	2D5A	2E52	2F4A
Output 1 Lower limit	2883	297B	2A73	2B6B	2C63	2D5B	2E53	2F4B
Analog output 1 Lower limit adjustment	2884	297C	2A74	2B6C	2C64	2D5C	2E54	2F4C
Analog output 1 Upper limit adjustment	2885	297D	2A75	2B6D	2C65	2D5D	2E55	2F4D
Retransmission selected type	2886	297E	2A76	2B6E	2C66	2D5E	2E56	2F4E
Retransmission update time	2887	297F	2A77	2B6F	2C67	2D5F	2E57	2F4F

Retransmission corresponding to the low point	2888	2980	2A78	2B70	2C68	2D60	2E58	2F50
Retransmission corresponding value of the high point	2889	2981	2A79	2B71	2C69	2D61	2E59	2F51
Assignment of auxiliary output sources	288A	2982	2A7A	2B72	2C6A	2D62	2E5A	2F52
Assignment of auxiliary output functions	288B	2983	2A7B	2B73	2C6B	2D63	2E5B	2F53
Auxiliary output control cycle	288C	2984	2A7C	2B74	2C6C	2D64	2E5C	2F54
Output 2 Upper limit	288D	2985	2A7D	2B75	2C6D	2D65	2E5D	2F55
Output 2 Lower limit	288E	2986	2A7E	2B76	2C6E	2D66	2E5E	2F56
Assignment of secondary output sources	288F	2987						
Assignment of secondary output functions	2890	2988						
Secondary output control cycle	2891	2989						
Alarm 1 Mode	28A0	2998	2A90	2B88	2C80	2D78	2E70	2F68
Alarm 1 Delay	28A1	2999	2A91	2B89	2C81	2D79	2E71	2F69
Alarm 1 Function	28A2	299A	2A92	2B8A	2C82	2D7A	2E72	2F6A
Alarm 1 Upper limit	28A3	299B	2A93	2B8B	2C83	2D7B	2E73	2F6B
Alarm 1 Lower	28A4	299C	2A94	2B8C	2C84	2D7C	2E74	2F6C
Alarm 2 Mode	28A7	299F	2A97	2B8F	2C87	2D7F	2E77	2F6F
Alarm 2 Delay	28A8	29A0	2A98	2B90	2C88	2D80	2E78	2F70
Alarm 2 Function	28A9	29A1	2A99	2B91	2C89	2D81	2E79	2F71
Alarm 2 Upper limit	28AA	29A2	2A9A	2B92	2C8A	2D82	2E7A	2F72
Alarm 2 Lower	28AB	29A3	2A9B	2B93	2C8B	2D83	2E7B	2F73
Alarm 3 Mode	28AE	29A6	2A9E	2B96	2C8E	2D86	2E7E	2F76
Alarm 3 Delay	28AF	29A7	2A9F	2B97	2C8F	2D87	2E7F	2F77
Alarm 3 Function	28B0	29A8	2AA0	2B98	2C90	2D88	2E80	2F78
Alarm 3 Upper limit	28B1	29A9	2AA1	2B99	2C91	2D89	2E81	2F79
Alarm 3 Lower	28B2	29AA	2AA2	2B9A	2C92	2D8A	2E82	2F7A
Alarm reset settings	28B5	29AD	2AA5	2B9D	2C95	2D8D	2E85	2F7D
Alarm 1 Highest peak	28B6	29AE	2AA6	2B9E	2C96	2D8E	2E86	2F7E
Alarm 1 Lowest peak	28B7	29AF	2AA7	2B9F	2C97	2D8F	2E87	2F7F
Alarm 2 Highest peak	28B8	29B0	2AA8	2BA0	2C98	2D90	2E88	2F80

Alarm 2 Lowest peak	28B9	29B1	2AA9	2BA1	2C99	2D91	2E89	2F81
Alarm 3 Highest peak	28BA	29B2	2AAA	2BA2	2C9A	2D92	2E8A	2F82
Alarm 3 Lowest peak	28BB	29B3	2AAB	2BA3	2C9B	2D93	2E8B	2F83
Control method	28C0	29B8	2AB0	2BA8	2CA0	2D98	2E90	2F88
Control actions	28C1	29B9	2AB1	2BA9	2CA1	2D99	2E91	2F89
PID mode options	28C2	29BA	2AB2	2BAA	2CA2	2D9A	2E92	2F8A
Proportional control error compensation	28C6	29BE	2AB6	2BAE	2CA6	2D9E	2E96	2F8E
Heating/cooling control dead zone	28C7	29BF	2AB7	2BAF	2CA7	2D9F	2E97	2F8F
ON-OFF heating sensitivity adjustment	28C8	29C0	2AB8	2BB0	2CA8	2DA0	2E98	2F90
ON-OFF cooling sensitivity adjustment	28C9	29C1	2AB9	2BB1	2CA9	2DA1	2E99	2F91
Read manual output 1 Operating quantity	28CA	29C2	2ABA	2BB2	2CAA	2DA2	2E9A	2F92
Read manual output 2 Operating quantity	28CB	29C3	2ABB	2BB3	2CAB	2DA3	2E9B	2F93
Output 1 when PV is abnormal Operating quantity	28CC	29C4	2ABC	2BB4	2CAC	2DA4	2E9C	2F94
Output 2 when PV is abnormal Operating quantity	28CD	29C5	2ABD	2BB5	2CAD	2DA5	2E9D	2F95
Proportional band	28E0	29D8	2AD0	2BC8	2CC0	2DB8	2EB0	2FA8
Integration time	28E1	29D9	2AD1	2BC9	2CC1	2DB9	2EB1	2FA9
Derivative time	28E2	29DA	2AD2	2BCA	2CC2	2DBA	2EB2	2FAA
Cooling side Proportional band	28E3	29DB	2AD3	2BCB	2CC3	2DBB	2EB3	2FAB
Cooling side Integration time	28E4	29DC	2AD4	2BCC	2CC4	2DBC	2EB4	2FAC
Cooling side Derivative time	28E5	29DD	2AD5	2BCD	2CC5	2DBD	2EB5	2FAD

Station ID 6:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	3000H Read/Write; Default: 1; 0: °F; 1: °C							
Channel disabled	3001H Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled							
Start status setting	3002H Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop							

Time unit for slope control	3003H	Read/Write; Default: 0; 0: Minute 1: Second						
Reverse setting of output 1	3004H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Auxiliary output reverse settings	3005H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Start/stop for all channels	3006H	Read/Write; Default: 0; 0: Stop; 1: Start						
AT switch for all channels	3007H	Read/Write; Default: 0; 0: Stop; 1: Start						
Read auxiliary output status	3008H	Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8						
LED indicator status (device)	3009H	Read only bit0: Run; bit1: Comm; bit2: Error						
PV	3040	3138	3230	3328	3420	3518	3610	3708
SV	3041	3139	3231	3329	3421	3519	3611	3709
Output 1 Operating value	3042	313A	3232	332A	3422	351A	3612	370A
Output 2 Operating value	3043	313B	3233	332B	3423	351B	3613	370B
Run/stop	3044	313C	3234	332C	3424	351C	3614	370C
Auto-tuning	3045	313D	3235	332D	3425	351D	3615	370D
Manual switching	3046	313E	3236	332E	3426	351E	3616	370E
SV slope setting	3047	313F	3237	332F	3427	351F	3617	370F
LED indicator status (channel)	3048	3140	3238	3330	3428	3520	3618	3710
Input sensor	3060	3158	3250	3348	3440	3538	3630	3728
Upper limit of SV configured value	3061	3159	3251	3349	3441	3539	3631	3729
Lower limit of SV configured value	3062	315A	3252	334A	3442	353A	3632	372A
PV filter strength	3063	315B	3253	334B	3443	353B	3633	372B
PV filter range	3064	315C	3254	334C	3444	353C	3634	372C
Input error offset value	3065	315D	3255	334D	3445	353D	3635	372D
Input error gain value	3066	315E	3256	334E	3446	353E	3636	372E
Cold junction compensation selection	3067	315F	3257	334F	3447	353F	3637	372F
Output 1 Function distribution	3080	3178	3270	3368	3460	3558	3650	3748
Output 1 Control cycle	3081	3179	3271	3369	3461	3559	3651	3749
Output 1 Upper limit	3082	317A	3272	336A	3462	355A	3652	374A
Output 1 Lower limit	3083	317B	3273	336B	3463	355B	3653	374B
Analog output 1 Lower limit adjustment	3084	317C	3274	336C	3464	355C	3654	374C
Analog output 1 Upper limit adjustment	3085	317D	3275	336D	3465	355D	3655	374D

Retransmission selected type	3086	317E	3276	336E	3466	355E	3656	374E
Retransmission update time	3087	317F	3277	336F	3467	355F	3657	374F
Retransmission corresponding to the low point	3088	3180	3278	3370	3468	3560	3658	3750
Retransmission corresponding value of the high point	3089	3181	3279	3371	3469	3561	3659	3751
Assignment of auxiliary output sources	308A	3182	327A	3372	346A	3562	365A	3752
Assignment of auxiliary output functions	308B	3183	327B	3373	346B	3563	365B	3753
Auxiliary output control cycle	308C	3184	327C	3374	346C	3564	365C	3754
Output 2 Upper limit	308D	3185	327D	3375	346D	3565	365D	3755
Output 2 Lower limit	308E	3186	327E	3376	346E	3566	365E	3756
Assignment of secondary output sources	308F	3187						
Assignment of secondary output functions	3090	3188						
Secondary output control cycle	3091	3189						
Alarm 1 Mode	30A0	3198	3290	3388	3480	3578	3670	3768
Alarm 1 Delay	30A1	3199	3291	3389	3481	3579	3671	3769
Alarm 1 Function	30A2	319A	3292	338A	3482	357A	3672	376A
Alarm 1 Upper limit	30A3	319B	3293	338B	3483	357B	3673	376B
Alarm 1 Lower	30A4	319C	3294	338C	3484	357C	3674	376C
Alarm 2 Mode	30A7	319F	3297	338F	3487	357F	3677	376F
Alarm 2 Delay	30A8	31A0	3298	3390	3488	3580	3678	3770
Alarm 2 Function	30A9	31A1	3299	3391	3489	3581	3679	3771
Alarm 2 Upper limit	30AA	31A2	329A	3392	348A	3582	367A	3772
Alarm 2 Lower	30AB	31A3	329B	3393	348B	3583	367B	3773
Alarm 3 Mode	30AE	31A6	329E	3396	348E	3586	367E	3776
Alarm 3 Delay	30AF	31A7	329F	3397	348F	3587	367F	3777
Alarm 3 Function	30B0	31A8	32A0	3398	3490	3588	3680	3778
Alarm 3 Upper limit	30B1	31A9	32A1	3399	3491	3589	3681	3779
Alarm 3 Lower	30B2	31AA	32A2	339A	3492	358A	3682	377A
Alarm reset settings	30B5	31AD	32A5	339D	3495	358D	3685	377D

Alarm 1 Highest peak	30B6	31AE	32A6	339E	3496	358E	3686	377E
Alarm 1 Lowest peak	30B7	31AF	32A7	339F	3497	358F	3687	377F
Alarm 2 Highest peak	30B8	31B0	32A8	33A0	3498	3590	3688	3780
Alarm 2 Lowest peak	30B9	31B1	32A9	33A1	3499	3591	3689	3781
Alarm 3 Highest peak	30BA	31B2	32AA	33A2	349A	3592	368A	3782
Alarm 3 Lowest peak	30BB	31B3	32AB	33A3	349B	3593	368B	3783
Control method	30C0	31B8	32B0	33A8	34A0	3598	3690	3788
Control actions	30C1	31B9	32B1	33A9	34A1	3599	3691	3789
PID mode options	30C2	31BA	32B2	33AA	34A2	359A	3692	378A
Proportional control error compensation	30C6	31BE	32B6	33AE	34A6	359E	3696	378E
Heating/cooling control dead zone	30C7	31BF	32B7	33AF	34A7	359F	3697	378F
ON-OFF heating sensitivity adjustment	30C8	31C0	32B8	33B0	34A8	35A0	3698	3790
ON-OFF cooling sensitivity adjustment	30C9	31C1	32B9	33B1	34A9	35A1	3699	3791
Read manual output 1 Operating quantity	30CA	31C2	32BA	33B2	34AA	35A2	369A	3792
Read manual output 2 Operating quantity	30CB	31C3	32BB	33B3	34AB	35A3	369B	3793
Output 1 when PV is abnormal Operating quantity	30CC	31C4	32BC	33B4	34AC	35A4	369C	3794
Output 2 when PV is abnormal Operating quantity	30CD	31C5	32BD	33B5	34AD	35A5	369D	3795
Proportional band	30E0	31D8	32D0	33C8	34C0	35B8	36B0	37A8
Integration time	30E1	31D9	32D1	33C9	34C1	35B9	36B1	37A9
Derivative time	30E2	31DA	32D2	33CA	34C2	35BA	36B2	37AA
Cooling side Proportional band	30E3	31DB	32D3	33CB	34C3	35BB	36B3	37AB
Cooling side Integration time	30E4	31DC	32D4	33CC	34C4	35BC	36B4	37AC
Cooling side Derivative time	30E5	31DD	32D5	33CD	34C5	35BD	36B5	37AD

Station ID 7:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	3800H	Read/Write; Default: 1; 0: °F; 1: °C						
Channel disabled	3801H	Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled						
Start status setting	3802H	Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop						
Time unit for slope control	3803H	Read/Write; Default: 0; 0: Minute 1: Second						
Reverse setting of output 1	3804H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Auxiliary output reverse settings	3805H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Start/stop for all channels	3806H	Read/Write; Default: 0; 0: Stop; 1: Start						
AT switch for all channels	3807H	Read/Write; Default: 0; 0: Stop; 1: Start						
Read auxiliary output status	3808H	Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8						
LED indicator status (device)	3809H	Read only bit0: Run; bit1: Comm; bit2: Error						
PV	3840	3938	3A30	3B28	3C20	3D18	3E10	3F08
SV	3841	3939	3A31	3B29	3C21	3D19	3E11	3F09
Output 1 Operating value	3842	393A	3A32	3B2A	3C22	3D1A	3E12	3F0A
Output 2 Operating value	3843	393B	3A33	3B2B	3C23	3D1B	3E13	3F0B
Run/stop	3844	393C	3A34	3B2C	3C24	3D1C	3E14	3F0C
Auto-tuning	3845	393D	3A35	3B2D	3C25	3D1D	3E15	3F0D
Manual switching	3846	393E	3A36	3B2E	3C26	3D1E	3E16	3F0E
SV slope setting	3847	393F	3A37	3B2F	3C27	3D1F	3E17	3F0F
LED indicator status (channel)	3848	3940	3A38	3B30	3C28	3D20	3E18	3F10
Input sensor	3860	3958	3A50	3B48	3C40	3D38	3E30	3F28
Upper limit of SV configured value	3861	3959	3A51	3B49	3C41	3D39	3E31	3F29
Lower limit of SV configured value	3862	395A	3A52	3B4A	3C42	3D3A	3E32	3F2A
PV filter strength	3863	395B	3A53	3B4B	3C43	3D3B	3E33	3F2B
PV filter range	3864	395C	3A54	3B4C	3C44	3D3C	3E34	3F2C
Input error offset value	3865	395D	3A55	3B4D	3C45	3D3D	3E35	3F2D
Input error gain value	3866	395E	3A56	3B4E	3C46	3D3E	3E36	3F2E
Cold junction compensation selection	3867	395F	3A57	3B4F	3C47	3D3F	3E37	3F2F
Output 1 Function distribution	3880	3978	3A70	3B68	3C60	3D58	3E50	3F48
Output 1 Control cycle	3881	3979	3A71	3B69	3C61	3D59	3E51	3F49

Output 1 Upper limit	3882	397A	3A72	3B6A	3C62	3D5A	3E52	3F4A
Output 1 Lower limit	3883	397B	3A73	3B6B	3C63	3D5B	3E53	3F4B
Analog output 1 Lower limit adjustment	3884	397C	3A74	3B6C	3C64	3D5C	3E54	3F4C
Analog output 1 Upper limit adjustment	3885	397D	3A75	3B6D	3C65	3D5D	3E55	3F4D
Retransmission selected type	3886	397E	3A76	3B6E	3C66	3D5E	3E56	3F4E
Retransmission update time	3887	397F	3A77	3B6F	3C67	3D5F	3E57	3F4F
Retransmission corresponding to the low point	3888	3980	3A78	3B70	3C68	3D60	3E58	3F50
Retransmission corresponding value of the high point	3889	3981	3A79	3B71	3C69	3D61	3E59	3F51
Assignment of auxiliary output sources	388A	3982	3A7A	3B72	3C6A	3D62	3E5A	3F52
Assignment of auxiliary output functions	388B	3983	3A7B	3B73	3C6B	3D63	3E5B	3F53
Auxiliary output control cycle	388C	3984	3A7C	3B74	3C6C	3D64	3E5C	3F54
Output 2 Upper limit	388D	3985	3A7D	3B75	3C6D	3D65	3E5D	3F55
Output 2 Lower limit	388E	3986	3A7E	3B76	3C6E	3D66	3E5E	3F56
Assignment of secondary output sources	388F	3987						
Assignment of secondary output functions	3890	3988						
Secondary output control cycle	3891	3989						
Alarm 1 Mode	38A0	3998	3A90	3B88	3C80	3D78	3E70	3F68
Alarm 1 Delay	38A1	3999	3A91	3B89	3C81	3D79	3E71	3F69
Alarm 1 Function	38A2	399A	3A92	3B8A	3C82	3D7A	3E72	3F6A
Alarm 1 Upper limit	38A3	399B	3A93	3B8B	3C83	3D7B	3E73	3F6B
Alarm 1 Lower	38A4	399C	3A94	3B8C	3C84	3D7C	3E74	3F6C
Alarm 2 Mode	38A7	399F	3A97	3B8F	3C87	3D7F	3E77	3F6F
Alarm 2 Delay	38A8	39A0	3A98	3B90	3C88	3D80	3E78	3F70
Alarm 2 Function	38A9	39A1	3A99	3B91	3C89	3D81	3E79	3F71
Alarm 2 Upper limit	38AA	39A2	3A9A	3B92	3C8A	3D82	3E7A	3F72
Alarm 2 Lower	38AB	39A3	3A9B	3B93	3C8B	3D83	3E7B	3F73

Alarm 3 Mode	38AE	39A6	3A9E	3B96	3C8E	3D86	3E7E	3F76
Alarm 3 Delay	38AF	39A7	3A9F	3B97	3C8F	3D87	3E7F	3F77
Alarm 3 Function	38B0	39A8	3AA0	3B98	3C90	3D88	3E80	3F78
Alarm 3 Upper limit	38B1	39A9	3AA1	3B99	3C91	3D89	3E81	3F79
Alarm 3 Lower	38B2	39AA	3AA2	3B9A	3C92	3D8A	3E82	3F7A
Alarm reset settings	38B5	39AD	3AA5	3B9D	3C95	3D8D	3E85	3F7D
Alarm 1 Highest peak	38B6	39AE	3AA6	3B9E	3C96	3D8E	3E86	3F7E
Alarm 1 Lowest peak	38B7	39AF	3AA7	3B9F	3C97	3D8F	3E87	3F7F
Alarm 2 Highest peak	38B8	39B0	3AA8	3BA0	3C98	3D90	3E88	3F80
Alarm 2 Lowest peak	38B9	39B1	3AA9	3BA1	3C99	3D91	3E89	3F81
Alarm 3 Highest peak	38BA	39B2	3AAA	3BA2	3C9A	3D92	3E8A	3F82
Alarm 3 Lowest peak	38BB	39B3	3AAB	3BA3	3C9B	3D93	3E8B	3F83
Control method	38C0	39B8	3AB0	3BA8	3CA0	3D98	3E90	3F88
Control actions	38C1	39B9	3AB1	3BA9	3CA1	3D99	3E91	3F89
PID mode options	38C2	39BA	3AB2	3BAA	3CA2	3D9A	3E92	3F8A
Proportional control error compensation	38C6	39BE	3AB6	3BAE	3CA6	3D9E	3E96	3F8E
Heating/cooling control dead zone	38C7	39BF	3AB7	3BAF	3CA7	3D9F	3E97	3F8F
ON-OFF heating sensitivity adjustment	38C8	39C0	3AB8	3BB0	3CA8	3DA0	3E98	3F90
ON-OFF cooling sensitivity adjustment	38C9	39C1	3AB9	3BB1	3CA9	3DA1	3E99	3F91
Read manual output 1 Operating quantity	38CA	39C2	3ABA	3BB2	3CAA	3DA2	3E9A	3F92
Read manual output 2 Operating quantity	38CB	39C3	3ABB	3BB3	3CAB	3DA3	3E9B	3F93
Output 1 when PV is abnormal Operating quantity	38CC	39C4	3ABC	3BB4	3CAC	3DA4	3E9C	3F94
Output 2 when PV is abnormal Operating quantity	38CD	39C5	3ABD	3BB5	3CAD	3DA5	3E9D	3F95
Proportional band	38E0	39D8	3AD0	3BC8	3CC0	3DB8	3EB0	3FA8
Integration time	38E1	39D9	3AD1	3BC9	3CC1	3DB9	3EB1	3FA9
Derivative time	38E2	39DA	3AD2	3BCA	3CC2	3DBA	3EB2	3FAA
Cooling side Proportional band	38E3	39DB	3AD3	3BCB	3CC3	3DBB	3EB3	3FAB

Cooling side Integration time	38E4	39DC	3AD4	3BCC	3CC4	3DBC	3EB4	3FAC
Cooling side Derivative time	38E5	39DD	3AD5	3BCD	3CC5	3DBD	3EB5	3FAD

Station ID 8:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	4000H Read/Write; Default: 1; 0: °F; 1: °C							
Channel disabled	4001H Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled							
Start status setting	4002H Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop							
Time unit for slope control	4003H Read/Write; Default: 0; 0: Minute 1: Second							
Reverse setting of output 1	4004H Read/Write; Default: 0; 0: Positive; 1: Negative							
Auxiliary output reverse settings	4005H Read/Write; Default: 0; 0: Positive; 1: Negative							
Start/stop for all channels	4006H Read/Write; Default: 0; 0: Stop; 1: Start							
AT switch for all channels	4007H Read/Write; Default: 0; 0: Stop; 1: Start							
Read auxiliary output status	4008H Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8							
LED indicator status (device)	4009H Read only bit0: Run; bit1: Comm; bit2: Error							
PV	4040	4138	4230	4328	4420	4518	4610	4708
SV	4041	4139	4231	4329	4421	4519	4611	4709
Output 1 Operating value	4042	413A	4232	432A	4422	451A	4612	470A
Output 2 Operating value	4043	413B	4233	432B	4423	451B	4613	470B
Run/stop	4044	413C	4234	432C	4424	451C	4614	470C
Auto-tuning	4045	413D	4235	432D	4425	451D	4615	470D
Manual switching	4046	413E	4236	432E	4426	451E	4616	470E
SV slope setting	4047	413F	4237	432F	4427	451F	4617	470F
LED indicator status (channel)	4048	4140	4238	4330	4428	4520	4618	4710
Input sensor	4060	4158	4250	4348	4440	4538	4630	4728
Upper limit of SV configured value	4061	4159	4251	4349	4441	4539	4631	4729
Lower limit of SV configured value	4062	415A	4252	434A	4442	453A	4632	472A
PV filter strength	4063	415B	4253	434B	4443	453B	4633	472B
PV filter range	4064	415C	4254	434C	4444	453C	4634	472C
Input error offset value	4065	415D	4255	434D	4445	453D	4635	472D
Input error gain value	4066	415E	4256	434E	4446	453E	4636	472E
Cold junction compensation selection	4067	415F	4257	434F	4447	453F	4637	472F

Output 1 Function distribution	4080	4178	4270	4368	4460	4558	4650	4748
Output 1 Control cycle	4081	4179	4271	4369	4461	4559	4651	4749
Output 1 Upper limit	4082	417A	4272	436A	4462	455A	4652	474A
Output 1 Lower limit	4083	417B	4273	436B	4463	455B	4653	474B
Analog output 1 Lower limit adjustment	4084	417C	4274	436C	4464	455C	4654	474C
Analog output 1 Upper limit adjustment	4085	417D	4275	436D	4465	455D	4655	474D
Retransmission selected type	4086	417E	4276	436E	4466	455E	4656	474E
Retransmission update time	4087	417F	4277	436F	4467	455F	4657	474F
Retransmission corresponding to the low point	4088	4180	4278	4370	4468	4560	4658	4750
Retransmission corresponding value of the high point	4089	4181	4279	4371	4469	4561	4659	4751
Assignment of auxiliary output sources	408A	4182	427A	4372	446A	4562	465A	4752
Assignment of auxiliary output functions	408B	4183	427B	4373	446B	4563	465B	4753
Auxiliary output control cycle	408C	4184	427C	4374	446C	4564	465C	4754
Output 2 Upper limit	408D	4185	427D	4375	446D	4565	465D	4755
Output 2 Lower limit	408E	4186	427E	4376	446E	4566	465E	4756
Assignment of secondary output sources	408F	4187						
Assignment of secondary output functions	4090	4188						
Secondary output control cycle	4091	4189						
Alarm 1 Mode	40A0	4198	4290	4388	4480	4578	4670	4768
Alarm 1 Delay	40A1	4199	4291	4389	4481	4579	4671	4769
Alarm 1 Function	40A2	419A	4292	438A	4482	457A	4672	476A
Alarm 1 Upper limit	40A3	419B	4293	438B	4483	457B	4673	476B
Alarm 1 Lower	40A4	419C	4294	438C	4484	457C	4674	476C
Alarm 2 Mode	40A7	419F	4297	438F	4487	457F	4677	476F
Alarm 2 Delay	40A8	41A0	4298	4390	4488	4580	4678	4770

Alarm 2 Function	40A9	41A1	4299	4391	4489	4581	4679	4771
Alarm 2 Upper limit	40AA	41A2	429A	4392	448A	4582	467A	4772
Alarm 2 Lower	40AB	41A3	429B	4393	448B	4583	467B	4773
Alarm 3 Mode	40AE	41A6	429E	4396	448E	4586	467E	4776
Alarm 3 Delay	40AF	41A7	429F	4397	448F	4587	467F	4777
Alarm 3 Function	40B0	41A8	42A0	4398	4490	4588	4680	4778
Alarm 3 Upper limit	40B1	41A9	42A1	4399	4491	4589	4681	4779
Alarm 3 Lower	40B2	41AA	42A2	439A	4492	458A	4682	477A
Alarm reset settings	40B5	41AD	42A5	439D	4495	458D	4685	477D
Alarm 1 Highest peak	40B6	41AE	42A6	439E	4496	458E	4686	477E
Alarm 1 Lowest peak	40B7	41AF	42A7	439F	4497	458F	4687	477F
Alarm 2 Highest peak	40B8	41B0	42A8	43A0	4498	4590	4688	4780
Alarm 2 Lowest peak	40B9	41B1	42A9	43A1	4499	4591	4689	4781
Alarm 3 Highest peak	40BA	41B2	42AA	43A2	449A	4592	468A	4782
Alarm 3 Lowest peak	40BB	41B3	42AB	43A3	449B	4593	468B	4783
Control method	40C0	41B8	42B0	43A8	44A0	4598	4690	4788
Control actions	40C1	41B9	42B1	43A9	44A1	4599	4691	4789
PID mode options	40C2	41BA	42B2	43AA	44A2	459A	4692	478A
Proportional control error compensation	40C6	41BE	42B6	43AE	44A6	459E	4696	478E
Heating/cooling control dead zone	40C7	41BF	42B7	43AF	44A7	459F	4697	478F
ON-OFF heating sensitivity adjustment	40C8	41C0	42B8	43B0	44A8	45A0	4698	4790
ON-OFF cooling sensitivity adjustment	40C9	41C1	42B9	43B1	44A9	45A1	4699	4791
Read manual output 1 Operating quantity	40CA	41C2	42BA	43B2	44AA	45A2	469A	4792
Read manual output 2 Operating quantity	40CB	41C3	42BB	43B3	44AB	45A3	469B	4793
Output 1 when PV is abnormal Operating quantity	40CC	41C4	42BC	43B4	44AC	45A4	469C	4794
Output 2 when PV is abnormal Operating quantity	40CD	41C5	42BD	43B5	44AD	45A5	469D	4795
Proportional band	40E0	41D8	42D0	43C8	44C0	45B8	46B0	47A8
Integration time	40E1	41D9	42D1	43C9	44C1	45B9	46B1	47A9
Derivative time	40E2	41DA	42D2	43CA	44C2	45BA	46B2	47AA

Cooling side Proportional band	40E3	41DB	42D3	43CB	44C3	45BB	46B3	47AB
Cooling side Integration time	40E4	41DC	42D4	43CC	44C4	45BC	46B4	47AC
Cooling side Derivative time	40E5	41DD	42D5	43CD	44C5	45BD	46B5	47AD

Station ID 9:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	4800H Read/Write; Default: 1; 0: °F; 1: °C							
Channel disabled	4801H Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled							
Start status setting	4802H Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop							
Time unit for slope control	4803H Read/Write; Default: 0; 0: Minute 1: Second							
Reverse setting of output 1	4804H Read/Write; Default: 0; 0: Positive; 1: Negative							
Auxiliary output reverse settings	4805H Read/Write; Default: 0; 0: Positive; 1: Negative							
Start/stop for all channels	4806H Read/Write; Default: 0; 0: Stop; 1: Start							
AT switch for all channels	4807H Read/Write; Default: 0; 0: Stop; 1: Start							
Read auxiliary output status	4808H Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8							
LED indicator status (device)	4809H Read only bit0: Run; bit1: Comm; bit2: Error							
PV	4840	4938	4A30	4B28	4C20	4D18	4E10	4F08
SV	4841	4939	4A31	4B29	4C21	4D19	4E11	4F09
Output 1 Operating value	4842	493A	4A32	4B2A	4C22	4D1A	4E12	4F0A
Output 2 Operating value	4843	493B	4A33	4B2B	4C23	4D1B	4E13	4F0B
Run/stop	4844	493C	4A34	4B2C	4C24	4D1C	4E14	4F0C
Auto-tuning	4845	493D	4A35	4B2D	4C25	4D1D	4E15	4F0D
Manual switching	4846	493E	4A36	4B2E	4C26	4D1E	4E16	4F0E
SV slope setting	4847	493F	4A37	4B2F	4C27	4D1F	4E17	4F0F
LED indicator status (channel)	4848	4940	4A38	4B30	4C28	4D20	4E18	4F10
Input sensor	4860	4958	4A50	4B48	4C40	4D38	4E30	4F28
Upper limit of SV configured value	4861	4959	4A51	4B49	4C41	4D39	4E31	4F29
Lower limit of SV configured value	4862	495A	4A52	4B4A	4C42	4D3A	4E32	4F2A
PV filter strength	4863	495B	4A53	4B4B	4C43	4D3B	4E33	4F2B
PV filter range	4864	495C	4A54	4B4C	4C44	4D3C	4E34	4F2C
Input error offset value	4865	495D	4A55	4B4D	4C45	4D3D	4E35	4F2D

Input error gain value	4866	495E	4A56	4B4E	4C46	4D3E	4E36	4F2E
Cold junction compensation selection	4867	495F	4A57	4B4F	4C47	4D3F	4E37	4F2F
Output 1 Function distribution	4880	4978	4A70	4B68	4C60	4D58	4E50	4F48
Output 1 Control cycle	4881	4979	4A71	4B69	4C61	4D59	4E51	4F49
Output 1 Upper limit	4882	497A	4A72	4B6A	4C62	4D5A	4E52	4F4A
Output 1 Lower limit	4883	497B	4A73	4B6B	4C63	4D5B	4E53	4F4B
Analog output 1 Lower limit adjustment	4884	497C	4A74	4B6C	4C64	4D5C	4E54	4F4C
Analog output 1 Upper limit adjustment	4885	497D	4A75	4B6D	4C65	4D5D	4E55	4F4D
Retransmission selected type	4886	497E	4A76	4B6E	4C66	4D5E	4E56	4F4E
Retransmission update time	4887	497F	4A77	4B6F	4C67	4D5F	4E57	4F4F
Retransmission corresponding to the low point	4888	4980	4A78	4B70	4C68	4D60	4E58	4F50
Retransmission corresponding value of the high point	4889	4981	4A79	4B71	4C69	4D61	4E59	4F51
Assignment of auxiliary output sources	488A	4982	4A7A	4B72	4C6A	4D62	4E5A	4F52
Assignment of auxiliary output functions	488B	4983	4A7B	4B73	4C6B	4D63	4E5B	4F53
Auxiliary output control cycle	488C	4984	4A7C	4B74	4C6C	4D64	4E5C	4F54
Output 2 Upper limit	488D	4985	4A7D	4B75	4C6D	4D65	4E5D	4F55
Output 2 Lower limit	488E	4986	4A7E	4B76	4C6E	4D66	4E5E	4F56
Assignment of secondary output sources	488F	4987						
Assignment of secondary output functions	4890	4988						
Secondary output control cycle	4891	4989						
Alarm 1 Mode	48A0	4998	4A90	4B88	4C80	4D78	4E70	4F68
Alarm 1 Delay	48A1	4999	4A91	4B89	4C81	4D79	4E71	4F69
Alarm 1 Function	48A2	499A	4A92	4B8A	4C82	4D7A	4E72	4F6A
Alarm 1 Upper limit	48A3	499B	4A93	4B8B	4C83	4D7B	4E73	4F6B

Alarm 1 Lower	48A4	499C	4A94	4B8C	4C84	4D7C	4E74	4F6C
Alarm 2 Mode	48A7	499F	4A97	4B8F	4C87	4D7F	4E77	4F6F
Alarm 2 Delay	48A8	49A0	4A98	4B90	4C88	4D80	4E78	4F70
Alarm 2 Function	48A9	49A1	4A99	4B91	4C89	4D81	4E79	4F71
Alarm 2 Upper limit	48AA	49A2	4A9A	4B92	4C8A	4D82	4E7A	4F72
Alarm 2 Lower	48AB	49A3	4A9B	4B93	4C8B	4D83	4E7B	4F73
Alarm 3 Mode	48AE	49A6	4A9E	4B96	4C8E	4D86	4E7E	4F76
Alarm 3 Delay	48AF	49A7	4A9F	4B97	4C8F	4D87	4E7F	4F77
Alarm 3 Function	48B0	49A8	4AA0	4B98	4C90	4D88	4E80	4F78
Alarm 3 Upper limit	48B1	49A9	4AA1	4B99	4C91	4D89	4E81	4F79
Alarm 3 Lower	48B2	49AA	4AA2	4B9A	4C92	4D8A	4E82	4F7A
Alarm reset settings	48B5	49AD	4AA5	4B9D	4C95	4D8D	4E85	4F7D
Alarm 1 Highest peak	48B6	49AE	4AA6	4B9E	4C96	4D8E	4E86	4F7E
Alarm 1 Lowest peak	48B7	49AF	4AA7	4B9F	4C97	4D8F	4E87	4F7F
Alarm 2 Highest peak	48B8	49B0	4AA8	4BA0	4C98	4D90	4E88	4F80
Alarm 2 Lowest peak	48B9	49B1	4AA9	4BA1	4C99	4D91	4E89	4F81
Alarm 3 Highest peak	48BA	49B2	4AAA	4BA2	4C9A	4D92	4E8A	4F82
Alarm 3 Lowest peak	48BB	49B3	4AAB	4BA3	4C9B	4D93	4E8B	4F83
Control method	48C0	49B8	4AB0	4BA8	4CA0	4D98	4E90	4F88
Control actions	48C1	49B9	4AB1	4BA9	4CA1	4D99	4E91	4F89
PID mode options	48C2	49BA	4AB2	4BAA	4CA2	4D9A	4E92	4F8A
Proportional control error compensation	48C6	49BE	4AB6	4BAE	4CA6	4D9E	4E96	4F8E
Heating/cooling control dead zone	48C7	49BF	4AB7	4BAF	4CA7	4D9F	4E97	4F8F
ON-OFF heating sensitivity adjustment	48C8	49C0	4AB8	4BB0	4CA8	4DA0	4E98	4F90
ON-OFF cooling sensitivity adjustment	48C9	49C1	4AB9	4BB1	4CA9	4DA1	4E99	4F91
Read manual output 1 Operating quantity	48CA	49C2	4ABA	4BB2	4CAA	4DA2	4E9A	4F92
Read manual output 2 Operating quantity	48CB	49C3	4ABB	4BB3	4CAB	4DA3	4E9B	4F93
Output 1 when PV is abnormal Operating quantity	48CC	49C4	4ABC	4BB4	4CAC	4DA4	4E9C	4F94
Output 2 when PV is abnormal Operating quantity	48CD	49C5	4ABD	4BB5	4CAD	4DA5	4E9D	4F95

Proportional band	48E0	49D8	4AD0	4BC8	4CC0	4DB8	4EB0	4FA8
Integration time	48E1	49D9	4AD1	4BC9	4CC1	4DB9	4EB1	4FA9
Derivative time	48E2	49DA	4AD2	4BCA	4CC2	4DBA	4EB2	4FAA
Cooling side Proportional band	48E3	49DB	4AD3	4BCB	4CC3	4DBB	4EB3	4FAB
Cooling side Integration time	48E4	49DC	4AD4	4BCC	4CC4	4DBC	4EB4	4FAC
Cooling side Derivative time	48E5	49DD	4AD5	4BCD	4CC5	4DBD	4EB5	4FAD

Station ID 10:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	5000H Read/Write; Default: 1; 0: °F; 1: °C							
Channel disabled	5001H Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled							
Start status setting	5002H Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop							
Time unit for slope control	5003H Read/Write; Default: 0; 0: Minute 1: Second							
Reverse setting of output 1	5004H Read/Write; Default: 0; 0: Positive; 1: Negative							
Auxiliary output reverse settings	5005H Read/Write; Default: 0; 0: Positive; 1: Negative							
Start/stop for all channels	5006H Read/Write; Default: 0; 0: Stop; 1: Start							
AT switch for all channels	5007H Read/Write; Default: 0; 0: Stop; 1: Start							
Read auxiliary output status	5008H Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8							
LED indicator status (device)	5009H Read only bit0: Run; bit1: Comm; bit2: Error							
PV	5040	5138	5230	5328	5420	5518	5610	5708
SV	5041	5139	5231	5329	5421	5519	5611	5709
Output 1 Operating value	5042	513A	5232	532A	5422	551A	5612	570A
Output 2 Operating value	5043	513B	5233	532B	5423	551B	5613	570B
Run/stop	5044	513C	5234	532C	5424	551C	5614	570C
Auto-tuning	5045	513D	5235	532D	5425	551D	5615	570D
Manual switching	5046	513E	5236	532E	5426	551E	5616	570E
SV slope setting	5047	513F	5237	532F	5427	551F	5617	570F
LED indicator status (channel)	5048	5140	5238	5330	5428	5520	5618	5710
Input sensor	5060	5158	5250	5348	5440	5538	5630	5728
Upper limit of SV configured value	5061	5159	5251	5349	5441	5539	5631	5729
Lower limit of SV configured value	5062	515A	5252	534A	5442	553A	5632	572A

PV filter strength	5063	515B	5253	534B	5443	553B	5633	572B
PV filter range	5064	515C	5254	534C	5444	553C	5634	572C
Input error offset value	5065	515D	5255	534D	5445	553D	5635	572D
Input error gain value	5066	515E	5256	534E	5446	553E	5636	572E
Cold junction compensation selection	5067	515F	5257	534F	5447	553F	5637	572F
Output 1 Function distribution	5080	5178	5270	5368	5460	5558	5650	5748
Output 1 Control cycle	5081	5179	5271	5369	5461	5559	5651	5749
Output 1 Upper limit	5082	517A	5272	536A	5462	555A	5652	574A
Output 1 Lower limit	5083	517B	5273	536B	5463	555B	5653	574B
Analog output 1 Lower limit adjustment	5084	517C	5274	536C	5464	555C	5654	574C
Analog output 1 Upper limit adjustment	5085	517D	5275	536D	5465	555D	5655	574D
Retransmission selected type	5086	517E	5276	536E	5466	555E	5656	574E
Retransmission update time	5087	517F	5277	536F	5467	555F	5657	574F
Retransmission corresponding to the low point	5088	5180	5278	5370	5468	5560	5658	5750
Retransmission corresponding value of the high point	5089	5181	5279	5371	5469	5561	5659	5751
Assignment of auxiliary output sources	508A	5182	527A	5372	546A	5562	565A	5752
Assignment of auxiliary output functions	508B	5183	527B	5373	546B	5563	565B	5753
Auxiliary output control cycle	508C	5184	527C	5374	546C	5564	565C	5754
Output 2 Upper limit	508D	5185	527D	5375	546D	5565	565D	5755
Output 2 Lower limit	508E	5186	527E	5376	546E	5566	565E	5756
Assignment of secondary output sources	508F	5187						
Assignment of secondary output functions	5090	5188						
Secondary output control cycle	5091	5189						
Alarm 1 Mode	50A0	5198	5290	5388	5480	5578	5670	5768

Alarm 1 Delay	50A1	5199	5291	5389	5481	5579	5671	5769
Alarm 1 Function	50A2	519A	5292	538A	5482	557A	5672	576A
Alarm 1 Upper limit	50A3	519B	5293	538B	5483	557B	5673	576B
Alarm 1 Lower	50A4	519C	5294	538C	5484	557C	5674	576C
Alarm 2 Mode	50A7	519F	5297	538F	5487	557F	5677	576F
Alarm 2 Delay	50A8	51A0	5298	5390	5488	5580	5678	5770
Alarm 2 Function	50A9	51A1	5299	5391	5489	5581	5679	5771
Alarm 2 Upper limit	50AA	51A2	529A	5392	548A	5582	567A	5772
Alarm 2 Lower	50AB	51A3	529B	5393	548B	5583	567B	5773
Alarm 3 Mode	50AE	51A6	529E	5396	548E	5586	567E	5776
Alarm 3 Delay	50AF	51A7	529F	5397	548F	5587	567F	5777
Alarm 3 Function	50B0	51A8	52A0	5398	5490	5588	5680	5778
Alarm 3 Upper limit	50B1	51A9	52A1	5399	5491	5589	5681	5779
Alarm 3 Lower	50B2	51AA	52A2	539A	5492	558A	5682	577A
Alarm reset settings	50B5	51AD	52A5	539D	5495	558D	5685	577D
Alarm 1 Highest peak	50B6	51AE	52A6	539E	5496	558E	5686	577E
Alarm 1 Lowest peak	50B7	51AF	52A7	539F	5497	558F	5687	577F
Alarm 2 Highest peak	50B8	51B0	52A8	53A0	5498	5590	5688	5780
Alarm 2 Lowest peak	50B9	51B1	52A9	53A1	5499	5591	5689	5781
Alarm 3 Highest peak	50BA	51B2	52AA	53A2	549A	5592	568A	5782
Alarm 3 Lowest peak	50BB	51B3	52AB	53A3	549B	5593	568B	5783
Control method	50C0	51B8	52B0	53A8	54A0	5598	5690	5788
Control actions	50C1	51B9	52B1	53A9	54A1	5599	5691	5789
PID mode options	50C2	51BA	52B2	53AA	54A2	559A	5692	578A
Proportional control error compensation	50C6	51BE	52B6	53AE	54A6	559E	5696	578E
Heating/cooling control dead zone	50C7	51BF	52B7	53AF	54A7	559F	5697	578F
ON-OFF heating sensitivity adjustment	50C8	51C0	52B8	53B0	54A8	55A0	5698	5790
ON-OFF cooling sensitivity adjustment	50C9	51C1	52B9	53B1	54A9	55A1	5699	5791
Read manual output 1 Operating quantity	50CA	51C2	52BA	53B2	54AA	55A2	569A	5792
Read manual output 2 Operating quantity	50CB	51C3	52BB	53B3	54AB	55A3	569B	5793
Output 1 when PV is abnormal Operating quantity	50CC	51C4	52BC	53B4	54AC	55A4	569C	5794

Output 2 when PV is abnormal Operating quantity	50CD	51C5	52BD	53B5	54AD	55A5	569D	5795
Proportional band	50E0	51D8	52D0	53C8	54C0	55B8	56B0	57A8
Integration time	50E1	51D9	52D1	53C9	54C1	55B9	56B1	57A9
Derivative time	50E2	51DA	52D2	53CA	54C2	55BA	56B2	57AA
Cooling side Proportional band	50E3	51DB	52D3	53CB	54C3	55BB	56B3	57AB
Cooling side Integration time	50E4	51DC	52D4	53CC	54C4	55BC	56B4	57AC
Cooling side Derivative time	50E5	51DD	52D5	53CD	54C5	55BD	56B5	57AD

Station ID 11:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	5800H	Read/Write; Default: 1;0: °F; 1: °C						
Channel disabled	5801H	Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled						
Start status setting	5802H	Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop						
Time unit for slope control	5803H	Read/Write; Default: 0;0: Minute 1: Second						
Reverse setting of output 1	5804H	Read/Write; Default: 0;0: Positive; 1: Negative						
Auxiliary output reverse settings	5805H	Read/Write; Default: 0;0: Positive; 1: Negative						
Start/stop for all channels	5806H	Read/Write; Default: 0;0: Stop; 1: Start						
AT switch for all channels	5807H	Read/Write; Default: 0;0: Stop; 1: Start						
Read auxiliary output status	5808H	Read only	bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8					
LED indicator status (device)	5809H	Read only	bit0: Run; bit1: Comm; bit2: Error					
PV	5840	5938	5A30	5B28	5C20	5D18	5E10	5F08
SV	5841	5939	5A31	5B29	5C21	5D19	5E11	5F09
Output 1 Operating value	5842	593A	5A32	5B2A	5C22	5D1A	5E12	5F0A
Output 2 Operating value	5843	593B	5A33	5B2B	5C23	5D1B	5E13	5F0B
Run/stop	5844	593C	5A34	5B2C	5C24	5D1C	5E14	5F0C
Auto-tuning	5845	593D	5A35	5B2D	5C25	5D1D	5E15	5F0D
Manual switching	5846	593E	5A36	5B2E	5C26	5D1E	5E16	5F0E
SV slope setting	5847	593F	5A37	5B2F	5C27	5D1F	5E17	5F0F
LED indicator status (channel)	5848	5940	5A38	5B30	5C28	5D20	5E18	5F10
Input sensor	5860	5958	5A50	5B48	5C40	5D38	5E30	5F28

Upper limit of SV configured value	5861	5959	5A51	5B49	5C41	5D39	5E31	5F29
Lower limit of SV configured value	5862	595A	5A52	5B4A	5C42	5D3A	5E32	5F2A
PV filter strength	5863	595B	5A53	5B4B	5C43	5D3B	5E33	5F2B
PV filter range	5864	595C	5A54	5B4C	5C44	5D3C	5E34	5F2C
Input error offset value	5865	595D	5A55	5B4D	5C45	5D3D	5E35	5F2D
Input error gain value	5866	595E	5A56	5B4E	5C46	5D3E	5E36	5F2E
Cold junction compensation selection	5867	595F	5A57	5B4F	5C47	5D3F	5E37	5F2F
Output 1 Function distribution	5880	5978	5A70	5B68	5C60	5D58	5E50	5F48
Output 1 Control cycle	5881	5979	5A71	5B69	5C61	5D59	5E51	5F49
Output 1 Upper limit	5882	597A	5A72	5B6A	5C62	5D5A	5E52	5F4A
Output 1 Lower limit	5883	597B	5A73	5B6B	5C63	5D5B	5E53	5F4B
Analog output 1 Lower limit adjustment	5884	597C	5A74	5B6C	5C64	5D5C	5E54	5F4C
Analog output 1 Upper limit adjustment	5885	597D	5A75	5B6D	5C65	5D5D	5E55	5F4D
Retransmission selected type	5886	597E	5A76	5B6E	5C66	5D5E	5E56	5F4E
Retransmission update time	5887	597F	5A77	5B6F	5C67	5D5F	5E57	5F4F
Retransmission corresponding to the low point	5888	5980	5A78	5B70	5C68	5D60	5E58	5F50
Retransmission corresponding value of the high point	5889	5981	5A79	5B71	5C69	5D61	5E59	5F51
Assignment of auxiliary output sources	588A	5982	5A7A	5B72	5C6A	5D62	5E5A	5F52
Assignment of auxiliary output functions	588B	5983	5A7B	5B73	5C6B	5D63	5E5B	5F53
Auxiliary output control cycle	588C	5984	5A7C	5B74	5C6C	5D64	5E5C	5F54
Output 2 Upper limit	588D	5985	5A7D	5B75	5C6D	5D65	5E5D	5F55
Output 2 Lower limit	588E	5986	5A7E	5B76	5C6E	5D66	5E5E	5F56
Assignment of secondary output sources	588F	5987						

Assignment of secondary output functions	5890	5988						
Secondary output control cycle	5891	5989						
Alarm 1 Mode	58A0	5998	5A90	5B88	5C80	5D78	5E70	5F68
Alarm 1 Delay	58A1	5999	5A91	5B89	5C81	5D79	5E71	5F69
Alarm 1 Function	58A2	599A	5A92	5B8A	5C82	5D7A	5E72	5F6A
Alarm 1 Upper limit	58A3	599B	5A93	5B8B	5C83	5D7B	5E73	5F6B
Alarm 1 Lower	58A4	599C	5A94	5B8C	5C84	5D7C	5E74	5F6C
Alarm 2 Mode	58A7	599F	5A97	5B8F	5C87	5D7F	5E77	5F6F
Alarm 2 Delay	58A8	59A0	5A98	5B90	5C88	5D80	5E78	5F70
Alarm 2 Function	58A9	59A1	5A99	5B91	5C89	5D81	5E79	5F71
Alarm 2 Upper limit	58AA	59A2	5A9A	5B92	5C8A	5D82	5E7A	5F72
Alarm 2 Lower	58AB	59A3	5A9B	5B93	5C8B	5D83	5E7B	5F73
Alarm 3 Mode	58AE	59A6	5A9E	5B96	5C8E	5D86	5E7E	5F76
Alarm 3 Delay	58AF	59A7	5A9F	5B97	5C8F	5D87	5E7F	5F77
Alarm 3 Function	58B0	59A8	5AA0	5B98	5C90	5D88	5E80	5F78
Alarm 3 Upper limit	58B1	59A9	5AA1	5B99	5C91	5D89	5E81	5F79
Alarm 3 Lower	58B2	59AA	5AA2	5B9A	5C92	5D8A	5E82	5F7A
Alarm reset settings	58B5	59AD	5AA5	5B9D	5C95	5D8D	5E85	5F7D
Alarm 1 Highest peak	58B6	59AE	5AA6	5B9E	5C96	5D8E	5E86	5F7E
Alarm 1 Lowest peak	58B7	59AF	5AA7	5B9F	5C97	5D8F	5E87	5F7F
Alarm 2 Highest peak	58B8	59B0	5AA8	5BA0	5C98	5D90	5E88	5F80
Alarm 2 Lowest peak	58B9	59B1	5AA9	5BA1	5C99	5D91	5E89	5F81
Alarm 3 Highest peak	58BA	59B2	5AAA	5BA2	5C9A	5D92	5E8A	5F82
Alarm 3 Lowest peak	58BB	59B3	5AAB	5BA3	5C9B	5D93	5E8B	5F83
Control method	58C0	59B8	5AB0	5BA8	5CA0	5D98	5E90	5F88
Control actions	58C1	59B9	5AB1	5BA9	5CA1	5D99	5E91	5F89
PID mode options	58C2	59BA	5AB2	5BAA	5CA2	5D9A	5E92	5F8A
Proportional control error compensation	58C6	59BE	5AB6	5BAE	5CA6	5D9E	5E96	5F8E
Heating/cooling control dead zone	58C7	59BF	5AB7	5BAF	5CA7	5D9F	5E97	5F8F
ON-OFF heating sensitivity adjustment	58C8	59C0	5AB8	5BB0	5CA8	5DA0	5E98	5F90
ON-OFF cooling sensitivity adjustment	58C9	59C1	5AB9	5BB1	5CA9	5DA1	5E99	5F91
Read manual output 1 Operating quantity	58CA	59C2	5ABA	5BB2	5CAA	5DA2	5E9A	5F92

Read manual output 2 Operating quantity	58CB	59C3	5ABB	5BB3	5CAB	5DA3	5E9B	5F93
Output 1 when PV is abnormal Operating quantity	58CC	59C4	5ABC	5BB4	5CAC	5DA4	5E9C	5F94
Output 2 when PV is abnormal Operating quantity	58CD	59C5	5ABD	5BB5	5CAD	5DA5	5E9D	5F95
Proportional band	58E0	59D8	5AD0	5BC8	5CC0	5DB8	5EB0	5FA8
Integration time	58E1	59D9	5AD1	5BC9	5CC1	5DB9	5EB1	5FA9
Derivative time	58E2	59DA	5AD2	5BCA	5CC2	5DBA	5EB2	5FAA
Cooling side Proportional band	58E3	59DB	5AD3	5BCB	5CC3	5DBB	5EB3	5FAB
Cooling side Integration time	58E4	59DC	5AD4	5BCC	5CC4	5DBC	5EB4	5FAC
Cooling side Derivative time	58E5	59DD	5AD5	5BCD	5CC5	5DBD	5EB5	5FAD

Station ID 12:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	6000H Read/Write; Default: 1;0: °F; 1: °C							
Channel disabled	6001H Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled							
Start status setting	6002H Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop							
Time unit for slope control	6003H Read/Write; Default: 0;0: Minute 1: Second							
Reverse setting of output 1	6004H Read/Write; Default: 0;0: Positive; 1: Negative							
Auxiliary output reverse settings	6005H Read/Write; Default: 0;0: Positive; 1: Negative							
Start/stop for all channels	6006H Read/Write; Default: 0;0: Stop; 1: Start							
AT switch for all channels	6007H Read/Write; Default: 0;0: Stop; 1: Start							
Read auxiliary output status	6008H Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8							
LED indicator status (device)	6009H Read only bit0: Run; bit1: Comm; bit2: Error							
PV	6040	6138	6230	6328	6420	6518	6610	6708
SV	6041	6139	6231	6329	6421	6519	6611	6709
Output 1 Operating value	6042	613A	6232	632A	6422	651A	6612	670A
Output 2 Operating value	6043	613B	6233	632B	6423	651B	6613	670B
Run/stop	6044	613C	6234	632C	6424	651C	6614	670C
Auto-tuning	6045	613D	6235	632D	6425	651D	6615	670D
Manual switching	6046	613E	6236	632E	6426	651E	6616	670E

SV slope setting	6047	613F	6237	632F	6427	651F	6617	670F
LED indicator status (channel)	6048	6140	6238	6330	6428	6520	6618	6710
Input sensor	6060	6158	6250	6348	6440	6538	6630	6728
Upper limit of SV configured value	6061	6159	6251	6349	6441	6539	6631	6729
Lower limit of SV configured value	6062	615A	6252	634A	6442	653A	6632	672A
PV filter strength	6063	615B	6253	634B	6443	653B	6633	672B
PV filter range	6064	615C	6254	634C	6444	653C	6634	672C
Input error offset value	6065	615D	6255	634D	6445	653D	6635	672D
Input error gain value	6066	615E	6256	634E	6446	653E	6636	672E
Cold junction compensation selection	6067	615F	6257	634F	6447	653F	6637	672F
Output 1 Function distribution	6080	6178	6270	6368	6460	6558	6650	6748
Output 1 Control cycle	6081	6179	6271	6369	6461	6559	6651	6749
Output 1 Upper limit	6082	617A	6272	636A	6462	655A	6652	674A
Output 1 Lower limit	6083	617B	6273	636B	6463	655B	6653	674B
Analog output 1 Lower limit adjustment	6084	617C	6274	636C	6464	655C	6654	674C
Analog output 1 Upper limit adjustment	6085	617D	6275	636D	6465	655D	6655	674D
Retransmission selected type	6086	617E	6276	636E	6466	655E	6656	674E
Retransmission update time	6087	617F	6277	636F	6467	655F	6657	674F
Retransmission corresponding to the low point	6088	6180	6278	6370	6468	6560	6658	6750
Retransmission corresponding value of the high point	6089	6181	6279	6371	6469	6561	6659	6751
Assignment of auxiliary output sources	608A	6182	627A	6372	646A	6562	665A	6752
Assignment of auxiliary output functions	608B	6183	627B	6373	646B	6563	665B	6753
Auxiliary output control cycle	608C	6184	627C	6374	646C	6564	665C	6754
Output 2 Upper limit	608D	6185	627D	6375	646D	6565	665D	6755

Output 2 Lower limit	608E	6186	627E	6376	646E	6566	665E	6756
Assignment of secondary output sources	608F	6187						
Assignment of secondary output functions	6090	6188						
Secondary output control cycle	6091	6189						
Alarm 1 Mode	60A0	6198	6290	6388	6480	6578	6670	6768
Alarm 1 Delay	60A1	6199	6291	6389	6481	6579	6671	6769
Alarm 1 Function	60A2	619A	6292	638A	6482	657A	6672	676A
Alarm 1 Upper limit	60A3	619B	6293	638B	6483	657B	6673	676B
Alarm 1 Lower	60A4	619C	6294	638C	6484	657C	6674	676C
Alarm 2 Mode	60A7	619F	6297	638F	6487	657F	6677	676F
Alarm 2 Delay	60A8	61A0	6298	6390	6488	6580	6678	6770
Alarm 2 Function	60A9	61A1	6299	6391	6489	6581	6679	6771
Alarm 2 Upper limit	60AA	61A2	629A	6392	648A	6582	667A	6772
Alarm 2 Lower	60AB	61A3	629B	6393	648B	6583	667B	6773
Alarm 3 Mode	60AE	61A6	629E	6396	648E	6586	667E	6776
Alarm 3 Delay	60AF	61A7	629F	6397	648F	6587	667F	6777
Alarm 3 Function	60B0	61A8	62A0	6398	6490	6588	6680	6778
Alarm 3 Upper limit	60B1	61A9	62A1	6399	6491	6589	6681	6779
Alarm 3 Lower	60B2	61AA	62A2	639A	6492	658A	6682	677A
Alarm reset settings	60B5	61AD	62A5	639D	6495	658D	6685	677D
Alarm 1 Highest peak	60B6	61AE	62A6	639E	6496	658E	6686	677E
Alarm 1 Lowest peak	60B7	61AF	62A7	639F	6497	658F	6687	677F
Alarm 2 Highest peak	60B8	61B0	62A8	63A0	6498	6590	6688	6780
Alarm 2 Lowest peak	60B9	61B1	62A9	63A1	6499	6591	6689	6781
Alarm 3 Highest peak	60BA	61B2	62AA	63A2	649A	6592	668A	6782
Alarm 3 Lowest peak	60BB	61B3	62AB	63A3	649B	6593	668B	6783
Control method	60C0	61B8	62B0	63A8	64A0	6598	6690	6788
Control actions	60C1	61B9	62B1	63A9	64A1	6599	6691	6789
PID mode options	60C2	61BA	62B2	63AA	64A2	659A	6692	678A
Proportional control error compensation	60C6	61BE	62B6	63AE	64A6	659E	6696	678E
Heating/cooling control dead zone	60C7	61BF	62B7	63AF	64A7	659F	6697	678F
ON-OFF heating sensitivity adjustment	60C8	61C0	62B8	63B0	64A8	65A0	6698	6790

ON-OFF cooling sensitivity adjustment	60C9	61C1	62B9	63B1	64A9	65A1	6699	6791
Read manual output 1 Operating quantity	60CA	61C2	62BA	63B2	64AA	65A2	669A	6792
Read manual output 2 Operating quantity	60CB	61C3	62BB	63B3	64AB	65A3	669B	6793
Output 1 when PV is abnormal Operating quantity	60CC	61C4	62BC	63B4	64AC	65A4	669C	6794
Output 2 when PV is abnormal Operating quantity	60CD	61C5	62BD	63B5	64AD	65A5	669D	6795
Proportional band	60E0	61D8	62D0	63C8	64C0	65B8	66B0	67A8
Integration time	60E1	61D9	62D1	63C9	64C1	65B9	66B1	67A9
Derivative time	60E2	61DA	62D2	63CA	64C2	65BA	66B2	67AA
Cooling side Proportional band	60E3	61DB	62D3	63CB	64C3	65BB	66B3	67AB
Cooling side Integration time	60E4	61DC	62D4	63CC	64C4	65BC	66B4	67AC
Cooling side Derivative time	60E5	61DD	62D5	63CD	64C5	65BD	66B5	67AD

Station ID 13:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	6800H	Read/Write; Default: 1;0: °F; 1: °C						
Channel disabled	6801H	Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled						
Start status setting	6802H	Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop						
Time unit for slope control	6803H	Read/Write; Default: 0; 0: Minute 1: Second						
Reverse setting of output 1	6804H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Auxiliary output reverse settings	6805H	Read/Write; Default: 0; 0: Positive; 1: Negative						
Start/stop for all channels	6806H	Read/Write; Default: 0; 0: Stop; 1: Start						
AT switch for all channels	6807H	Read/Write; Default: 0; 0: Stop; 1: Start						
Read auxiliary output status	6808H	Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8						
LED indicator status (device)	6809H	Read only bit0: Run; bit1: Comm; bit2: Error						
PV	6840	6938	6A30	6B28	6C20	6D18	6E10	6F08
SV	6841	6939	6A31	6B29	6C21	6D19	6E11	6F09
Output 1 Operating value	6842	693A	6A32	6B2A	6C22	6D1A	6E12	6F0A

Output 2 Operating value	6843	693B	6A33	6B2B	6C23	6D1B	6E13	6F0B
Run/stop	6844	693C	6A34	6B2C	6C24	6D1C	6E14	6F0C
Auto-tuning	6845	693D	6A35	6B2D	6C25	6D1D	6E15	6F0D
Manual switching	6846	693E	6A36	6B2E	6C26	6D1E	6E16	6F0E
SV slope setting	6847	693F	6A37	6B2F	6C27	6D1F	6E17	6F0F
LED indicator status (channel)	6848	6940	6A38	6B30	6C28	6D20	6E18	6F10
Input sensor	6860	6958	6A50	6B48	6C40	6D38	6E30	6F28
Upper limit of SV configured value	6861	6959	6A51	6B49	6C41	6D39	6E31	6F29
Lower limit of SV configured value	6862	695A	6A52	6B4A	6C42	6D3A	6E32	6F2A
PV filter strength	6863	695B	6A53	6B4B	6C43	6D3B	6E33	6F2B
PV filter range	6864	695C	6A54	6B4C	6C44	6D3C	6E34	6F2C
Input error offset value	6865	695D	6A55	6B4D	6C45	6D3D	6E35	6F2D
Input error gain value	6866	695E	6A56	6B4E	6C46	6D3E	6E36	6F2E
Cold junction compensation selection	6867	695F	6A57	6B4F	6C47	6D3F	6E37	6F2F
Output 1 Function distribution	6880	6978	6A70	6B68	6C60	6D58	6E50	6F48
Output 1 Control cycle	6881	6979	6A71	6B69	6C61	6D59	6E51	6F49
Output 1 Upper limit	6882	697A	6A72	6B6A	6C62	6D5A	6E52	6F4A
Output 1 Lower limit	6883	697B	6A73	6B6B	6C63	6D5B	6E53	6F4B
Analog output 1 Lower limit adjustment	6884	697C	6A74	6B6C	6C64	6D5C	6E54	6F4C
Analog output 1 Upper limit adjustment	6885	697D	6A75	6B6D	6C65	6D5D	6E55	6F4D
Retransmission selected type	6886	697E	6A76	6B6E	6C66	6D5E	6E56	6F4E
Retransmission update time	6887	697F	6A77	6B6F	6C67	6D5F	6E57	6F4F
Retransmission corresponding to the low point	6888	6980	6A78	6B70	6C68	6D60	6E58	6F50
Retransmission corresponding value of the high point	6889	6981	6A79	6B71	6C69	6D61	6E59	6F51
Assignment of auxiliary output sources	688A	6982	6A7A	6B72	6C6A	6D62	6E5A	6F52

Assignment of auxiliary output functions	688B	6983	6A7B	6B73	6C6B	6D63	6E5B	6F53
Auxiliary output control cycle	688C	6984	6A7C	6B74	6C6C	6D64	6E5C	6F54
Output 2 Upper limit	688D	6985	6A7D	6B75	6C6D	6D65	6E5D	6F55
Output 2 Lower limit	688E	6986	6A7E	6B76	6C6E	6D66	6E5E	6F56
Assignment of secondary output sources	688F	6987						
Assignment of secondary output functions	6890	6988						
Secondary output control cycle	6891	6989						
Alarm 1 Mode	68A0	6998	6A90	6B88	6C80	6D78	6E70	6F68
Alarm 1 Delay	68A1	6999	6A91	6B89	6C81	6D79	6E71	6F69
Alarm 1 Function	68A2	699A	6A92	6B8A	6C82	6D7A	6E72	6F6A
Alarm 1 Upper limit	68A3	699B	6A93	6B8B	6C83	6D7B	6E73	6F6B
Alarm 1 Lower	68A4	699C	6A94	6B8C	6C84	6D7C	6E74	6F6C
Alarm 2 Mode	68A7	699F	6A97	6B8F	6C87	6D7F	6E77	6F6F
Alarm 2 Delay	68A8	69A0	6A98	6B90	6C88	6D80	6E78	6F70
Alarm 2 Function	68A9	69A1	6A99	6B91	6C89	6D81	6E79	6F71
Alarm 2 Upper limit	68AA	69A2	6A9A	6B92	6C8A	6D82	6E7A	6F72
Alarm 2 Lower	68AB	69A3	6A9B	6B93	6C8B	6D83	6E7B	6F73
Alarm 3 Mode	68AE	69A6	6A9E	6B96	6C8E	6D86	6E7E	6F76
Alarm 3 Delay	68AF	69A7	6A9F	6B97	6C8F	6D87	6E7F	6F77
Alarm 3 Function	68B0	69A8	6AA0	6B98	6C90	6D88	6E80	6F78
Alarm 3 Upper limit	68B1	69A9	6AA1	6B99	6C91	6D89	6E81	6F79
Alarm 3 Lower	68B2	69AA	6AA2	6B9A	6C92	6D8A	6E82	6F7A
Alarm reset settings	68B5	69AD	6AA5	6B9D	6C95	6D8D	6E85	6F7D
Alarm 1 Highest peak	68B6	69AE	6AA6	6B9E	6C96	6D8E	6E86	6F7E
Alarm 1 Lowest peak	68B7	69AF	6AA7	6B9F	6C97	6D8F	6E87	6F7F
Alarm 2 Highest peak	68B8	69B0	6AA8	6BA0	6C98	6D90	6E88	6F80
Alarm 2 Lowest peak	68B9	69B1	6AA9	6BA1	6C99	6D91	6E89	6F81
Alarm 3 Highest peak	68BA	69B2	6AAA	6BA2	6C9A	6D92	6E8A	6F82
Alarm 3 Lowest peak	68BB	69B3	6AAB	6BA3	6C9B	6D93	6E8B	6F83
Control method	68C0	69B8	6AB0	6BA8	6CA0	6D98	6E90	6F88
Control actions	68C1	69B9	6AB1	6BA9	6CA1	6D99	6E91	6F89
PID mode options	68C2	69BA	6AB2	6BAA	6CA2	6D9A	6E92	6F8A
Proportional control error compensation	68C6	69BE	6AB6	6BAE	6CA6	6D9E	6E96	6F8E

Heating/cooling control dead zone	68C7	69BF	6AB7	6BAF	6CA7	6D9F	6E97	6F8F
ON-OFF heating sensitivity adjustment	68C8	69C0	6AB8	6BB0	6CA8	6DA0	6E98	6F90
ON-OFF cooling sensitivity adjustment	68C9	69C1	6AB9	6BB1	6CA9	6DA1	6E99	6F91
Read manual output 1 Operating quantity	68CA	69C2	6ABA	6BB2	6CAA	6DA2	6E9A	6F92
Read manual output 2 Operating quantity	68CB	69C3	6ABB	6BB3	6CAB	6DA3	6E9B	6F93
Output 1 when PV is abnormal Operating quantity	68CC	69C4	6ABC	6BB4	6CAC	6DA4	6E9C	6F94
Output 2 when PV is abnormal Operating quantity	68CD	69C5	6ABD	6BB5	6CAD	6DA5	6E9D	6F95
Proportional band	68E0	69D8	6AD0	6BC8	6CC0	6DB8	6EB0	6FA8
Integration time	68E1	69D9	6AD1	6BC9	6CC1	6DB9	6EB1	6FA9
Derivative time	68E2	69DA	6AD2	6BCA	6CC2	6DBA	6EB2	6FAA
Cooling side Proportional band	68E3	69DB	6AD3	6BCB	6CC3	6DBB	6EB3	6FAB
Cooling side Integration time	68E4	69DC	6AD4	6BCC	6CC4	6DBC	6EB4	6FAC
Cooling side Derivative time	68E5	69DD	6AD5	6BCD	6CC5	6DBD	6EB5	6FAD

Station ID 14:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	7000H	Read/Write; Default: 1;0: °F; 1: °C						
Channel disabled	7001H	Read/Write; Default: 0; 0: Channel enabled. 1: Channel disabled						
Start status setting	7002H	Read/Write; Default: 0; 0: According to the R-S setting of the channels. 1: Force stop						
Time unit for slope control	7003H	Read/Write; Default: 0;0: Minute 1: Second						
Reverse setting of output 1	7004H	Read/Write; Default: 0;0: Positive; 1: Negative						
Auxiliary output reverse settings	7005H	Read/Write; Default: 0;0: Positive; 1: Negative						
Start/stop for all channels	7006H	Read/Write; Default: 0;0: Stop; 1: Start						
AT switch for all channels	7007H	Read/Write; Default: 0;0: Stop; 1: Start						
Read auxiliary output status	7008H	Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8						
LED indicator status	7009H	Read only bit0: Run; bit1: Comm; bit2: Error						

(device)								
PV	7040	7138	7230	7328	7420	7518	7610	7708
SV	7041	7139	7231	7329	7421	7519	7611	7709
Output 1 Operating value	7042	713A	7232	732A	7422	751A	7612	770A
Output 2 Operating value	7043	713B	7233	732B	7423	751B	7613	770B
Run/stop	7044	713C	7234	732C	7424	751C	7614	770C
Auto-tuning	7045	713D	7235	732D	7425	751D	7615	770D
Manual switching	7046	713E	7236	732E	7426	751E	7616	770E
SV slope setting	7047	713F	7237	732F	7427	751F	7617	770F
LED indicator status (channel)	7048	7140	7238	7330	7428	7520	7618	7710
Input sensor	7060	7158	7250	7348	7440	7538	7630	7728
Upper limit of SV configured value	7061	7159	7251	7349	7441	7539	7631	7729
Lower limit of SV configured value	7062	715A	7252	734A	7442	753A	7632	772A
PV filter strength	7063	715B	7253	734B	7443	753B	7633	772B
PV filter range	7064	715C	7254	734C	7444	753C	7634	772C
Input error offset value	7065	715D	7255	734D	7445	753D	7635	772D
Input error gain value	7066	715E	7256	734E	7446	753E	7636	772E
Cold junction compensation selection	7067	715F	7257	734F	7447	753F	7637	772F
Output 1 Function distribution	7080	7178	7270	7368	7460	7558	7650	7748
Output 1 Control cycle	7081	7179	7271	7369	7461	7559	7651	7749
Output 1 Upper limit	7082	717A	7272	736A	7462	755A	7652	774A
Output 1 Lower limit	7083	717B	7273	736B	7463	755B	7653	774B
Analog output 1 Lower limit adjustment	7084	717C	7274	736C	7464	755C	7654	774C
Analog output 1 Upper limit adjustment	7085	717D	7275	736D	7465	755D	7655	774D
Retransmission selected type	7086	717E	7276	736E	7466	755E	7656	774E
Retransmission update time	7087	717F	7277	736F	7467	755F	7657	774F
Retransmission corresponding to the low point	7088	7180	7278	7370	7468	7560	7658	7750

Retransmission corresponding value of the high point	7089	7181	7279	7371	7469	7561	7659	7751
Assignment of auxiliary output sources	708A	7182	727A	7372	746A	7562	765A	7752
Assignment of auxiliary output functions	708B	7183	727B	7373	746B	7563	765B	7753
Auxiliary output control cycle	708C	7184	727C	7374	746C	7564	765C	7754
Output 2 Upper limit	708D	7185	727D	7375	746D	7565	765D	7755
Output 2 Lower limit	708E	7186	727E	7376	746E	7566	765E	7756
Assignment of secondary output sources	708F	7187						
Assignment of secondary output functions	7090	7188						
Secondary output control cycle	7091	7189						
Alarm 1 Mode	70A0	7198	7290	7388	7480	7578	7670	7768
Alarm 1 Delay	70A1	7199	7291	7389	7481	7579	7671	7769
Alarm 1 Function	70A2	719A	7292	738A	7482	757A	7672	776A
Alarm 1 Upper limit	70A3	719B	7293	738B	7483	757B	7673	776B
Alarm 1 Lower	70A4	719C	7294	738C	7484	757C	7674	776C
Alarm 2 Mode	70A7	719F	7297	738F	7487	757F	7677	776F
Alarm 2 Delay	70A8	71A0	7298	7390	7488	7580	7678	7770
Alarm 2 Function	70A9	71A1	7299	7391	7489	7581	7679	7771
Alarm 2 Upper limit	70AA	71A2	729A	7392	748A	7582	767A	7772
Alarm 2 Lower	70AB	71A3	729B	7393	748B	7583	767B	7773
Alarm 3 Mode	70AE	71A6	729E	7396	748E	7586	767E	7776
Alarm 3 Delay	70AF	71A7	729F	7397	748F	7587	767F	7777
Alarm 3 Function	70B0	71A8	72A0	7398	7490	7588	7680	7778
Alarm 3 Upper limit	70B1	71A9	72A1	7399	7491	7589	7681	7779
Alarm 3 Lower	70B2	71AA	72A2	739A	7492	758A	7682	777A
Alarm reset settings	70B5	71AD	72A5	739D	7495	758D	7685	777D
Alarm 1 Highest peak	70B6	71AE	72A6	739E	7496	758E	7686	777E
Alarm 1 Lowest peak	70B7	71AF	72A7	739F	7497	758F	7687	777F
Alarm 2 Highest peak	70B8	71B0	72A8	73A0	7498	7590	7688	7780
Alarm 2 Lowest peak	70B9	71B1	72A9	73A1	7499	7591	7689	7781
Alarm 3 Highest peak	70BA	71B2	72AA	73A2	749A	7592	768A	7782
Alarm 3 Lowest peak	70BB	71B3	72AB	73A3	749B	7593	768B	7783

Control method	70C0	71B8	72B0	73A8	74A0	7598	7690	7788
Control actions	70C1	71B9	72B1	73A9	74A1	7599	7691	7789
PID mode options	70C2	71BA	72B2	73AA	74A2	759A	7692	778A
Proportional control error compensation	70C6	71BE	72B6	73AE	74A6	759E	7696	778E
Heating/cooling control dead zone	70C7	71BF	72B7	73AF	74A7	759F	7697	778F
ON-OFF heating sensitivity adjustment	70C8	71C0	72B8	73B0	74A8	75A0	7698	7790
ON-OFF cooling sensitivity adjustment	70C9	71C1	72B9	73B1	74A9	75A1	7699	7791
Read manual output 1 Operating quantity	70CA	71C2	72BA	73B2	74AA	75A2	769A	7792
Read manual output 2 Operating quantity	70CB	71C3	72BB	73B3	74AB	75A3	769B	7793
Output 1 when PV is abnormal Operating quantity	70CC	71C4	72BC	73B4	74AC	75A4	769C	7794
Output 2 when PV is abnormal Operating quantity	70CD	71C5	72BD	73B5	74AD	75A5	769D	7795
Proportional band	70E0	71D8	72D0	73C8	74C0	75B8	76B0	77A8
Integration time	70E1	71D9	72D1	73C9	74C1	75B9	76B1	77A9
Derivative time	70E2	71DA	72D2	73CA	74C2	75BA	76B2	77AA
Cooling side Proportional band	70E3	71DB	72D3	73CB	74C3	75BB	76B3	77AB
Cooling side Integration time	70E4	71DC	72D4	73CC	74C4	75BC	76B4	77AC
Cooling side Derivative time	70E5	71DD	72D5	73CD	74C5	75BD	76B5	77AD

Station ID 15:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	7800H	Read/Write; Default: 1;0: °F; 1: °C						
Channel disabled	7801H	Read/Write; Default: 0;0: Channel enabled. 1: Channel disabled						
Start status setting	7802H	Read/Write; Default: 0;0: According to the R-S setting of the channels. 1: Force stop						
Time unit for slope control	7803H	Read/Write; Default: 0;0: Minute 1: Second						
Reverse setting of output 1	7804H	Read/Write; Default: 0;0: Positive; 1: Negative						
Auxiliary output reverse	7805H	Read/Write; Default: 0;0: Positive; 1: Negative						

settings								
Start/stop for all channels	7806H	Read/Write; Default: 0;0: Stop; 1: Start						
AT switch for all channels	7807H	Read/Write; Default: 0;0: Stop; 1: Start						
Read auxiliary output status	7808H	Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8						
LED indicator status (device)	7809H	Read only bit0: Run; bit1: Comm; bit2: Error						
PV	7840	7938	7A30	7B28	7C20	7D18	7E10	7F08
SV	7841	7939	7A31	7B29	7C21	7D19	7E11	7F09
Output 1 Operating value	7842	793A	7A32	7B2A	7C22	7D1A	7E12	7F0A
Output 2 Operating value	7843	793B	7A33	7B2B	7C23	7D1B	7E13	7F0B
Run/stop	7844	793C	7A34	7B2C	7C24	7D1C	7E14	7F0C
Auto-tuning	7845	793D	7A35	7B2D	7C25	7D1D	7E15	7F0D
Manual switching	7846	793E	7A36	7B2E	7C26	7D1E	7E16	7F0E
SV slope setting	7847	793F	7A37	7B2F	7C27	7D1F	7E17	7F0F
LED indicator status (channel)	7848	7940	7A38	7B30	7C28	7D20	7E18	7F10
Input sensor	7860	7958	7A50	7B48	7C40	7D38	7E30	7F28
Upper limit of SV configured value	7861	7959	7A51	7B49	7C41	7D39	7E31	7F29
Lower limit of SV configured value	7862	795A	7A52	7B4A	7C42	7D3A	7E32	7F2A
PV filter strength	7863	795B	7A53	7B4B	7C43	7D3B	7E33	7F2B
PV filter range	7864	795C	7A54	7B4C	7C44	7D3C	7E34	7F2C
Input error offset value	7865	795D	7A55	7B4D	7C45	7D3D	7E35	7F2D
Input error gain value	7866	795E	7A56	7B4E	7C46	7D3E	7E36	7F2E
Cold junction compensation selection	7867	795F	7A57	7B4F	7C47	7D3F	7E37	7F2F
Output 1 Function distribution	7880	7978	7A70	7B68	7C60	7D58	7E50	7F48
Output 1 Control cycle	7881	7979	7A71	7B69	7C61	7D59	7E51	7F49
Output 1 Upper limit	7882	797A	7A72	7B6A	7C62	7D5A	7E52	7F4A
Output 1 Lower limit	7883	797B	7A73	7B6B	7C63	7D5B	7E53	7F4B
Analog output 1 Lower limit adjustment	7884	797C	7A74	7B6C	7C64	7D5C	7E54	7F4C
Analog output 1 Upper limit adjustment	7885	797D	7A75	7B6D	7C65	7D5D	7E55	7F4D
Retransmission selected type	7886	797E	7A76	7B6E	7C66	7D5E	7E56	7F4E
Retransmission update time	7887	797F	7A77	7B6F	7C67	7D5F	7E57	7F4F

Retransmission corresponding to the low point	7888	7980	7A78	7B70	7C68	7D60	7E58	7F50
Retransmission corresponding value of the high point	7889	7981	7A79	7B71	7C69	7D61	7E59	7F51
Assignment of auxiliary output sources	788A	7982	7A7A	7B72	7C6A	7D62	7E5A	7F52
Assignment of auxiliary output functions	788B	7983	7A7B	7B73	7C6B	7D63	7E5B	7F53
Auxiliary output control cycle	788C	7984	7A7C	7B74	7C6C	7D64	7E5C	7F54
Output 2 Upper limit	788D	7985	7A7D	7B75	7C6D	7D65	7E5D	7F55
Output 2 Lower limit	788E	7986	7A7E	7B76	7C6E	7D66	7E5E	7F56
Assignment of secondary output sources	788F	7987						
Assignment of secondary output functions	7890	7988						
Secondary output control cycle	7891	7989						
Alarm 1 Mode	78A0	7998	7A90	7B88	7C80	7D78	7E70	7F68
Alarm 1 Delay	78A1	7999	7A91	7B89	7C81	7D79	7E71	7F69
Alarm 1 Function	78A2	799A	7A92	7B8A	7C82	7D7A	7E72	7F6A
Alarm 1 Upper limit	78A3	799B	7A93	7B8B	7C83	7D7B	7E73	7F6B
Alarm 1 Lower	78A4	799C	7A94	7B8C	7C84	7D7C	7E74	7F6C
Alarm 2 Mode	78A7	799F	7A97	7B8F	7C87	7D7F	7E77	7F6F
Alarm 2 Delay	78A8	79A0	7A98	7B90	7C88	7D80	7E78	7F70
Alarm 2 Function	78A9	79A1	7A99	7B91	7C89	7D81	7E79	7F71
Alarm 2 Upper limit	78AA	79A2	7A9A	7B92	7C8A	7D82	7E7A	7F72
Alarm 2 Lower	78AB	79A3	7A9B	7B93	7C8B	7D83	7E7B	7F73
Alarm 3 Mode	78AE	79A6	7A9E	7B96	7C8E	7D86	7E7E	7F76
Alarm 3 Delay	78AF	79A7	7A9F	7B97	7C8F	7D87	7E7F	7F77
Alarm 3 Function	78B0	79A8	7AA0	7B98	7C90	7D88	7E80	7F78
Alarm 3 Upper limit	78B1	79A9	7AA1	7B99	7C91	7D89	7E81	7F79
Alarm 3 Lower	78B2	79AA	7AA2	7B9A	7C92	7D8A	7E82	7F7A
Alarm reset settings	78B5	79AD	7AA5	7B9D	7C95	7D8D	7E85	7F7D
Alarm 1 Highest peak	78B6	79AE	7AA6	7B9E	7C96	7D8E	7E86	7F7E
Alarm 1 Lowest peak	78B7	79AF	7AA7	7B9F	7C97	7D8F	7E87	7F7F
Alarm 2 Highest peak	78B8	79B0	7AA8	7BA0	7C98	7D90	7E88	7F80
Alarm 2 Lowest peak	78B9	79B1	7AA9	7BA1	7C99	7D91	7E89	7F81

Alarm 3 Highest peak	78BA	79B2	7AAA	7BA2	7C9A	7D92	7E8A	7F82
Alarm 3 Lowest peak	78BB	79B3	7AAB	7BA3	7C9B	7D93	7E8B	7F83
Control method	78C0	79B8	7AB0	7BA8	7CA0	7D98	7E90	7F88
Control actions	78C1	79B9	7AB1	7BA9	7CA1	7D99	7E91	7F89
PID mode options	78C2	79BA	7AB2	7BAA	7CA2	7D9A	7E92	7F8A
Proportional control error compensation	78C6	79BE	7AB6	7BAE	7CA6	7D9E	7E96	7F8E
Heating/cooling control dead zone	78C7	79BF	7AB7	7BAF	7CA7	7D9F	7E97	7F8F
ON-OFF heating sensitivity adjustment	78C8	79C0	7AB8	7BB0	7CA8	7DA0	7E98	7F90
ON-OFF cooling sensitivity adjustment	78C9	79C1	7AB9	7BB1	7CA9	7DA1	7E99	7F91
Read manual output 1 Operating quantity	78CA	79C2	7ABA	7BB2	7CAA	7DA2	7E9A	7F92
Read manual output 2 Operating quantity	78CB	79C3	7ABB	7BB3	7CAB	7DA3	7E9B	7F93
Output 1 when PV is abnormal Operating quantity	78CC	79C4	7ABC	7BB4	7CAC	7DA4	7E9C	7F94
Output 2 when PV is abnormal Operating quantity	78CD	79C5	7ABD	7BB5	7CAD	7DA5	7E9D	7F95
Proportional band	78E0	79D8	7AD0	7BC8	7CC0	7DB8	7EB0	7FA8
Integration time	78E1	79D9	7AD1	7BC9	7CC1	7DB9	7EB1	7FA9
Derivative time	78E2	79DA	7AD2	7BCA	7CC2	7DBA	7EB2	7FAA
Cooling side Proportional band	78E3	79DB	7AD3	7BCB	7CC3	7DBB	7EB3	7FAB
Cooling side Integration time	78E4	79DC	7AD4	7BCC	7CC4	7DBC	7EB4	7FAC
Cooling side Derivative time	78E5	79DD	7AD5	7BCD	7CC5	7DBD	7EB5	7FAD

Station ID 16:

Parameters	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Temperature units	8000H Read/Write; Default: 1;0: °F; 1: °C							
Channel disabled	8001H Read/Write; Default: 0;0: Channel enabled. 1: Channel disabled							
Start status setting	8002H Read/Write; Default: 0;0: According to the R-S setting of the channels. 1: Force stop							
Time unit for slope control	8003H Read/Write; Default: 0;0: Minute 1: Second							
Reverse setting of output 1	8004H Read/Write; Default: 0;0: Positive; 1: Negative							
Auxiliary output reverse settings	8005H Read/Write; Default: 0;0: Positive; 1: Negative							

Start/stop for all channels	8006H Read/Write; Default: 0;0: Stop; 1: Start							
AT switch for all channels	8007H Read/Write; Default: 0;0: Stop; 1: Start							
Read auxiliary output status	8008H Read only bit0~bit7: Auxiliary Access Point 1 to Auxiliary Access Point 8							
LED indicator status (device)	8009H Read only bit0: Run; bit1: Comm; bit2: Error							
PV	8040	8138	8230	8328	8420	8518	8610	8708
SV	8041	8139	8231	8329	8421	8519	8611	8709
Output 1 Operating value	8042	813A	8232	832A	8422	851A	8612	870A
Output 2 Operating value	8043	813B	8233	832B	8423	851B	8613	870B
Run/stop	8044	813C	8234	832C	8424	851C	8614	870C
Auto-tuning	8045	813D	8235	832D	8425	851D	8615	870D
Manual switching	8046	813E	8236	832E	8426	851E	8616	870E
SV slope setting	8047	813F	8237	832F	8427	851F	8617	870F
LED indicator status (channel)	8048	8140	8238	8330	8428	8520	8618	8710
Input sensor	8060	8158	8250	8348	8440	8538	8630	8728
Upper limit of SV configured value	8061	8159	8251	8349	8441	8539	8631	8729
Lower limit of SV configured value	8062	815A	8252	834A	8442	853A	8632	872A
PV filter strength	8063	815B	8253	834B	8443	853B	8633	872B
PV filter range	8064	815C	8254	834C	8444	853C	8634	872C
Input error offset value	8065	815D	8255	834D	8445	853D	8635	872D
Input error gain value	8066	815E	8256	834E	8446	853E	8636	872E
Cold junction compensation selection	8067	815F	8257	834F	8447	853F	8637	872F
Output 1 Function distribution	8080	8178	8270	8368	8460	8558	8650	8748
Output 1 Control cycle	8081	8179	8271	8369	8461	8559	8651	8749
Output 1 Upper limit	8082	817A	8272	836A	8462	855A	8652	874A
Output 1 Lower limit	8083	817B	8273	836B	8463	855B	8653	874B
Analog output 1 Lower limit adjustment	8084	817C	8274	836C	8464	855C	8654	874C
Analog output 1 Upper limit adjustment	8085	817D	8275	836D	8465	855D	8655	874D
Retransmission selected type	8086	817E	8276	836E	8466	855E	8656	874E
Retransmission update time	8087	817F	8277	836F	8467	855F	8657	874F

Retransmission corresponding to the low point	8088	8180	8278	8370	8468	8560	8658	8750
Retransmission corresponding value of the high point	8089	8181	8279	8371	8469	8561	8659	8751
Assignment of auxiliary output sources	808A	8182	827A	8372	846A	8562	865A	8752
Assignment of auxiliary output functions	808B	8183	827B	8373	846B	8563	865B	8753
Auxiliary output control cycle	808C	8184	827C	8374	846C	8564	865C	8754
Output 2 Upper limit	808D	8185	827D	8375	846D	8565	865D	8755
Output 2 Lower limit	808E	8186	827E	8376	846E	8566	865E	8756
Assignment of secondary output sources	808F	8187						
Assignment of secondary output functions	8090	8188						
Secondary output control cycle	8091	8189						
Alarm 1 Mode	80A0	8198	8290	8388	8480	8578	8670	8768
Alarm 1 Delay	80A1	8199	8291	8389	8481	8579	8671	8769
Alarm 1 Function	80A2	819A	8292	838A	8482	857A	8672	876A
Alarm 1 Upper limit	80A3	819B	8293	838B	8483	857B	8673	876B
Alarm 1 Lower	80A4	819C	8294	838C	8484	857C	8674	876C
Alarm 2 Mode	80A7	819F	8297	838F	8487	857F	8677	876F
Alarm 2 Delay	80A8	81A0	8298	8390	8488	8580	8678	8770
Alarm 2 Function	80A9	81A1	8299	8391	8489	8581	8679	8771
Alarm 2 Upper limit	80AA	81A2	829A	8392	848A	8582	867A	8772
Alarm 2 Lower	80AB	81A3	829B	8393	848B	8583	867B	8773
Alarm 3 Mode	80AE	81A6	829E	8396	848E	8586	867E	8776
Alarm 3 Delay	80AF	81A7	829F	8397	848F	8587	867F	8777
Alarm 3 Function	80B0	81A8	82A0	8398	8490	8588	8680	8778
Alarm 3 Upper limit	80B1	81A9	82A1	8399	8491	8589	8681	8779
Alarm 3 Lower	80B2	81AA	82A2	839A	8492	858A	8682	877A
Alarm reset settings	80B5	81AD	82A5	839D	8495	858D	8685	877D
Alarm 1 Highest peak	80B6	81AE	82A6	839E	8496	858E	8686	877E
Alarm 1 Lowest peak	80B7	81AF	82A7	839F	8497	858F	8687	877F
Alarm 2 Highest peak	80B8	81B0	82A8	83A0	8498	8590	8688	8780

Alarm 2 Lowest peak	80B9	81B1	82A9	83A1	8499	8591	8689	8781
Alarm 3 Highest peak	80BA	81B2	82AA	83A2	849A	8592	868A	8782
Alarm 3 Lowest peak	80BB	81B3	82AB	83A3	849B	8593	868B	8783
Control method	80C0	81B8	82B0	83A8	84A0	8598	8690	8788
Control actions	80C1	81B9	82B1	83A9	84A1	8599	8691	8789
PID mode options	80C2	81BA	82B2	83AA	84A2	859A	8692	878A
Proportional control error compensation	80C6	81BE	82B6	83AE	84A6	859E	8696	878E
Heating/cooling control dead zone	80C7	81BF	82B7	83AF	84A7	859F	8697	878F
ON-OFF heating sensitivity adjustment	80C8	81C0	82B8	83B0	84A8	85A0	8698	8790
ON-OFF cooling sensitivity adjustment	80C9	81C1	82B9	83B1	84A9	85A1	8699	8791
Read manual output 1 Operating quantity	80CA	81C2	82BA	83B2	84AA	85A2	869A	8792
Read manual output 2 Operating quantity	80CB	81C3	82BB	83B3	84AB	85A3	869B	8793
Output 1 when PV is abnormal Operating quantity	80CC	81C4	82BC	83B4	84AC	85A4	869C	8794
Output 2 when PV is abnormal Operating quantity	80CD	81C5	82BD	83B5	84AD	85A5	869D	8795
Proportional band	80E0	81D8	82D0	83C8	84C0	85B8	86B0	87A8
Integration time	80E1	81D9	82D1	83C9	84C1	85B9	86B1	87A9
Derivative time	80E2	81DA	82D2	83CA	84C2	85BA	86B2	87AA
Cooling side Proportional band	80E3	81DB	82D3	83CB	84C3	85BB	86B3	87AB
Cooling side Integration time	80E4	81DC	82D4	83CC	84C4	85BC	86B4	87AC
Cooling side Derivative time	80E5	81DD	82D5	83CD	84C5	85BD	86B5	87AD

4.12.3 EIP settings communications register

DTN-EIP can be configured through the DTN Soft software. However, if you wish to use an external HMI or PLC to configure the EIP parameters, please read the following parameter locations.

Name	Address	Default:	Read/write	Description
Number of connections	0003H		Read	Range: 0~8

Parameter Update Cycle	0005H	5	Read/Write	Range: 4~40; unit: 100ms
Station ID of the main unit	0006H	247	Read/Write	Range: 1~247
RS485 Function Enabling	0007H	0	Read/Write	Range: 0-1; enabled when 1 is entered
Self-defined EIP data exchange area	0008H	0	Read/Write	Range: 0-1; customization enabled when 1 is entered
Communication Format	0088H	0	Read/Write	Range: 0~1; 0: ASCII; 1: RTU
Baud Rate	0089H	3	Read/Write	Range: 0~6; 0: 2400; 1: 4800; 2: 9600; 3: 19200; 4: 38400; 5: 57600; 6: 115200
Data Bits	008AH	1	Read/Write	Range: 0~1; 0: 8bits; 1: 7bits
Check bytes	008BH	0	Read/Write	Range: 0~2; 0: None; 1: Even; 2: Odd
Stop Bits	008CH	0	Read/Write	Range: 0~1; 0: 1bit; 1: 2bits
Parameter Collection time interval	008EH	10	Read/Write	Range: 1~100; unit: 100ms
RS-485 Master Timeout Settings	008FH	7	Read/Write	Range: 1~7; unit: 100ms
Quantity of commands collected by parameters	0090H	0	Read/Write	Range: 0~100; 0: Disable collection function
Cyclic Collection (Read location settings for the 100 data exchange entries and the content of the 100 return values)				
1-Station No.	0100H			
1-Register position	0101H			
1-Data length	0102H			
2-Station No.	0103H			
2-Register position	0104H			
2-Data length	0105H			
3-Station No.	0106H			
3-Register position	0107H			
3-Data length	0108H			
4-Station No.	0109H			
4-Register position	010AH			
4-Data length	010BH			
5-Station No.	010CH			
5-Register position	010DH			
5-Data length	010EH			
6-Station No.	010FH			
6-Register position	0110H			
6-Data length	0111H			
7-Station No.	0112H			

7-Register position	0113H	
7-Data length	0114H	
8-Station No.	0115H	
8-Register position	0116H	
8-Data length	0117H	
9-Station No.	0118H	
9-Register position	0119H	
9-Data length	011AH	
10-Station No.	011BH	
10-Register position	011CH	
10-Data length	011DH	
11-Station No.	011EH	
11-Register position	011FH	
11-Data length	0120H	
12-Station No.	0121H	
12-Register position	0122H	
12-Data length	0123H	
13-Station No.	0124H	
13-Register position	0125H	
13-Data length	0126H	
14-Station No.	0127H	
14-Register position	0128H	
14-Data length	0129H	
15-Station No.	012AH	
15-Register position	012BH	
15-Data length	012CH	
16-Station No.	012DH	
16-Register position	012EH	
16-Data length	012FH	
17-Station No.	0130H	
17-Register position	0131H	
17-Data length	0132H	
18-Station No.	0133H	
18-Register position	0134H	
18-Data length	0135H	
19-Station No.	0136H	
19-Register position	0137H	
19-Data length	0138H	
20-Station No.	0139H	

20-Register position	013AH
20-Data length	013BH
21-Station No.	013CH
21-Register position	013DH
21-Data length	013EH
22-Station No.	013FH
22-Register position	0140H
22-Data length	0141H
23-Station No.	0142H
23-Register position	0143H
23-Data length	0144H
24-Station No.	0145H
24-Register position	0146H
24-Data length	0147H
25-Station No.	0148H
25-Register position	0149H
25-Data length	014AH
26-Station No.	014BH
26-Register position	014CH
26-Data length	014DH
27-Station No.	014EH
27-Register position	014FH
27-Data length	0150H
28-Station No.	0151H
28-Register position	0152H
28-Data length	0153H
29-Station No.	0154H
29-Register position	0155H
29-Data length	0156H
30-Station No.	0157H
30-Register position	0158H
30-Data length	0159H
31-Station No.	015AH
31-Register position	015BH
31-Data length	015CH
32-Station No.	015DH
32-Register position	015EH
32-Data length	015FH
33-Station No.	0160H

33-Register position	0161H	
33-Data length	0162H	
34-Station No.	0163H	
34-Register position	0164H	
34-Data length	0165H	
35-Station No.	0166H	
35-Register position	0167H	
35-Data length	0168H	
36-Station No.	0169H	
36-Register position	016AH	
36-Data length	016BH	
37-Station No.	016CH	
37-Register position	016DH	
37-Data length	016EH	
38-Station No.	016FH	
38-Register position	0170H	
38-Data length	0171H	
39-Station No.	0172H	
39-Register position	0173H	
39-Data length	0174H	
40-Station No.	0175H	
40-Register position	0176H	
40-Data length	0177H	
41-Station No.	0178H	
41-Register position	0179H	
41-Data length	017AH	
42-Station No.	017BH	
42-Register position	017CH	
42-Data length	017DH	
43-Station No.	017EH	
43-Register position	017FH	
43-Data length	0180H	
44-Station No.	0181H	
44-Register position	0182H	
44-Data length	0183H	
45-Station No.	0184H	
45-Register position	0185H	
45-Data length	0186H	
46-Station No.	0187H	

46-Register position	0188H	
46-Data length	0189H	
47-Station No.	018AH	
47-Register position	018BH	
47-Data length	018CH	
48-Station No.	018DH	
48-Register position	018EH	
48-Data length	018FH	
49-Station No.	0190H	
49-Register position	0191H	
49-Data length	0192H	
50-Station No.	0193H	
50-Register position	0194H	
50-Data length	0195H	
51-Station No.	0196H	
51-Register position	0197H	
51-Data length	0198H	
52-Station No.	0199H	
52-Register position	019AH	
52-Data length	019BH	
53-Station No.	019CH	
53-Register position	019DH	
53-Data length	019EH	
54-Station No.	019FH	
54-Register position	01A0H	
54-Data length	01A1H	
55-Station No.	01A2H	
55-Register position	01A3H	
55-Data length	01A4H	
56-Station No.	01A5H	
56-Register position	01A6H	
56-Data length	01A7H	
57-Station No.	01A8H	
57-Register position	01A9H	
57-Data length	01AAH	
58-Station No.	01ABH	
58-Register position	01ACH	
58-Data length	01ADH	
59-Station No.	01AEH	

59-Register position	01AFH
59-Data length	01B0H
60-Station No.	01B1H
60-Register position	01B2H
60-Data length	01B3H
61-Station No.	01B4H
61-Register position	01B5H
61-Data length	01B6H
62-Station No.	01B7H
62-Register position	01B8H
62-Data length	01B9H
63-Station No.	01BAH
63-Register position	01BBH
63-Data length	01BCH
64-Station No.	01BDH
64-Register position	01BEH
64-Data length	01BFH
65-Station No.	01C0H
65-Register position	01C1H
65-Data length	01C2H
66-Station No.	01C3H
66-Register position	01C4H
66-Data length	01C5H
67-Station No.	01C6H
67-Register position	01C7H
67-Data length	01C8H
68-Station No.	01C9H
68-Register position	01CAH
68-Data length	01CBH
69-Station No.	01CCH
69-Register position	01CDH
69-Data length	01CEH
70-Station No.	01CFH
70-Register position	01D0H
70-Data length	01D1H
71-Station No.	01D2H
71-Register position	01D3H
71-Data length	01D4H
72-Station No.	01D5H

72-Register position	01D6H
72-Data length	01D7H
73-Station No.	01D8H
73-Register position	01DDH
73-Data length	01DAH
74-Station No.	01DBH
74-Register position	01DCH
74-Data length	01DDH
75-Station No.	01DEH
75-Register position	01DFH
75-Data length	01E0H
76-Station No.	01E1H
76-Register position	01E2H
76-Data length	01E3H
77-Station No.	01E4H
77-Register position	01E5H
77-Data length	01E6H
78-Station No.	01E7H
78-Register position	01E8H
78-Data length	01E9H
79-Station No.	01EAH
79-Register position	01EBH
79-Data length	01ECH
80-Station No.	01EDH
80-Register position	01EEH
80-Data length	01EFH
81-Station No.	01F0H
81-Register position	01F1H
81-Data length	01F2H
82-Station No.	01F3H
82-Register position	01F4H
82-Data length	01F5H
83-Station No.	01F6H
83-Register position	01F7H
83-Data length	01F8H
84-Station No.	01F9H
84-Register position	01FAH
84-Data length	01FBH
85-Station No.	01FCH

85-Register position	01FDH
85-Data length	01FEH
86-Station No.	01FFH
86-Register position	0200H
86-Data length	0201H
87-Station No.	0202H
87-Register position	0203H
87-Data length	0204H
88-Station No.	0205H
88-Register position	0206H
88-Data length	0207H
89-Station No.	0208H
89-Register position	0209H
89-Data length	020AH
90-Station No.	020BH
90-Register position	020CH
90-Data length	020DH
91-Station No.	020EH
91-Register position	020FH
91-Data length	0210H
92-Station No.	0211H
92-Register position	0212H
92-Data length	0213H
93-Station No.	0214H
93-Register position	0215H
93-Data length	0216H
94-Station No.	0217H
94-Register position	0218H
94-Data length	0219H
95-Station No.	021AH
95-Register position	021BH
95-Data length	021CH
96-Station No.	021DH
96-Register position	021EH
96-Data length	021FH
97-Station No.	0220H
97-Register position	0221H
97-Data length	0222H
98-Station No.	0223H

98-Register position	0224H	
98-Data length	0225H	
99-Station No.	0226H	
99-Register position	0227H	
99-Data length	0228H	
100-Station No.	0229H	
100-Register position	022AH	
100- Data length	022BH	
Return value of entry 1	0300H	
Return value of entry 2	0301H	
Return value of entry 3	0302H	
Return value of entry 4	0303H	
Return value of entry 5	0304H	
Return value of entry 6	0305H	
Return value of entry 7	0306H	
Return value of entry 8	0307H	
Return value of entry 9	0308H	
Return value of entry 10	0309H	
Return value of entry 11	030AH	
Return value of entry 12	030BH	
Return value of entry 13	030CH	
Return value of entry 14	030DH	
Return value of entry 15	030EH	
Return value of entry 16	030FH	
Return value of entry 17	0310H	
Return value of entry 18	0311H	
Return value of entry 19	0312H	
Return value of entry 20	0313H	
Return value of entry 21	0314H	
Return value of entry 22	0315H	
Return value of entry 23	0316H	
Return value of entry 24	0317H	
Return value of entry 25	0318H	
Return value of entry 26	0319H	
Return value of entry 27	031AH	
Return value of entry 28	031BH	
Return value of entry 29	031CH	
Return value of entry 30	031DH	
Return value of entry 31	031EH	

Return value of entry 32	031FH
Return value of entry 33	0320H
Return value of entry 34	0321H
Return value of entry 35	0322H
Return value of entry 36	0323H
Return value of entry 37	0324H
Return value of entry 38	0325H
Return value of entry 39	0326H
Return value of entry 40	0327H
Return value of entry 41	0328H
Return value of entry 42	0329H
Return value of entry 43	032AH
Return value of entry 44	032BH
Return value of entry 45	032CH
Return value of entry 46	032DH
Return value of entry 47	032EH
Return value of entry 48	032FH
Return value of entry 49	0330H
Return value of entry 50	0331H
Return value of entry 51	0332H
Return value of entry 52	0333H
Return value of entry 53	0334H
Return value of entry 54	0335H
Return value of entry 55	0336H
Return value of entry 56	0337H
Return value of entry 57	0338H
Return value of entry 58	0339H
Return value of entry 59	033AH
Return value of entry 60	033BH
Return value of entry 61	033CH
Return value of entry 62	033DH
Return value of entry 63	033EH
Return value of entry 64	033FH
Return value of entry 65	0340H
Return value of entry 66	0341H
Return value of entry 67	0342H
Return value of entry 68	0343H
Return value of entry 69	0344H
Return value of entry 70	0345H

Return value of entry 71	0346H	
Return value of entry 72	0347H	
Return value of entry 73	0348H	
Return value of entry 74	0349H	
Return value of entry 75	034AH	
Return value of entry 76	034BH	
Return value of entry 77	034CH	
Return value of entry 78	034DH	
Return value of entry 79	034EH	
Return value of entry 80	034FH	
Return value of entry 81	0350H	
Return value of entry 82	0351H	
Return value of entry 83	0352H	
Return value of entry 84	0353H	
Return value of entry 85	0354H	
Return value of entry 86	0355H	
Return value of entry 87	0356H	
Return value of entry 88	0357H	
Return value of entry 89	0358H	
Return value of entry 90	0359H	
Return value of entry 91	035AH	
Return value of entry 92	035BH	
Return value of entry 93	035CH	
Return value of entry 94	035DH	
Return value of entry 95	035EH	
Return value of entry 96	035FH	
Return value of entry 97	0360H	
Return value of entry 98	0361H	
Return value of entry 99	0362H	
Return value of entry 100	0363H	