



Mitsubishi FX5U Series Ethernet(TCP)

Directory

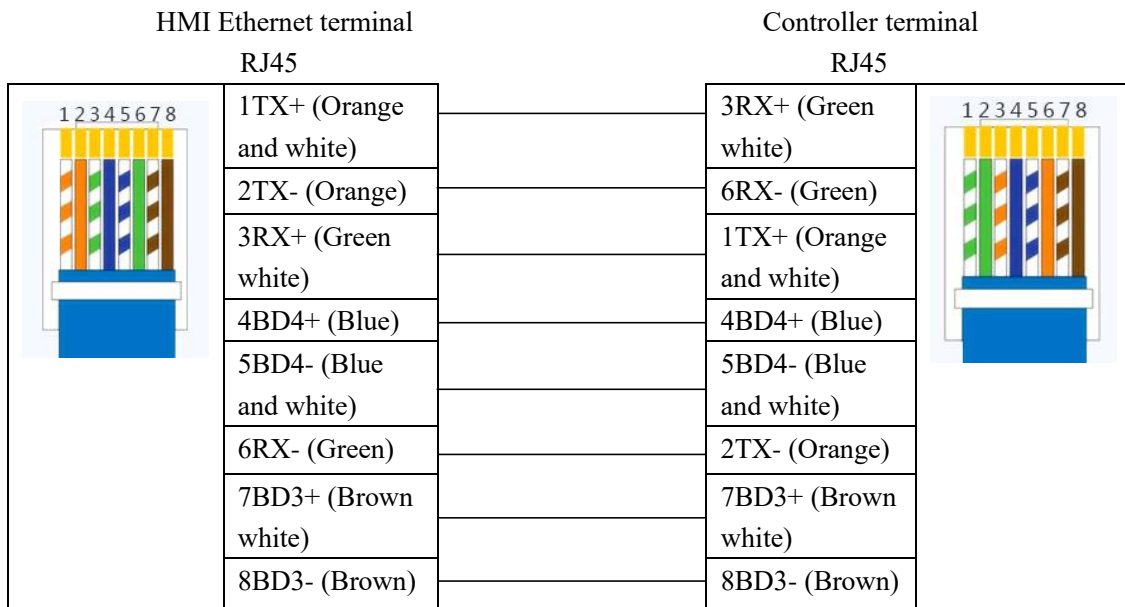
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❖ 1 Introduction to Drive

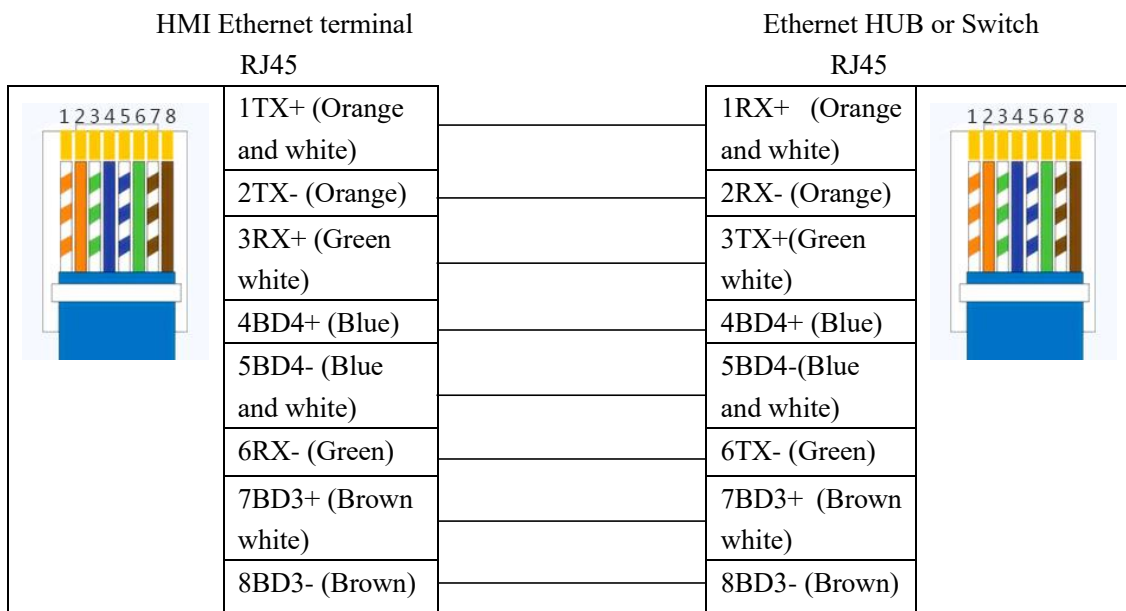
Driver protocol	Mitsubishi FX5U Series Ethernet(TCP)
PLC Model number	FX5U Series
website	https://www.mitsubishielectric.com.cn/zh/index.html
communication mode	Ethernet
PLC interface	Ethernet
PLC port number	1025
Online simulation	Support

Hardware wiring method: If PLC communicates directly with HMI without HUB or SWITCH, crossover cable is used; If the network communicates with the HMI through the HUB or SWITCH, use either a direct connection or a crossover cable.

A. Crossover cable wiring diagram



B. Wiring diagram of the direct cable



❖ 2 HMI configure

➤ Configure communication connections

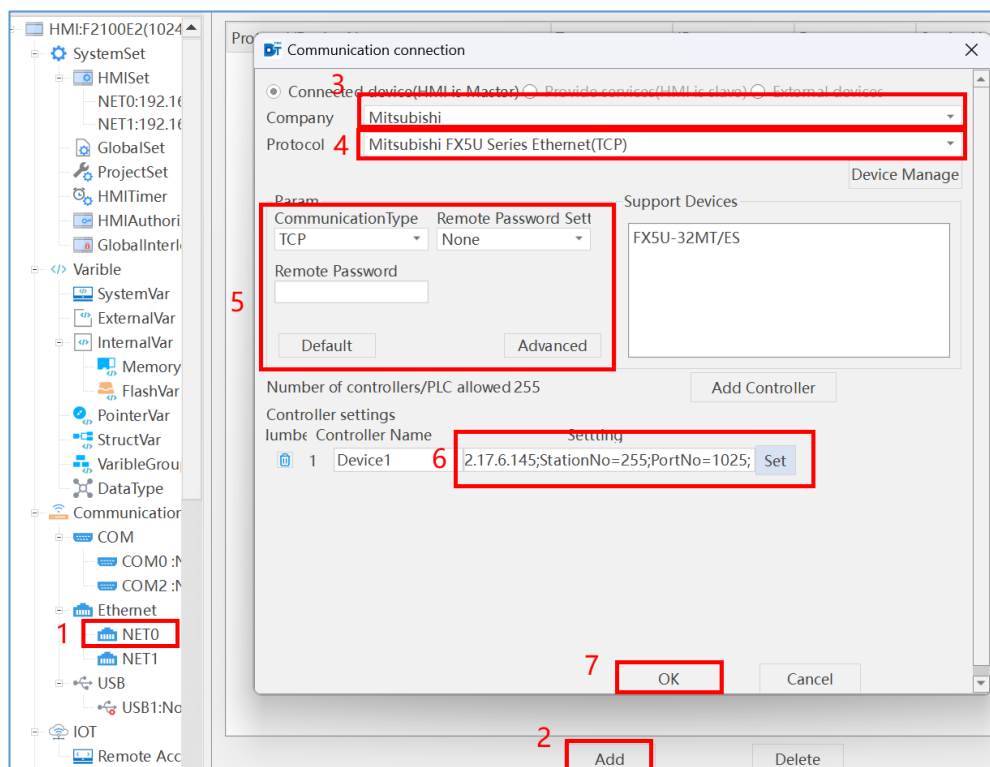


Figure 1

- (1) Project-Ethernet: Select the network port to add the driver
- (2) New connections
- (3) Select the company brand of the external controller Mitsubishi

- (4) Select Mitsubishi FX5U Series Ethernet (TCP) protocol
- (5) Set whether to enable the remote password --- **If the actual controller port number sets the remote password, you must enable and enter a consistent remote password, otherwise it will lead to unsuccessful communication**
- (6) Configure the controller name and IP/station number/port number --- **just keep the same parameters as the actual controller**
- (7) Click OK to complete the configuration of the communication connection

➤ **Create Variable**

- (1) Variable - ExternalVar Select the PLC where the variable is to be created
- (2) Click Add on the right to create according to the desired data type
- (3) Information filtering view, can be filtered by each data screening above

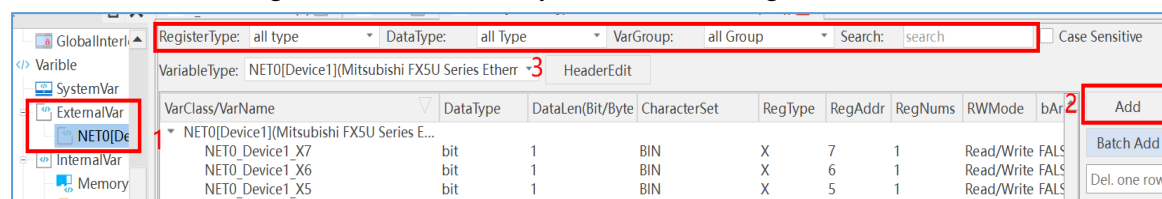


Figure 2

❖ 3 External controller configuration

This manual uses GX Works3 software and the PLC model is FX5U.

1.Communicate with PLC. Open GX Works3 software, first create a new project, select FX5CPU for series and FX5U for model, then connect with PLC, the following is the connection wizard:

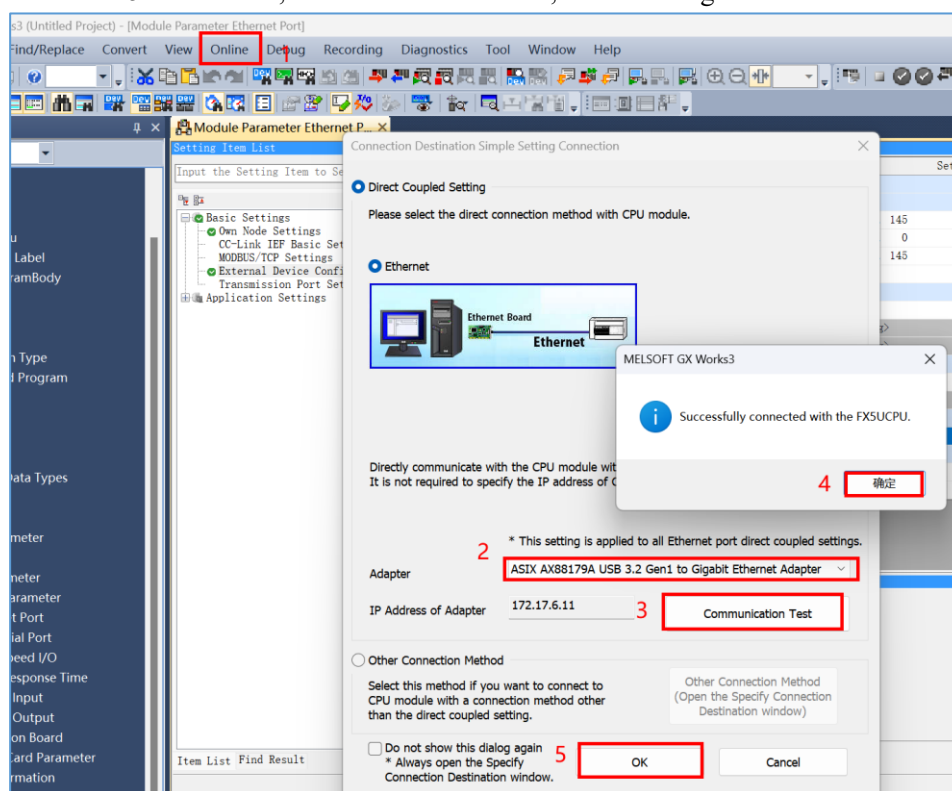


Figure 3

- (1) Mouse click on "Online" and select "Current Connection Destination";
- (2) Select the corresponding adapter, the computer should be in the same network segment as the PLC (i.e. the first three fields of the IP address have the same number and the last field has a different number);

2. Read the PLC, click on "Online", select "Read from PLC...", check the parameters to be read and complete the reading;

3. PLC configuration.

1) Click on "Parameters" - "FX5UCPU" - "Module Parameter" - "Ethernet Port", see Figure 4 for details;

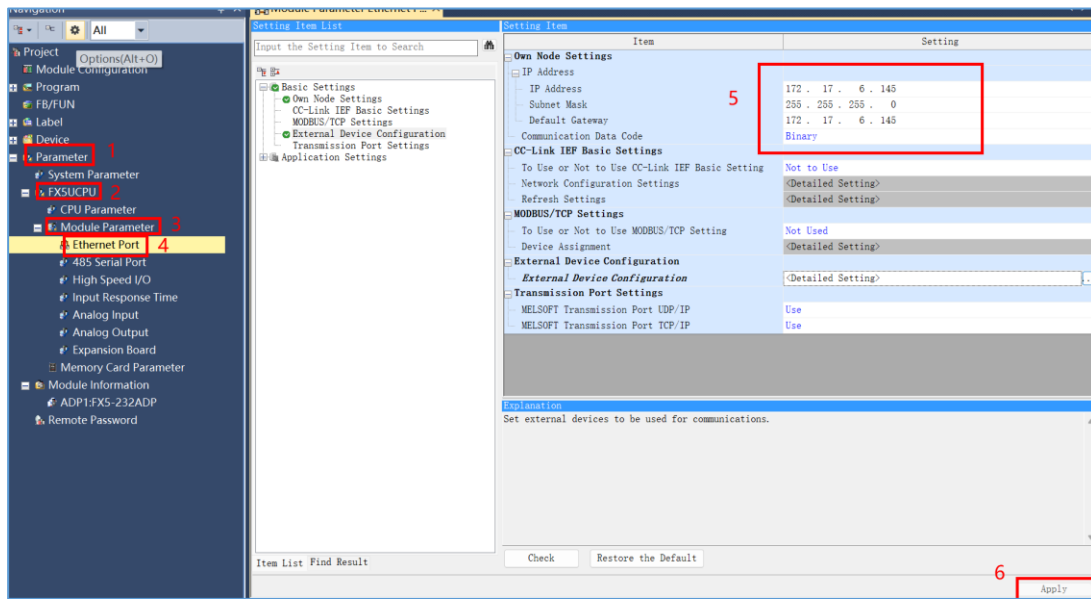


Figure 4

Click "Apply" after the configuration is completed, then click "Online" and select "Write to PLC..." to write to the PLC;

2) In the "Ethernet port" settings property box, click "External Device Configuration", and then click "Detailed setting".

3) After opening, the "Ethernet Configuration (Built-in Ethernet Port)" dialog box will be displayed, select "SLMP Connection module", set the protocol to "TCP" and port number "1025", see Figure 5 for detailed settings, after setting, click "Close with Reflecting the setting".

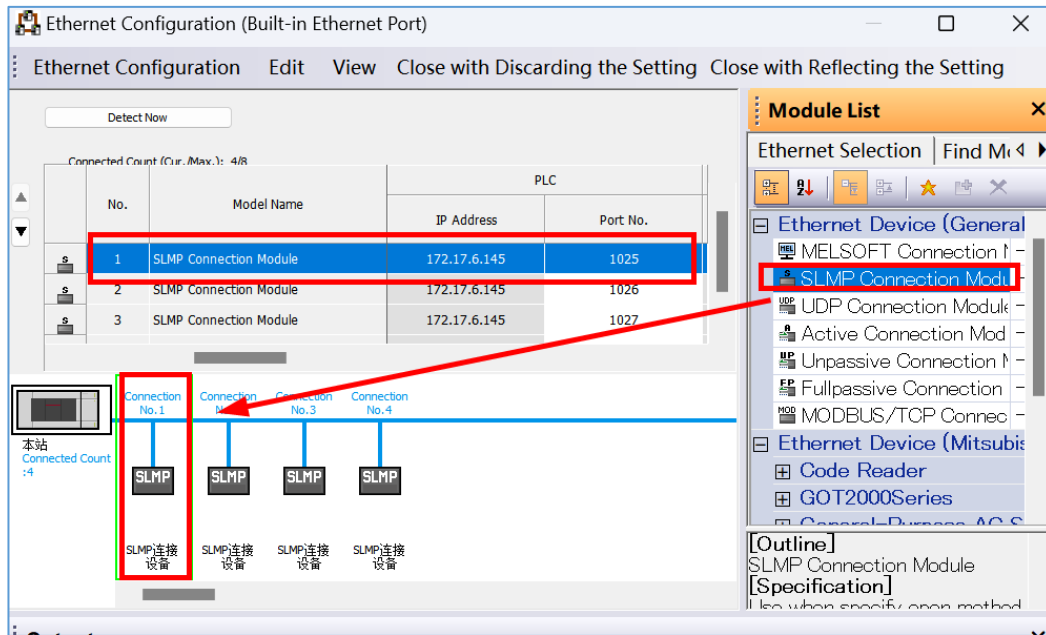


Figure 5

4. Remote password configuration.

- (1) Double-click "Remote Password" to bring up the remote password setting window;
- (2) Click on "Password..." to set the password for login (if you already have a password, click "Password..." You can change the password).
- (3) Set the passphrase as required at the bottom of the window;
- (4) When the configuration is complete, click "OK";

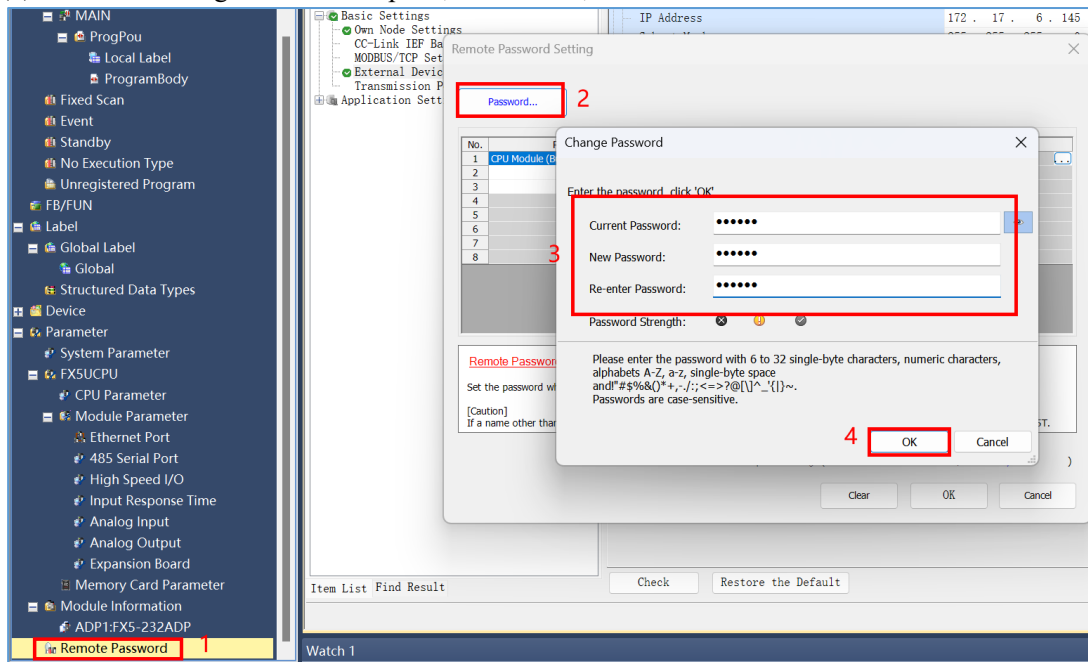


Figure 6

- (5) Set the product name and select "CPU module (Built-in Ethernet function)";
- (6) Double click "Detailed Setting" or click "..." button to set the remote password in detail;
- (7) As shown in Figure 7, configure the "User Connection No. valid setting" and "system Connection valid setting" (you can check which connection number to use the remote password as

needed, the connection number corresponds to 3. -Ethernet configuration);

(8) Click "OK" to complete the detailed configuration, and write the PLC to take effect after the configuration is completed;

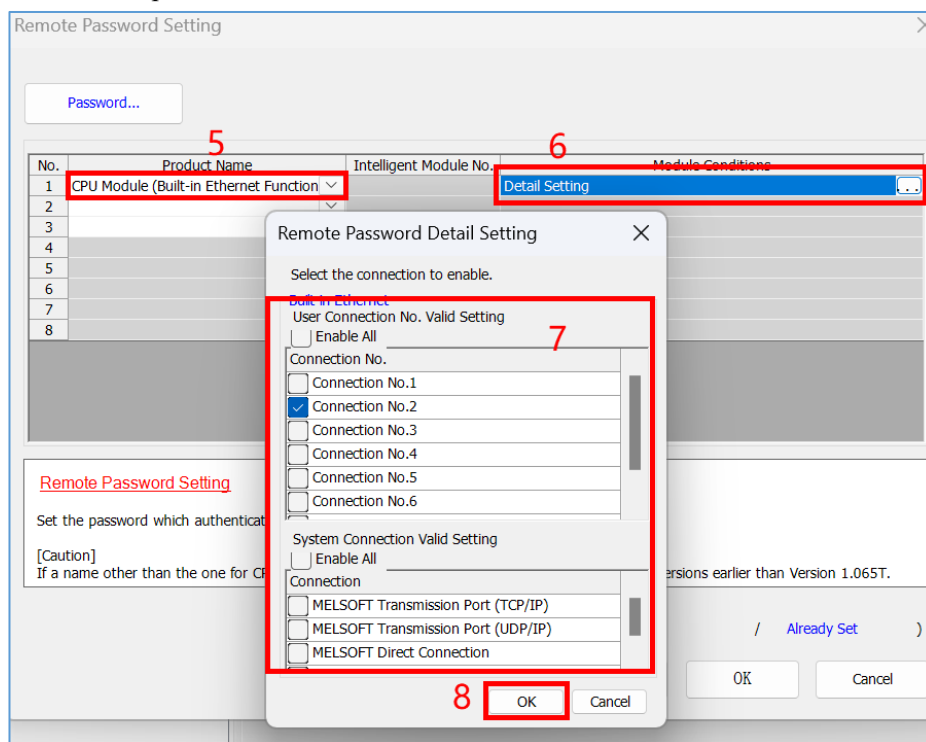


Figure 7

❖ 4 Supported register type

Device	Bit address	Word address	Format	
Accumulation timer (contact)	SS 0-15	----	DD	
Counters (contacts)	CS 0-255	----	DDD	
Counters (coils)	CC 0-255	----	DDD	
Timer (contact)	TS 0-511	----	DDD	
Accumulation timer (coil)	SC 0-15	----	DD	
Timer (coil)	TC 0-511	----	DDD	
Long Counter	LCC 0-63	----	DD	
Long Counter	LCS 0-63	----	DD	
Link special relays	SB 0-7FFF	----	HHHH	
Link Relay	B 0-7FFF	----	HHHH	
Status Relay	S 0-4095	----	DDDD	
Signal Relay	F 0-127	----	DDD	
Latching Relay	L 0-7679	----	DDDD	
Special Relay	SM 0-9999	----	DDDD	
Internal Relay	M 0-7679	----	DDDD	
Output Relay	Y 0-3361	----	OOOO	
Input Relay	X 0-3361	----	OOOO	

Address change register	----	Z 0-19	DD	
Accumulation register	----	SN 0-15	DD	
Data Register	----	D 0-7999	DDDD	
Timer	----	TN 0-511	DDD	
Counters	----	CN 0-255	DDD	
Linking special registers	----	SW 0-7FFF	HHHH	
Link Register	----	W 0-7FFF	HHHH	
File Register	----	R 0-32767	DDDDD	
Special Registers	----	SD 0-11999	DDDDD	
Ultra-long variable address register	----	LZ 0-1	D	32-bit
Long Counter	----	LCN 0-63	DD	32-bit

❖ 5 Advanced parameters and error messages

Reference Manual - Communication Advanced Parameters and Error Information Table

❖ 6 Software Configuration

The following steps use the associated word variable as an example:

1. Click on "Components" and select "Data Display - Value Entry";

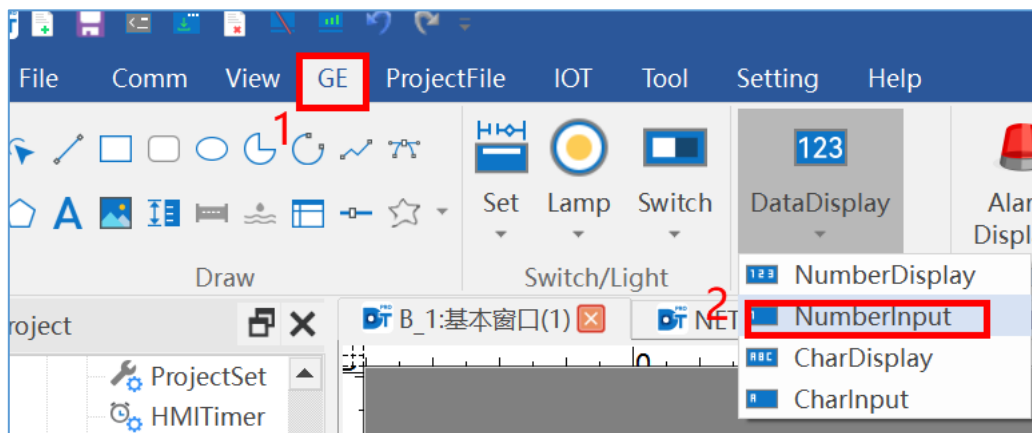


Figure 8

2. Numeric input element associated variables;

(1) You can click the variable edit box to enter characters. A list of all variables matching the string will pop up and the desired external variable can be selected;

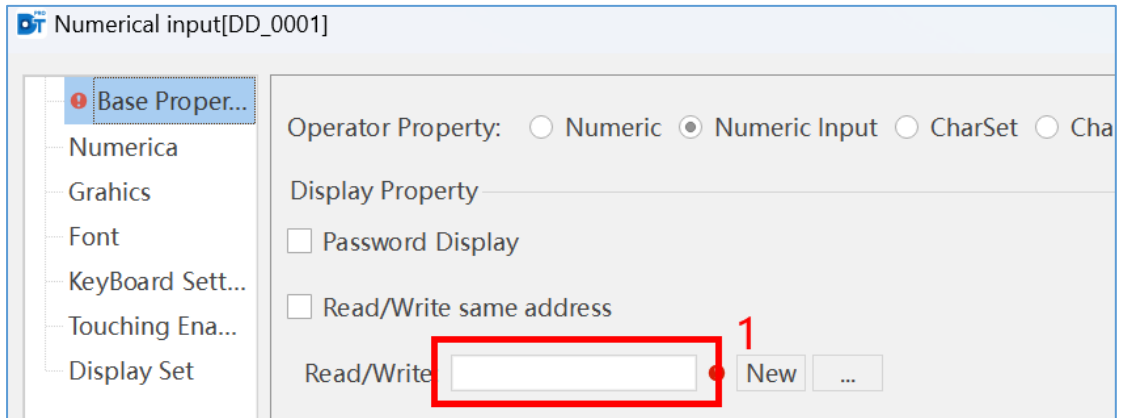


Figure 9

(2) You can click the "New" button to add the required external variables. Select the external variable as the data source, set the required variable information, and confirm the variable edit box to display the newly created variable;

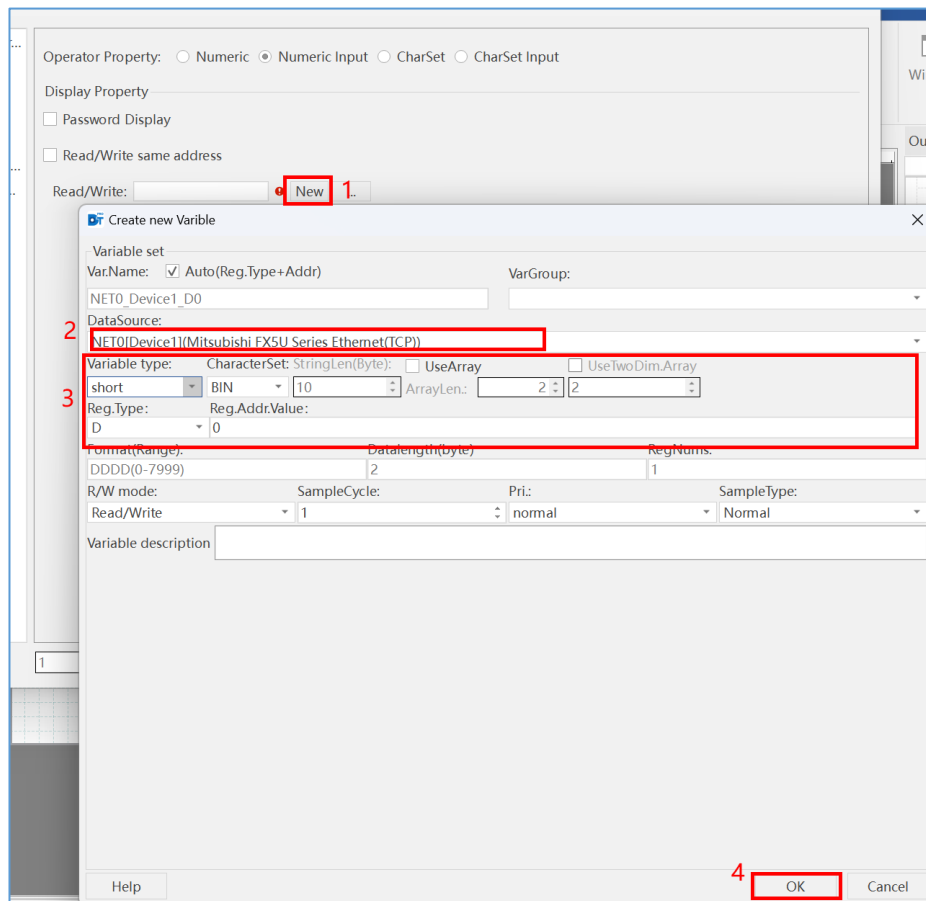


Figure 10

(3) You can click on the "..." button to select a variable or add a new variable. You can select external variables and directly select existing variables or create variables (same as for new variables). The upper right corner allows you to find and filter variables, and array variables can be modified with subscripts, or you can dynamically index the array subscripts with variables;

(4) Click "OK" to complete the operation of the selected variable, or double-click the variable to achieve the "OK" effect;

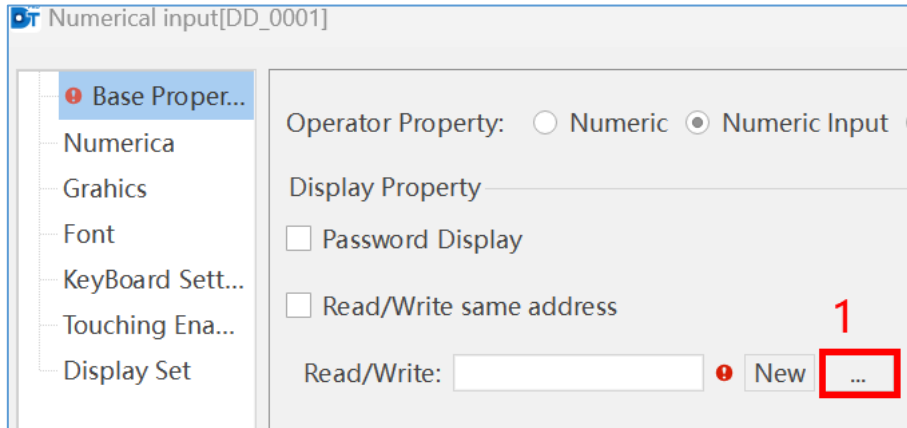


Figure 11

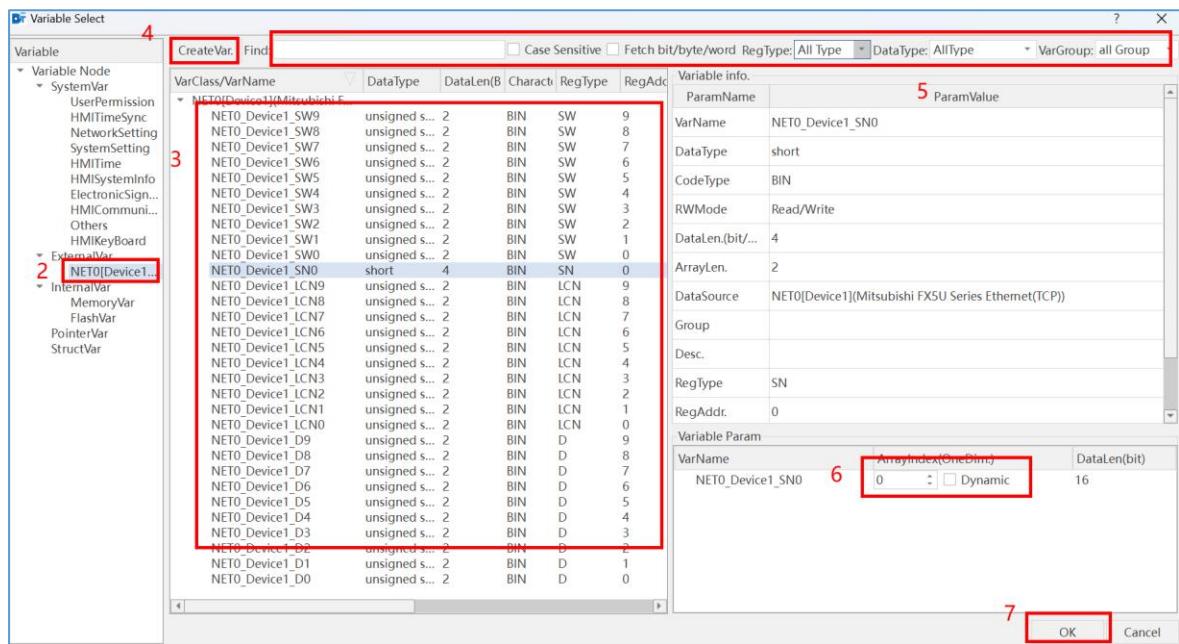


Figure 12

(5)Click "OK" on the component property page to complete the procedure of associating a structural variable with a numeric input component.