VEICHI

VEICHI VC Series Ethernet(TCP)

❖ 1 Introduction to Drive

Driver protocol	VEICHI VC Series Ethernet(TCP)
PLC Model number	VEICHI VC1S、VC1、VC2、VC3、VC5 Model number
website	https://www.veichi.cn/
communication mode	Ethernet
PLC interface	Ethernet
PLC port number	Modbus TCP: 502
Online simulation	support
HMI Model	F2 / G2 full series (with network port)

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

HMI Ethernet terminal RJ45		Controller terminal RJ45	
	1TX+ (Orange and white)	3RX+ (Green white)	
	2TX- (Orange)	6RX- (Green)	
	3RX+ (Green white)	1TX+ (Orange and white)	
	4BD4+ (Blue)	4BD4+ (Blue)	
	5BD4- (Blue and white)	5BD4- (Blue and white)	
	6RX- (Green)	2TX- (Orange)	
	7BD3+ (Brown white)	7BD3+ (Brown white)	
	8BD3- (Brown)	8BD3- (Brown)	

B.Wiring diagram of the direct cable

HMI Ethernet terminal RJ45		Ethernet HUB or Switch RJ45	
	1TX+ (Orange and white)	1RX+ (Orange and white)	
	2TX- (Orange)	2RX- (Orange)	
	3RX+ (Green white)	3TX+(Green white)	
	4BD4+ (Blue)	4BD4+ (Blue)	
	5BD4- (Blue and white)	5BD4-(Blue and white)	
	6RX- (Green)	6TX- (Green)	
	7BD3+ (Brown white)	7BD3+ (Brown white)	
	8BD3- (Brown)	8BD3- (Brown)	

❖ 2 HMI configure

➢ Configure communication connections

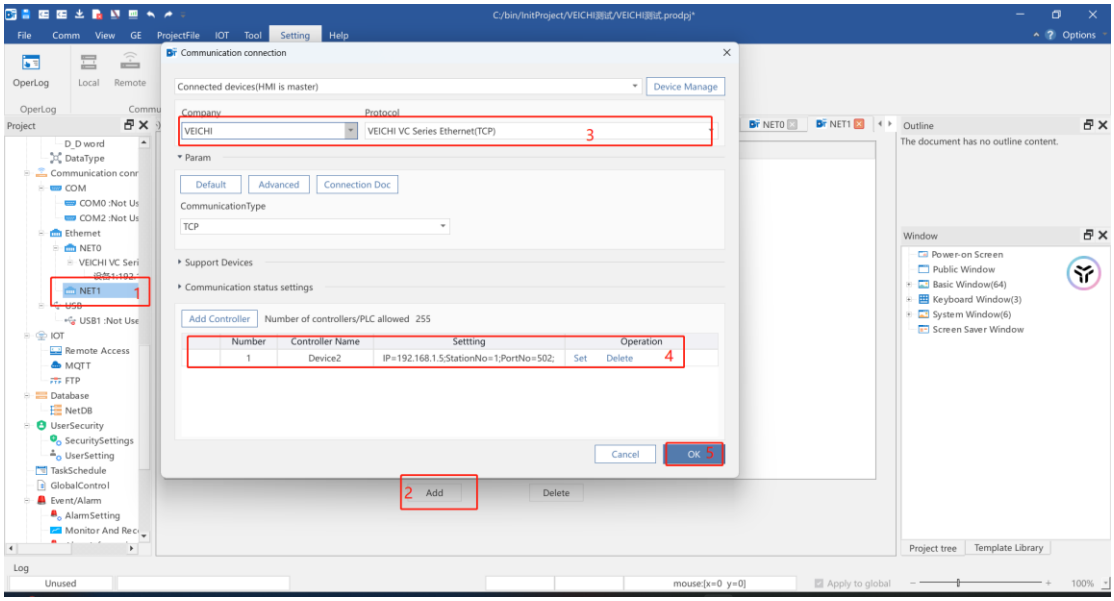

Figure1

1) Engineering - Communication connection - Ethernet, select the network port to add the driver;
2) Click the "Add" button;
3) The input field after the word "company" is to select the manufacturer; Select a communication protocol in the input field next to Protocol. Select the external controller brand Veichi. (If no corresponding controller manufacturer is available, refer to the Common Device Management manual for configuration.)VEICHI VC Series Ethernet protocol is selected as the communication protocol;

4) Set the IP, station number and port number of the controller, which can be set directly or by clicking the "Set" button; The default port number of the software is 502. If the port number of the PLC is changed, the port number must be the same as that of the PLC.

5) After confirming the parameters, click OK to complete the configuration of the communication connection.

➢ Create variables

1) Variables - External variables Select the PLC to create the variable;

2) Click Add on the right and create according to the required data type;

3) According to the actual need to use the register in this position, it is necessary to pay attention to the type of PLC and how many bits of symbol number to correspond;

4) The variable name can be changed;

5) If there is a variable group established, you can choose to store the variable in the corresponding variable group;

6) After the array function is enabled, the length of the variable can be set according to the address range of the corresponding register, which is easy to copy multiple register variables of the same kind;

After confirming the Settings, click OK to create a new one

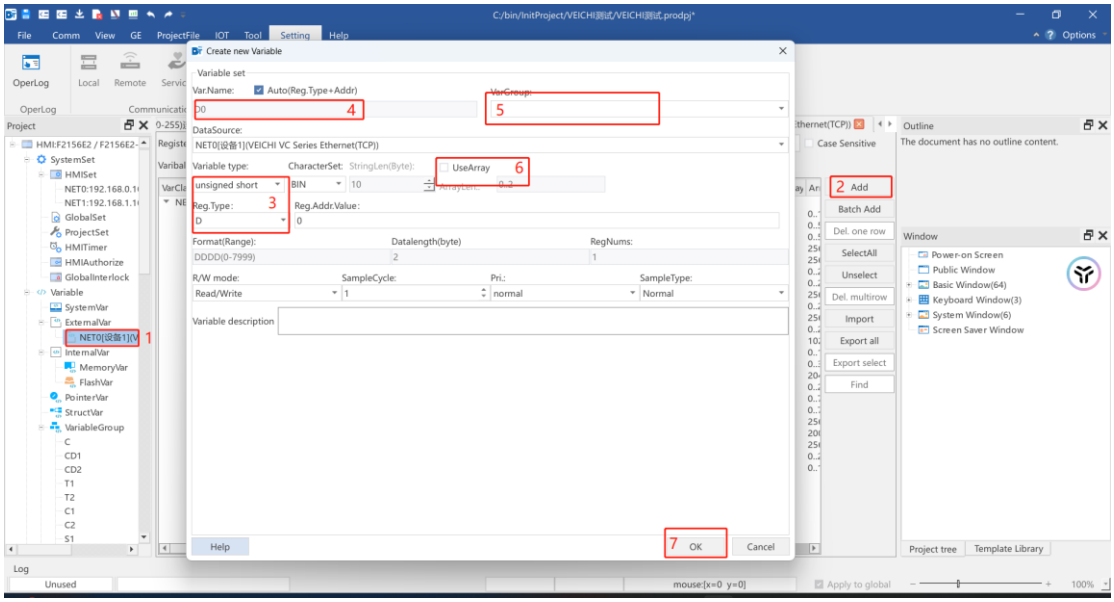

Figure2

❖ 3 External controller configuration

The software used in this manual is Vitron PLC programming software Auto Studio V1.12.8.6. Download link (https://www.veichi.cn/service/datadownload/)

(1) Open Auto Studio software, create a project, set the project name, path, model and other information, and then confirm:

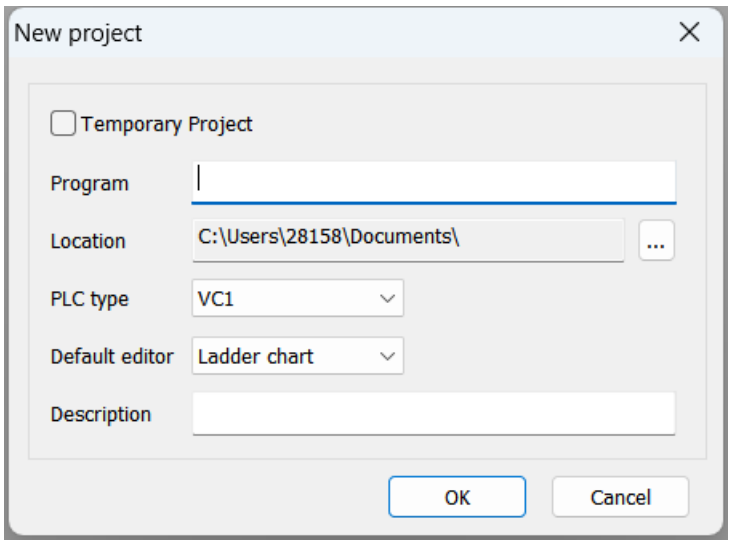

Figure3

(2) Click "EtherNet" in the left list --> "Ethernet Settings", you can edit the PLC IP address, gateway and other information, need to pay attention to the port number and one of the corresponding:

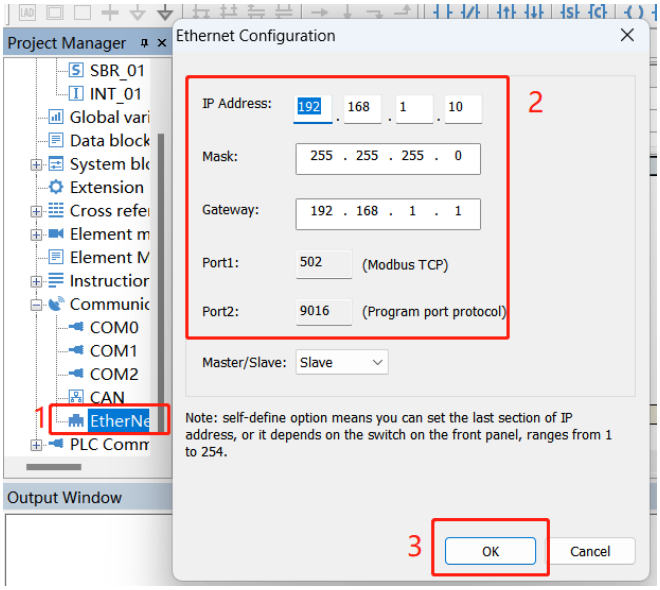

Figure4

(3) Choose PLC Connection ----> Connection Settings. The driver is a network port driver. Therefore, select the network port and set the peer IP address of the PLC. You can also click search to find the IP address of the PLC connected.

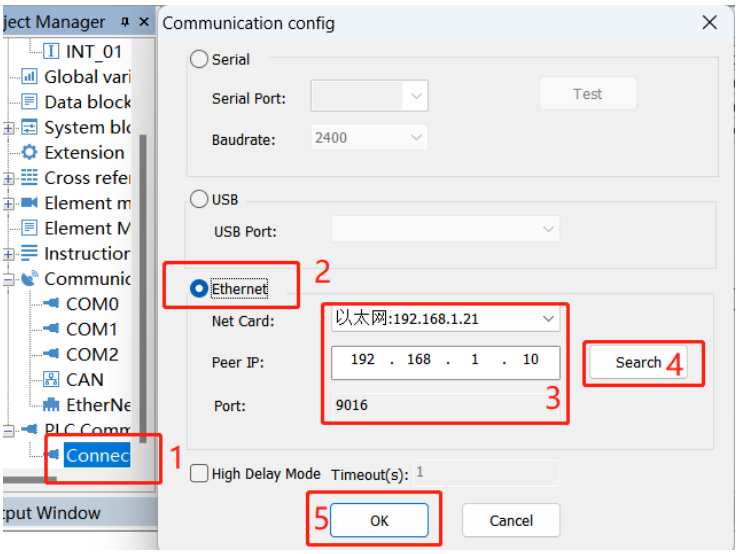

Figure5

(4) After writing PLC program, click "PLC" ----> "download", after downloading, it will automatically check whether the program is wrong, after downloading, click "debug" ----> "monitor" to monitor the PLC register (when monitoring register, input "register name" in the information output window below, such as "C0", Then select the corresponding data type to confirm whether it is a bit variable or a word variable, and then adjust the displayed decimal, you can monitor the value change of the corresponding register, you can also enter the changed value at the new value to observe the change).

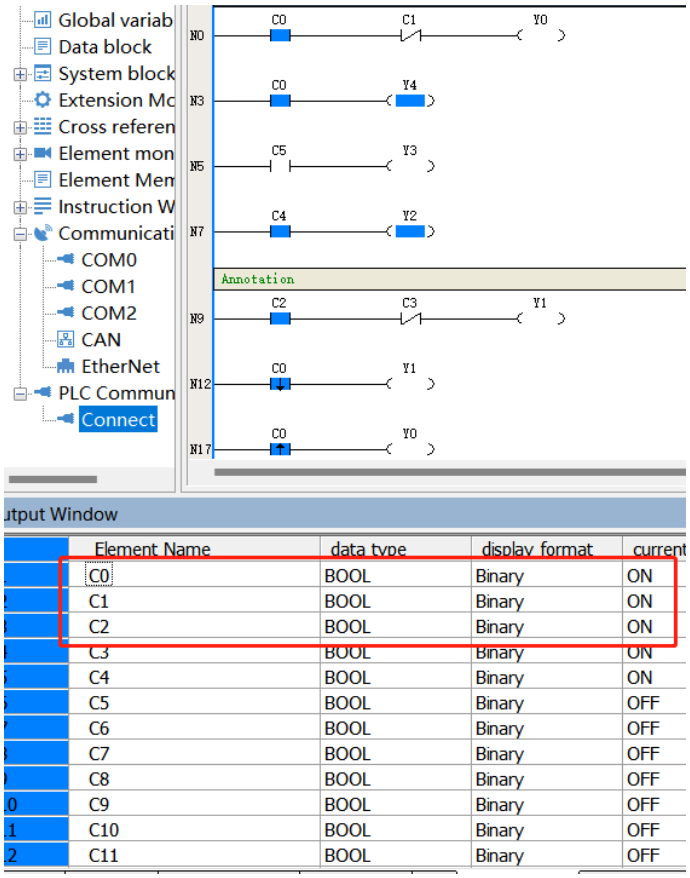

Figure6

❖ 4 Supported register type

Device	Bit Address	Word Address	Format	Notes
16-bit counter	C1 0-255	----	DDD	
32-bit counter	C2 256-511	----	DDD	
16-bit timer	T1 0-255	----	DDD	
32-bit timer	T2 256-511	----	DDD	
Status relay	S1 0-1023	----	DDDD	
Status relay	S2 1024-4095	----	DDDD	
Special register	SM1 0-255	----	DDD	
Special register	SM2 256-1023	----	DDDD	
Auxiliary register	M1 0-2047	----	DDDD	
Auxiliary register	M2 2048-10239	----	DDDDD	
Input register	X 0-777	----	OOO	
Output register	Y 0-777	----	OOO	
32-bit counter	----	CD1 200-255	DDD	double-word
32-bit counter	----	CD2 256-263	DDD	double-word
Data register	----	R 0-32767	DDDDD	
16-bit counter	----	C 0-199	DDD	
timer	----	T1 0-255	DDD	
timer	----	T2 256-511	DDD	
Internal register	----	Z 0-15	DD	
Data register	----	D 0-7999	DDDD	
Data register	----	D_D word 0-7998	DDDD	double-word
Special register	----	SD1 0-255	DDD	double-word
Special register	----	SD2 256-1023	DDDD	double-word

❖ 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:

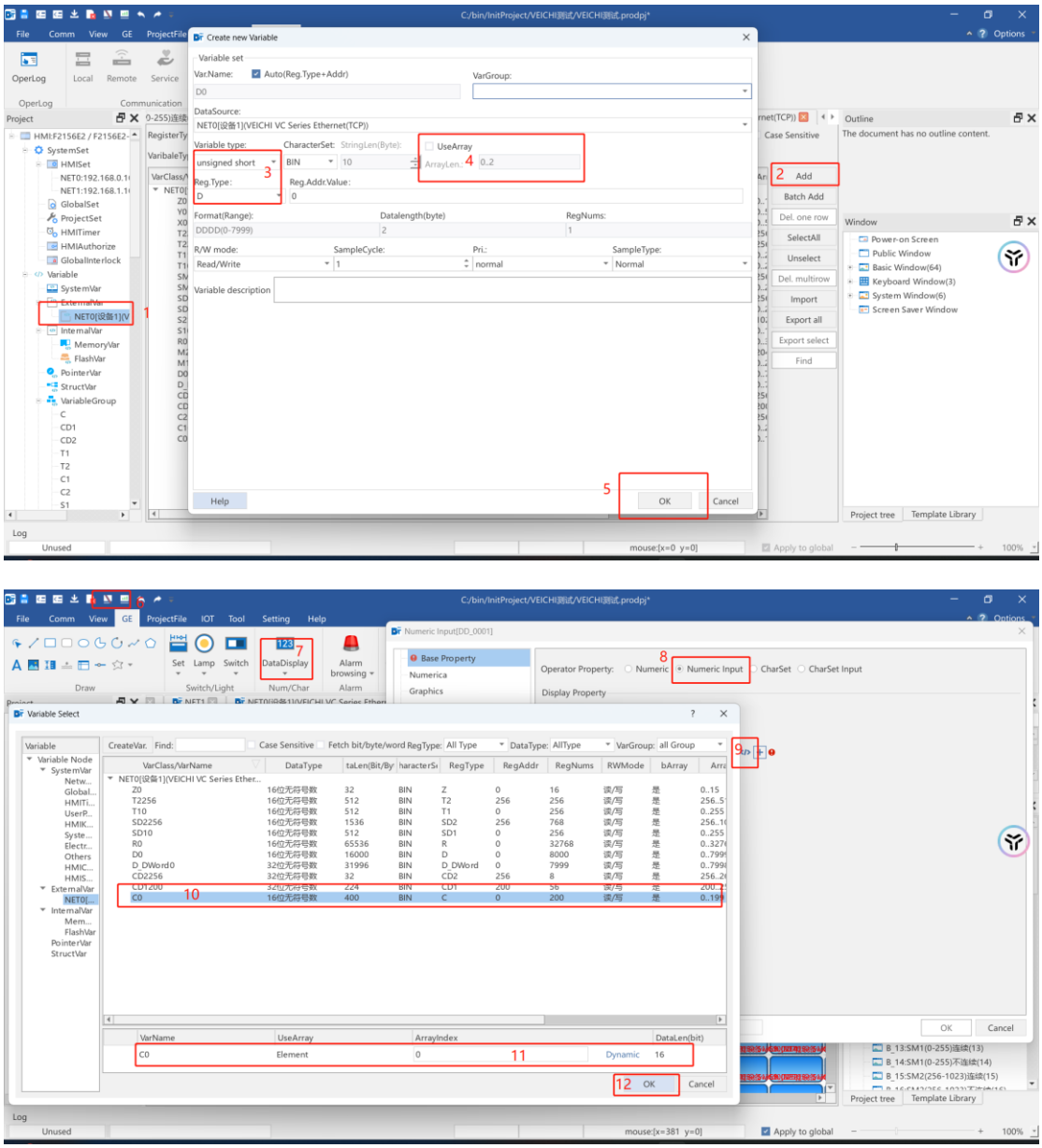

Figure7

(1) Click "External Variables" and select the network port corresponding to VEICHI VC Series Ethernet(TCP Slave).

(2) Click "Add" to pop up the create new variable window;

(3) Select the word variable in the register type;

(4) Select "Array" and select the array length;

(5) Click "OK" to complete the variable creation operation;

(6) Click "Components";

(7) Select the "Value Display" component;

(8) Select the Value Display option.

(9) The binding variable can be entered directly into the register or through the "..." Select a variable (you can also create a new variable here, same steps 2 to 5);

(10) Select the required register content and bind;

(11) Select array subscript;

(12) Click "OK" to complete variable selection;
(13) Click "OK" to complete the operation of the value element associated word variable;