

# Connection between LUC-MTB and Modbus Poll

## 1 Application

Use Modbus Poll software to connect to the LUC-MTB remote IO network through modbus tcp protocol.

## 2 Overview

Using Modbus Poll software on computer, you can connect to LUC-MTB remote IO module through modbus tcp protocol communication. By setting it in the Modbus Poll software, you can perform remote IO control through a simple connection.

## 3 Preparation

- Modbus Poll software
- LAEConfig software  
(Download link: <https://onefexindustrial.com/modular-io-module>)
- LUC-MTB

## 4 Connection Test

### 4.1 Hardware connection

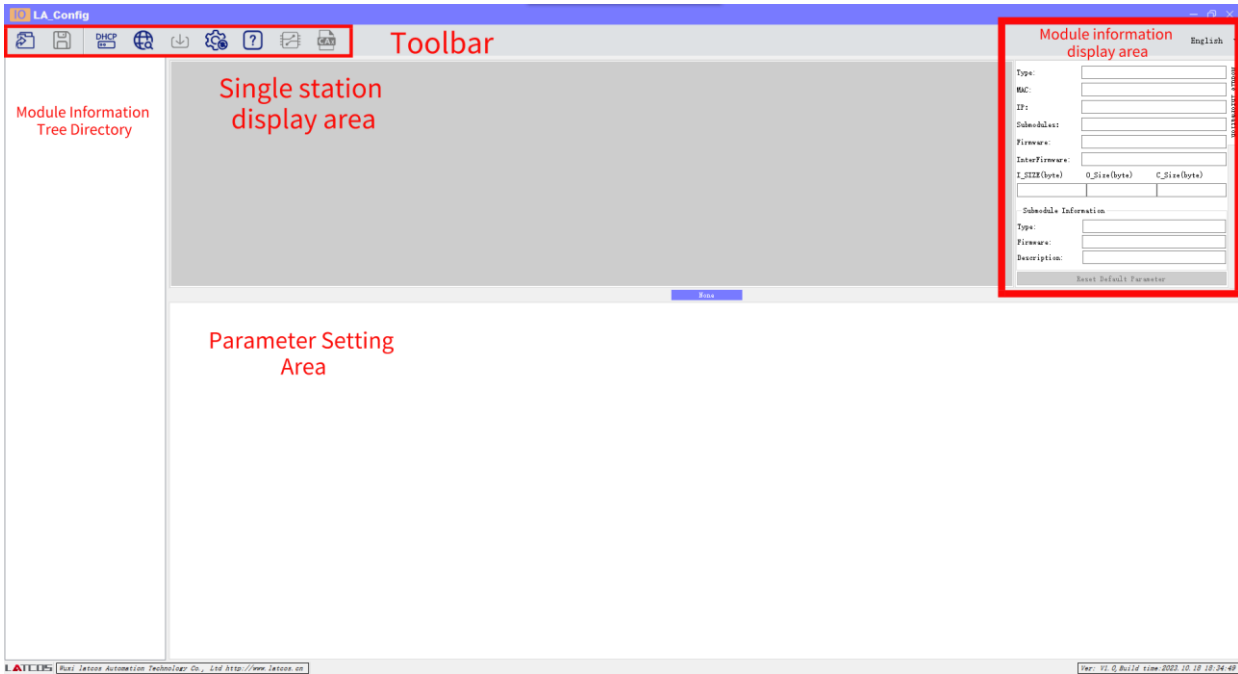
1. Correctly connect the remote IO module power supply
2. Connect the Ethernet (Modbus-TCP) interface of the computer to the Ethernet port of remote IO module through a dedicated Ethernet cable.



## 4.2 Module parameters and IP address configuration


1. Use LAEConfig software to set the module IP address and module parameters (module factory IP address 192.168.0.x)

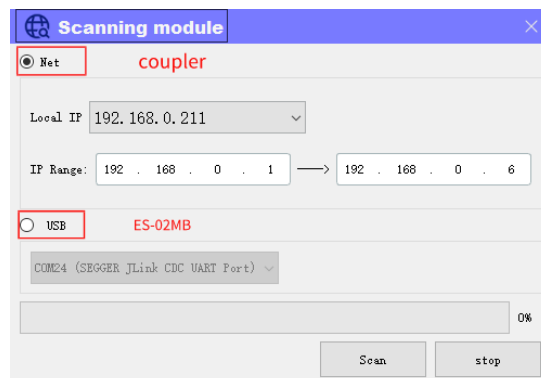
### Software interface introduction

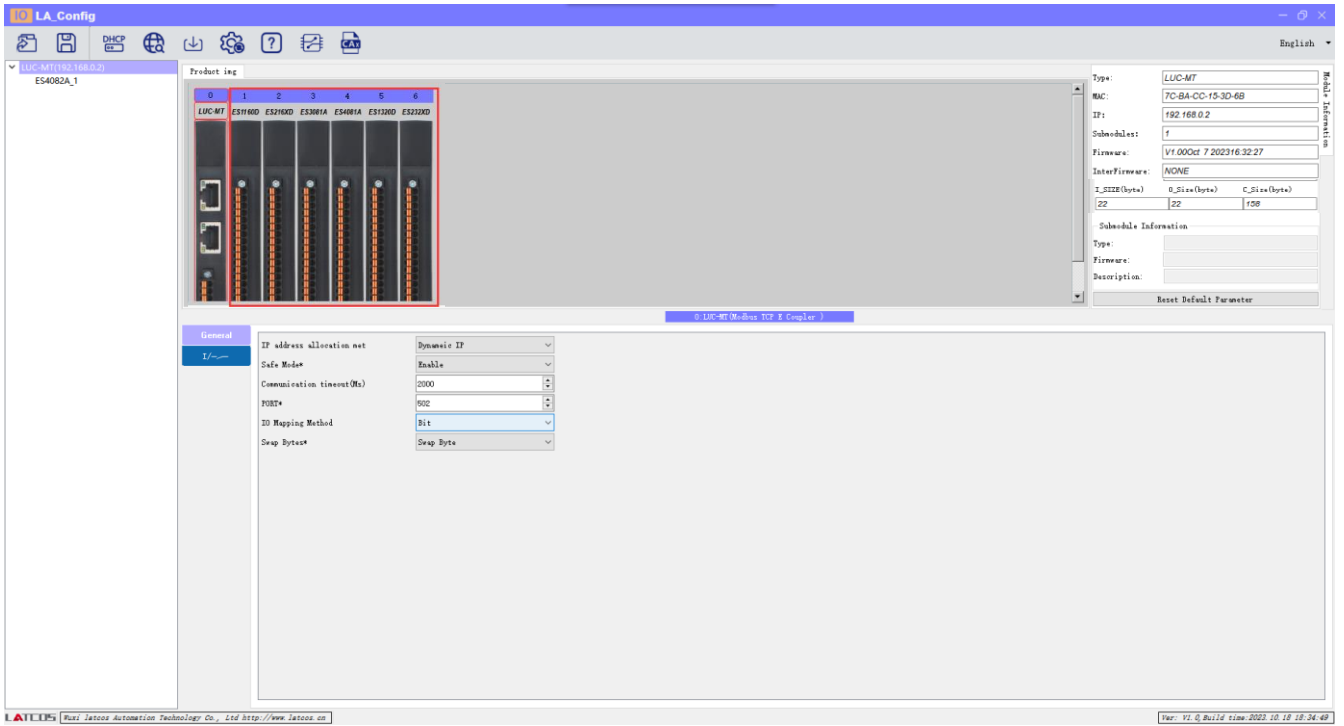


The software interface includes: toolbar, module information tree directory, parameter setting area, module information display area, etc.

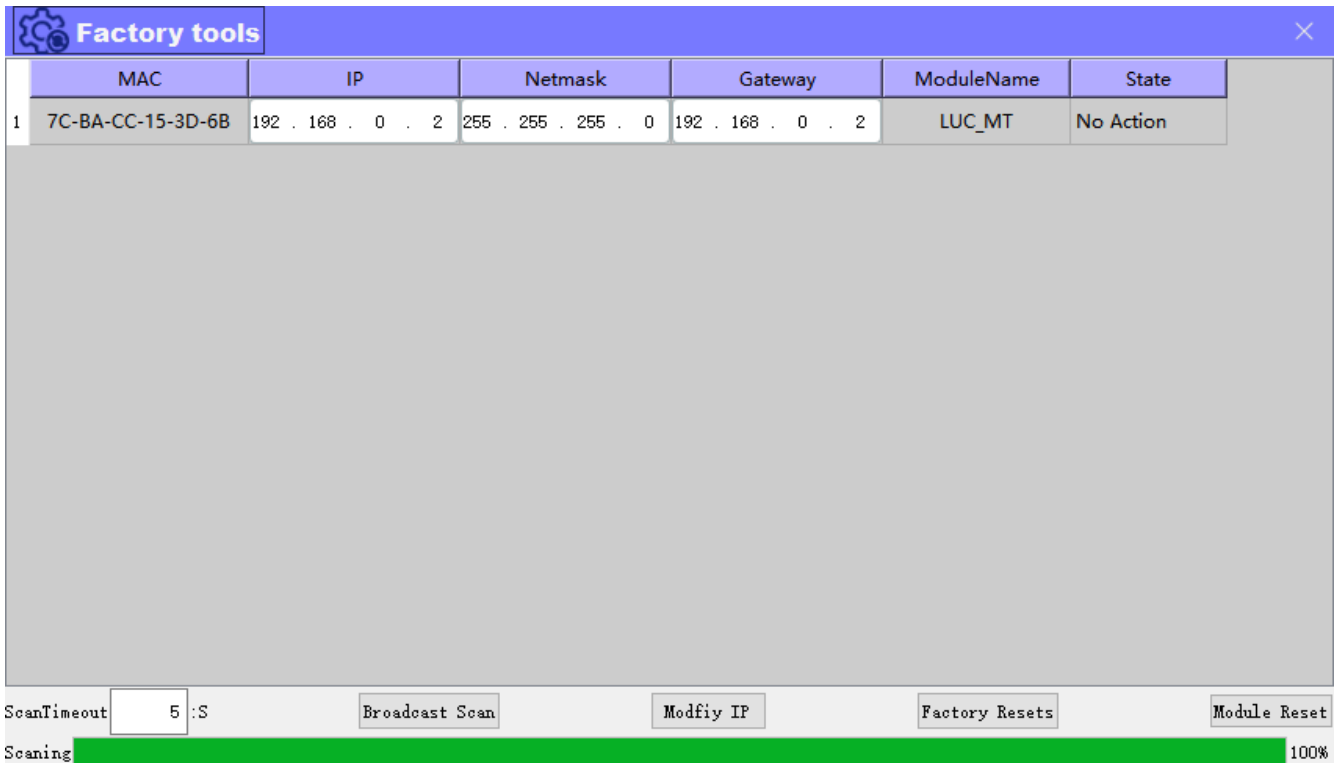


2. Click  to scan the module, Set the IP address range to be scanned (in the display area), and the network IP parameters of the computer must be in the same network segment as the set ones. Click "Start" to enter the scanning stage. The scanned modules will be displayed within the set IP range.





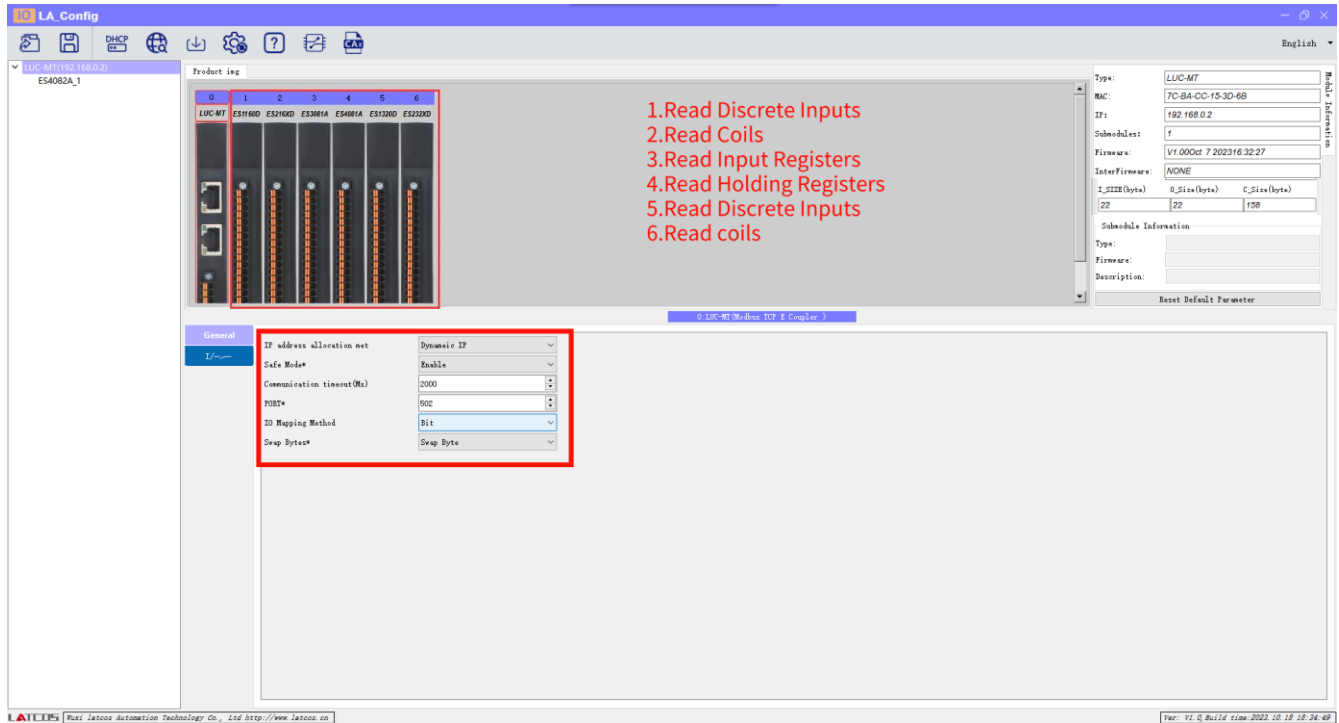
3. Modify the ip address of the module (this method is only valid under "IP address allocation method: dynamic IP")



4. Set module parameters in the parameter setting area. After the settings are

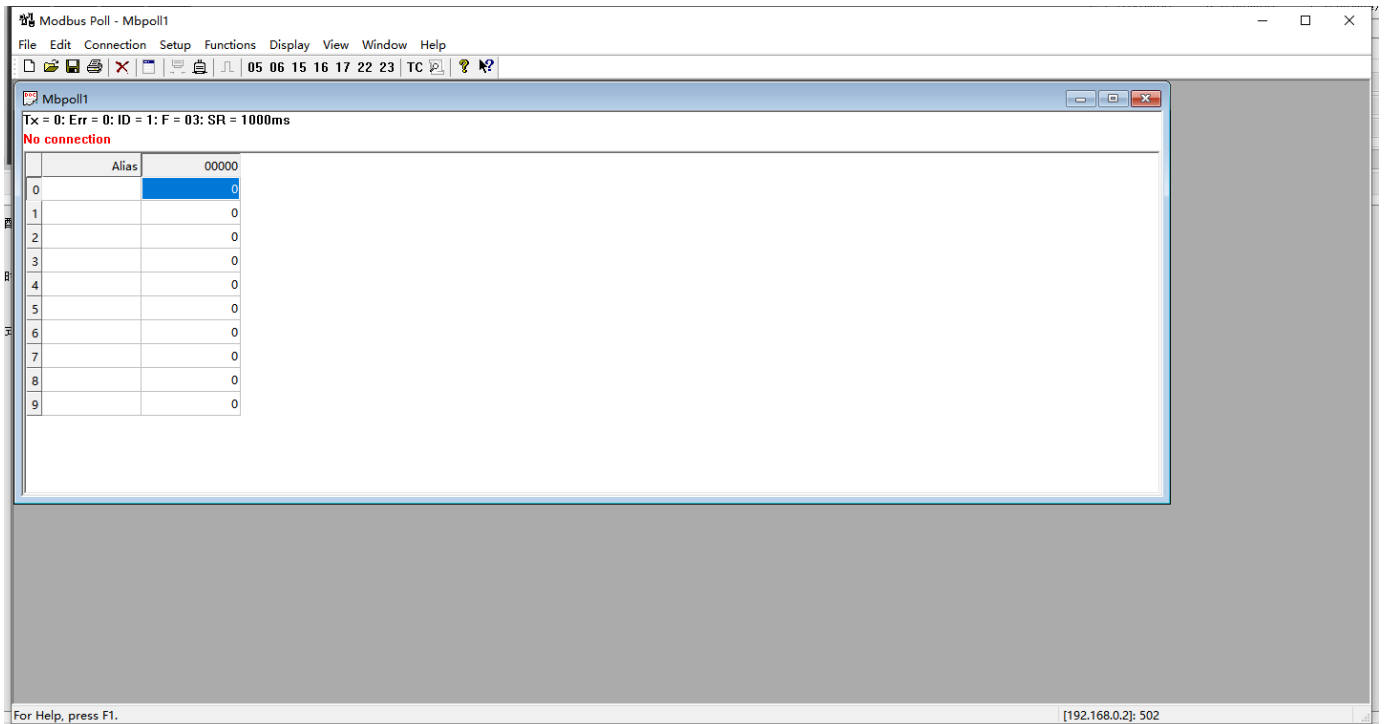


completed, click to download the module parameters. (Module parameters are reset to default settings)

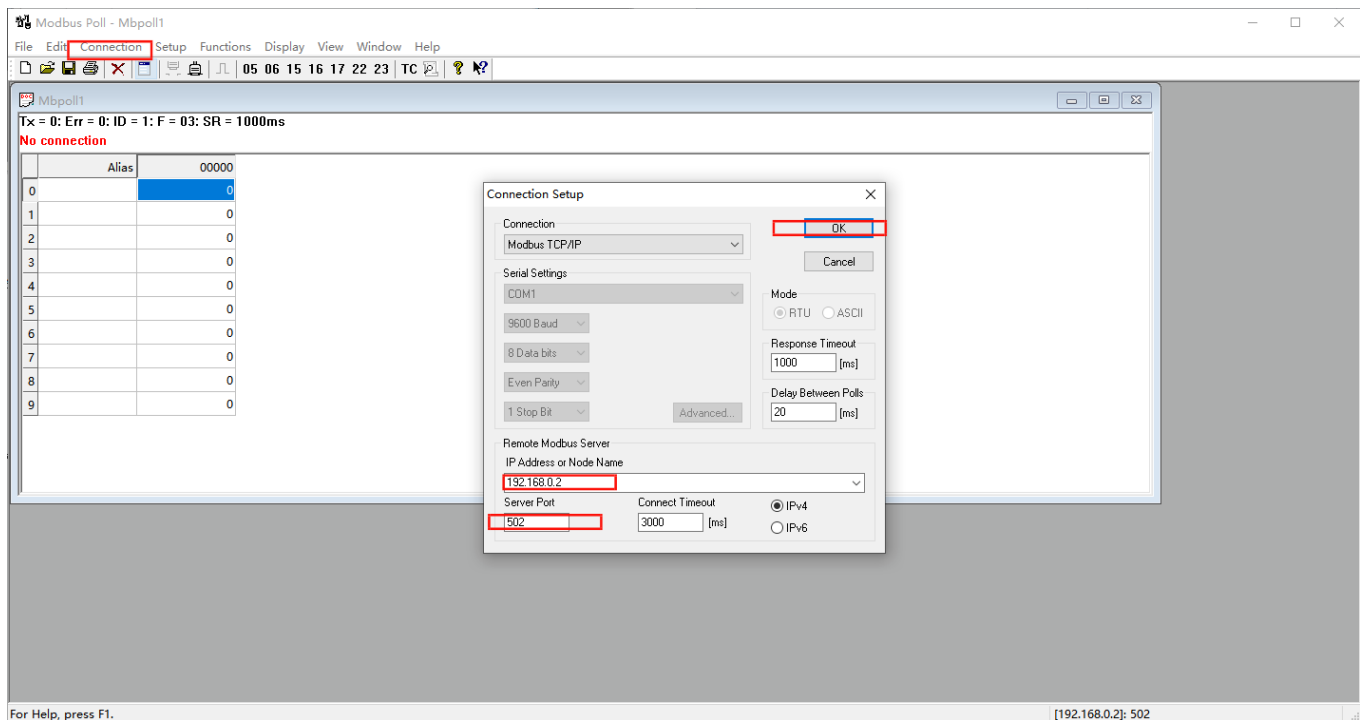


IP address allocation method	dynamic IP	Can assign IP address through dhcp
	Static IP	Cannot assign IP address through dhcp
Safe mode	Enable	The module output status can be set when the network is disconnected
	Disable	The module output status cannot be set when the network is disconnected.
Communication timeout	When establishing a connection, the other party does not have time to wait for a reply.	
Communication port	Number used to identify different applications, used in transport layer protocols	
IO mapping method	Bit mode	The data format of digital input and output modules is bit
	Reg mode	The data format of digital input and output modules is word
Byte swap	Swap high and low bytes	Swap the upper eight bits and the lower eight bits
	Keep	Do not exchange the upper eight bits and the lower eight bits

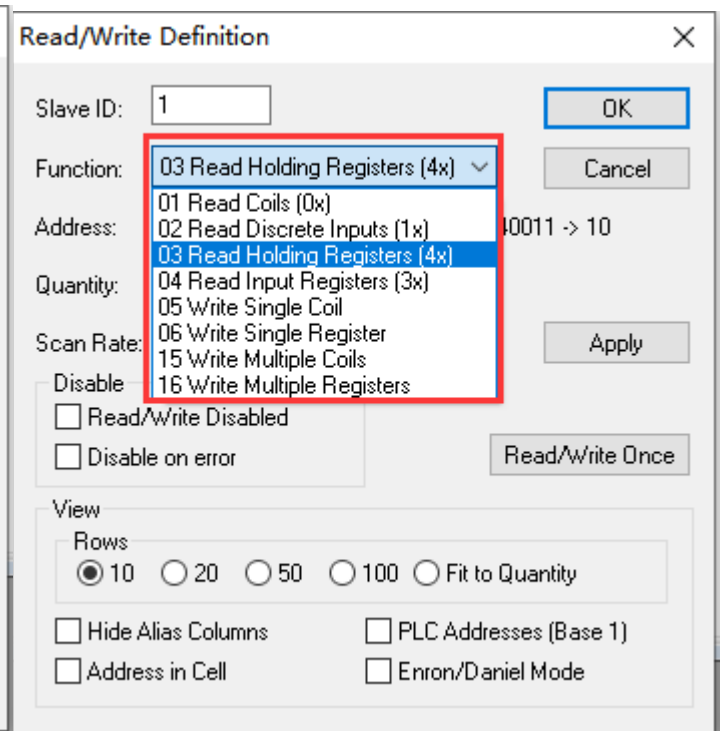
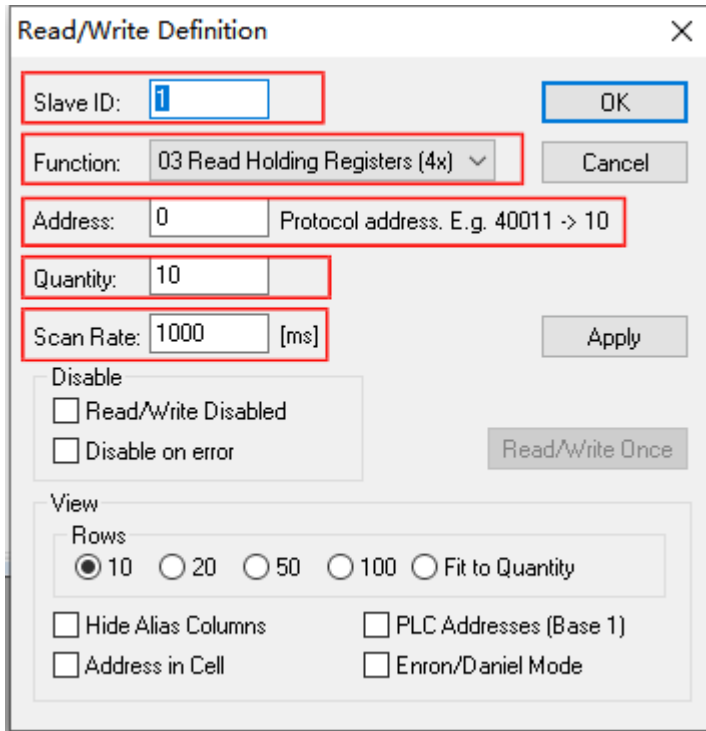
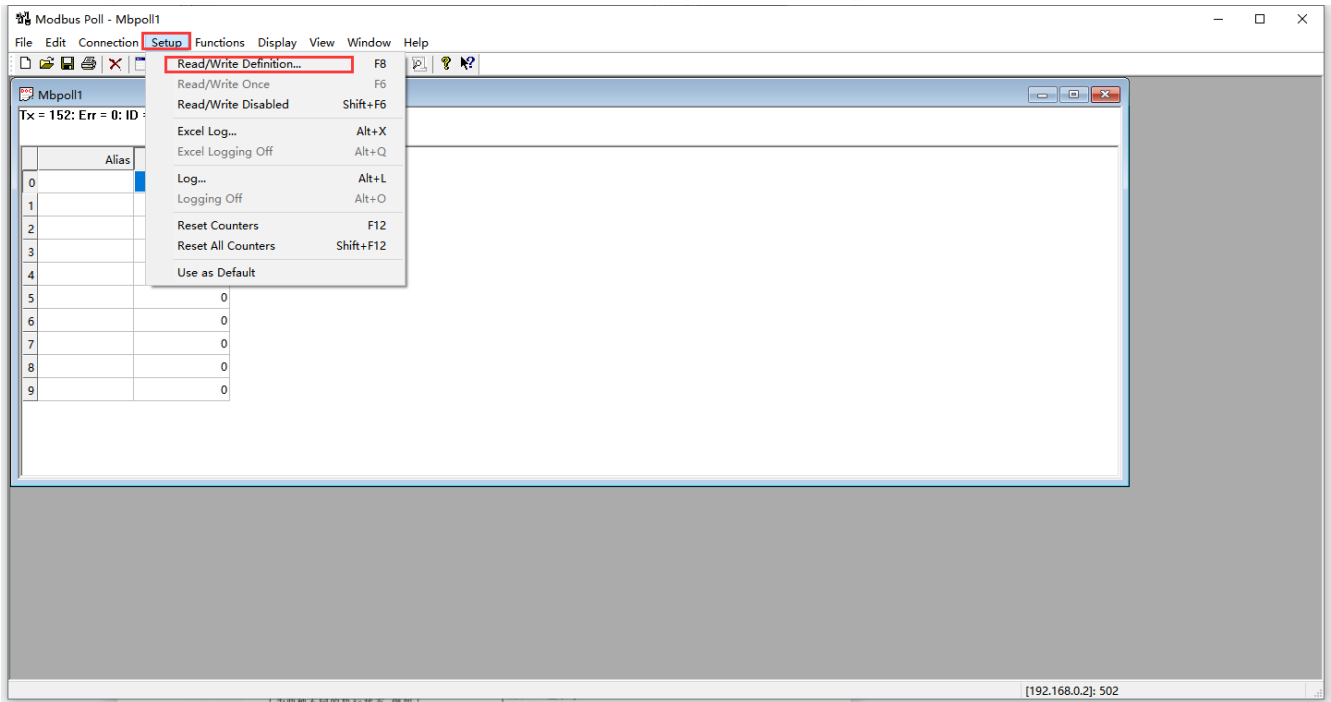
## 5. Open Modbus poll software



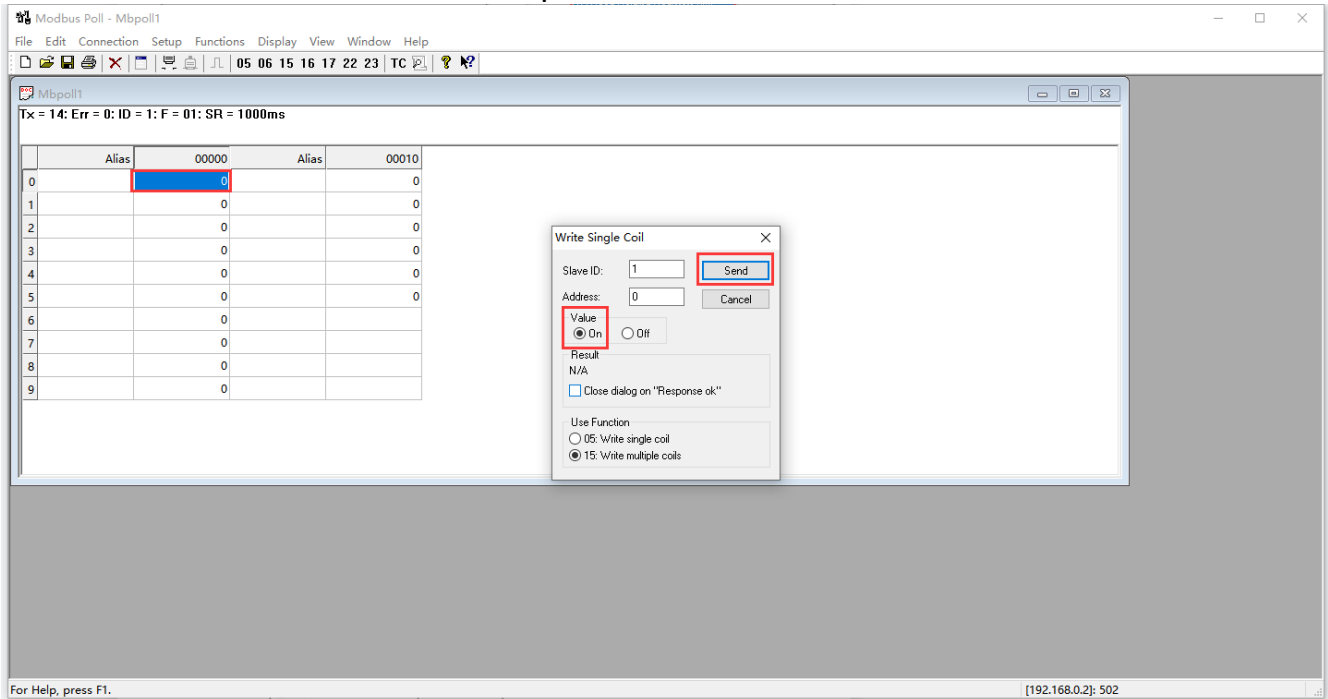
6. Click "Connection", set the ip address and port number to be consistent with the ip address and port number of the LUC-MTB module, and connect the communication.



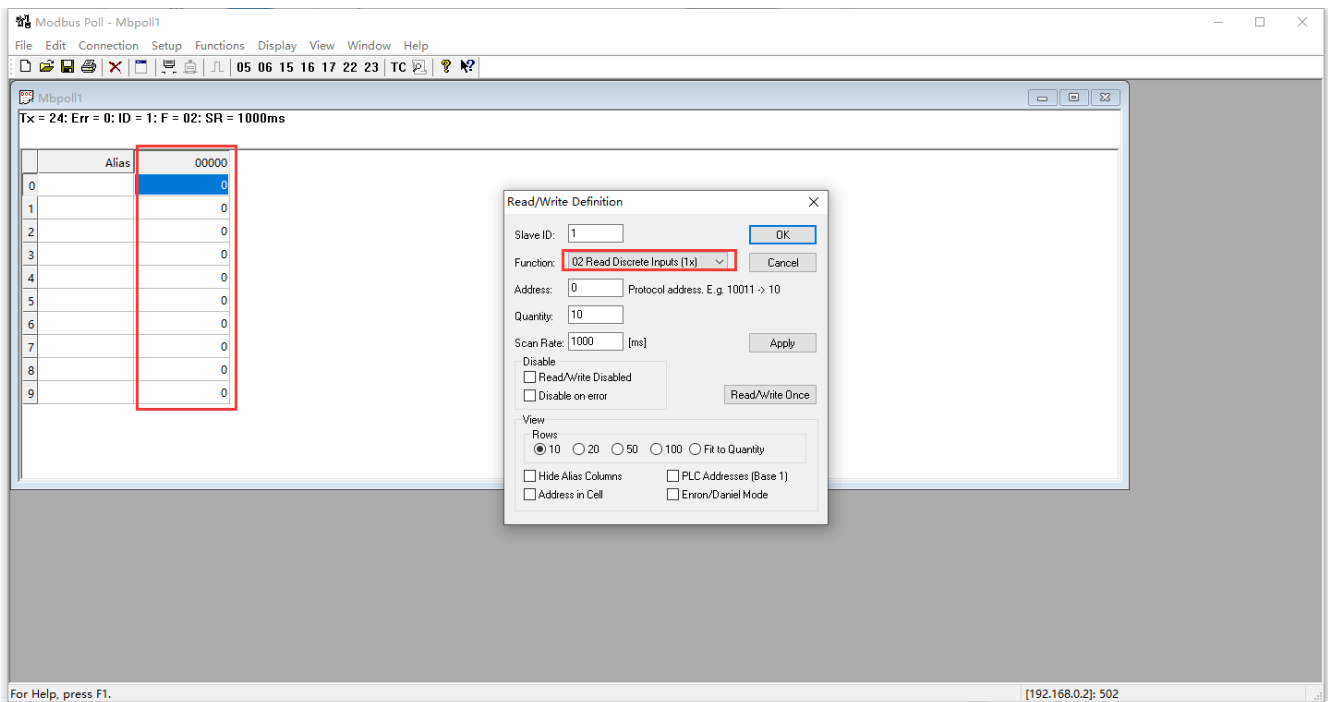
## 7. Set the function code, address, quantity, and access delay



8. When using the digital output module (ES-216XD, ES-232XD), select the 01 function code and click "send" to set the output to 1.

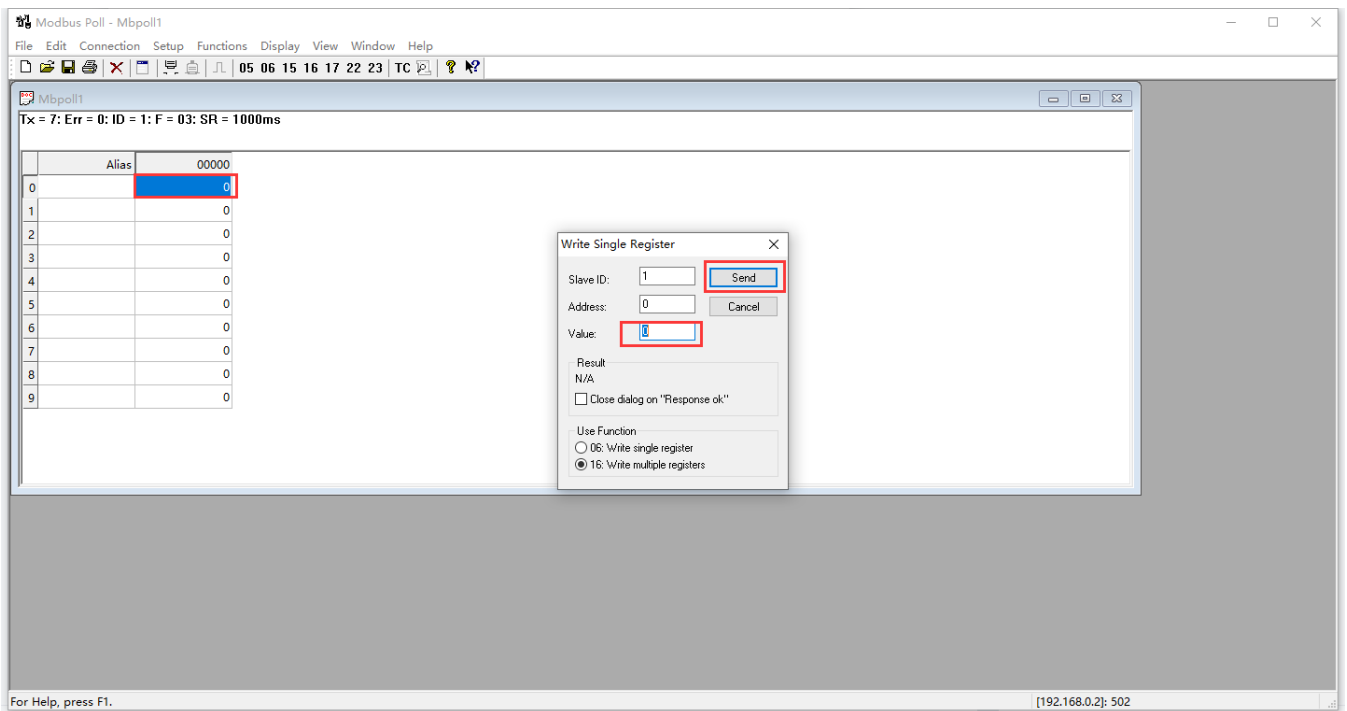


9. When using the digital input module (ES-1160D, ES-1320D), select the 02 function code to view the input value

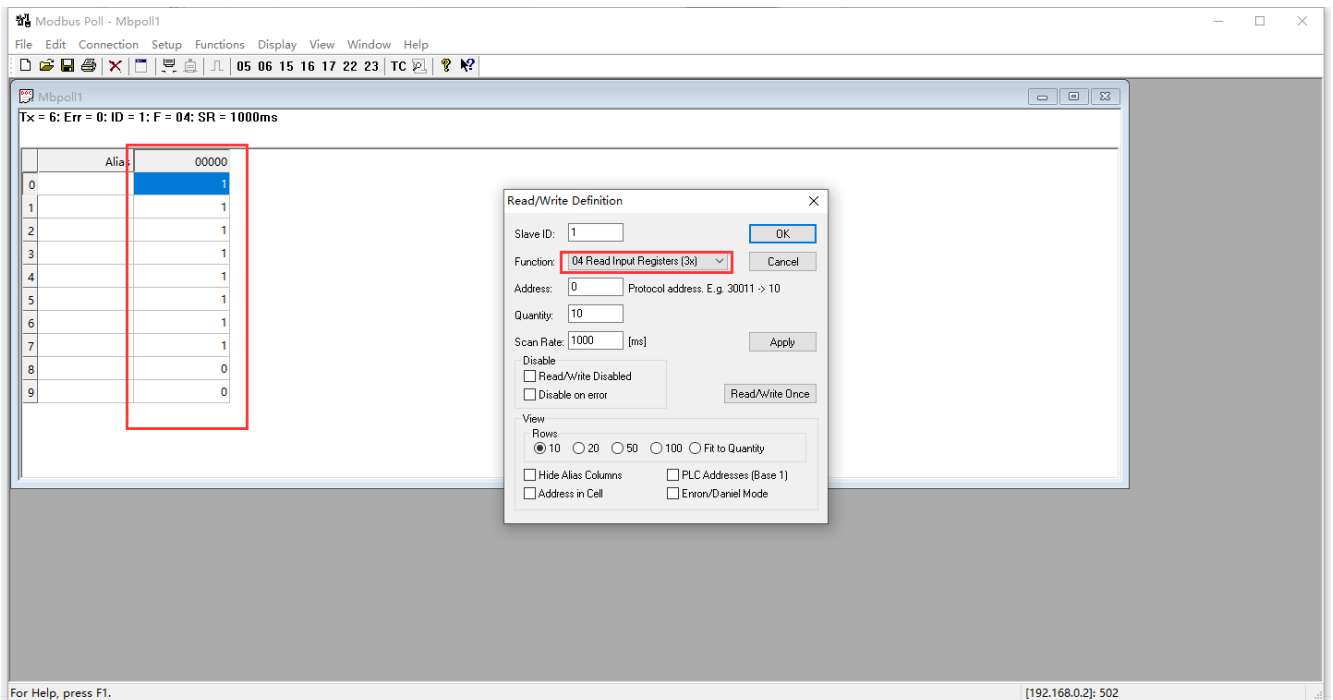




10. When using the analog output module (ES-408XA), select the 03 function code, output value, and click "send".



11. When using the analog input module (ES-3081A, ES-3087A, ES-3088A), select the 04 function code to view the input value.



Register type	Illustrate	Analogy with PLC	For example
Coil Status	Output port. The output status of the port can be set, and the output status of this bit can also be read. Can be divided into two different execution states, such as hold or edge triggered	DO (digital output)	Solenoid valve output, MOSFET output, LED display, etc.
Input Status	Input port. Change input status through external settings, readable but not writable	DI (digital input)	DIP switch, proximity switch, etc.
Holding Register	Output parameters or held parameters, certain parameters that are set when the controller is running, can be read and written.	AO (analog output)	Analog output set value, PID operating parameters, variable valve output size, sensor alarm upper limit and lower limit
Input Register	Enter parameters. Parameters obtained from external devices when the controller is running, readable but not writable	AI (analog input)	Analog input

#### Modbus register address assignment

Register type	Register PLC address	Register Modbus protocol address	Abbreviation	Read and write status
Coil status	00001-09999	0000H~FFFFH	0x	Readable and writable
Discrete input state	10001-19999	0000H~FFFFH	1x	read only
Holding register	40001-49999	0000H~FFFFH	4x	Readable and writable
Input register	30001-39999	0000H~FFFFH	3x	read only