

SenseLiveE7500/E7000

Remote IO Controller

Configuration Datasheet



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1. Introduction:-

SLE7000: Ethernet-based Modbus TCP to Modbus RTU conversion, virtual serial ports, and simultaneous monitoring/control of 4 digital inputs, 2 analog inputs, and 4 relay outputs. Uses Modbus TCP/RTU for remote I/O control and data acquisition.

SLE7500: Based on RS485 transmission, it can also monitor 4 digital inputs, 2 analog inputs, and control 4 relay outputs simultaneously. Remote I/O control and data acquisition use the Modbus protocol.

2. Technical Parameters:-

Figure	
Size:	L x W x H =12.2cm×7.2cm×3.4cm
Serial Port (E7500 only)	
RS485 port, 1200~115200bps(default 9600),8bits、NONE parity、1stop bit	
Software	
App protocol	Modbus RTU / Modbus TCP
Physical protocol	Ethernet, RS485
Relay Transmission Time (Response time)	
SLE7000/ SLE7500: <30ms	
AI Input Format	
Current: 4~20mA,0~20mA Votage: 0~5V, 0~10V Resister: 0~10K, temperature/humidity sensor	
Power Consumption	
SLE7000: <1.8W <75mA @24V SLE7500: <1.7W <70mA@24V	
Environment	

Operation temp.	-40~85°C
Storage temp.	-45~165°C
Humidity:	5~95% relative

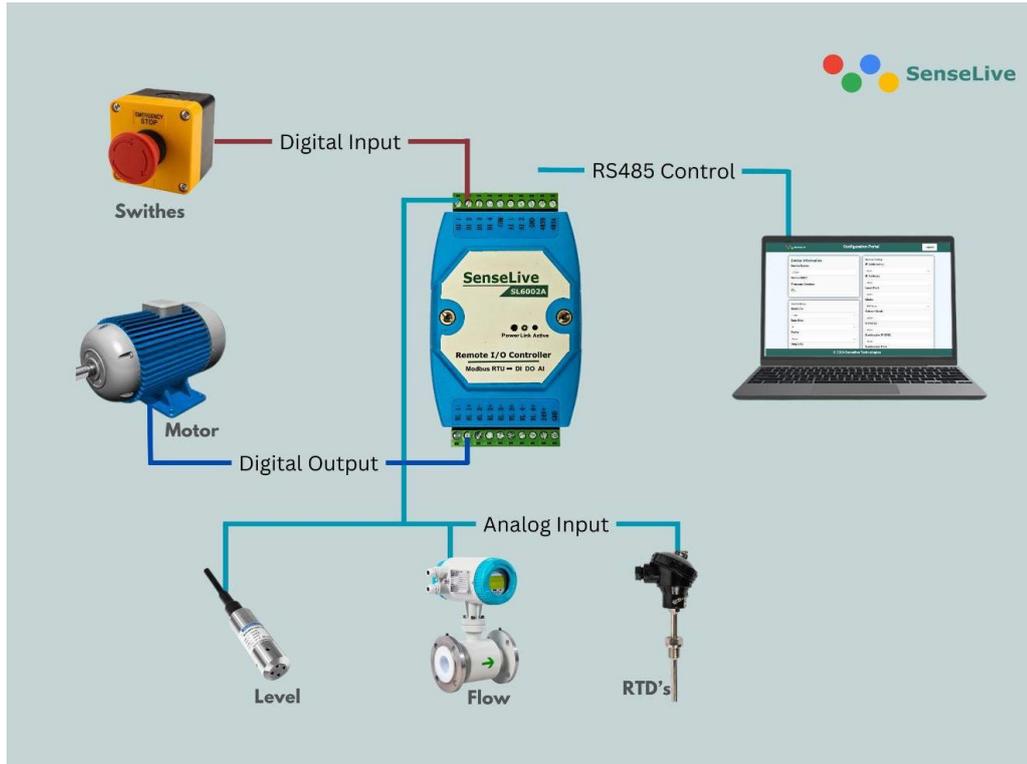
3. Software Installation:-

To download Vicrom software just click on the below link.

<http://senselive.io/download/software/SLVirCom.zip>

4. Hardware Connection:-

- **Power Supply:** Connect on-site 2-wire power to positive and negative terminals.
- **Digital input & output:** Connect to any DI pin (1-4) for input and any RL pin (1-4) for output.
- **Analog input:** connected to any AI pin (1-4).
- **Serial Port:** Connect based on user device. For the first 485 port, connect 485+ to 1A and 485- to 1B.



5. Parameter Configuration:-

3.1 IO controller configuration:-

1. After installing Vircom, connecting the hardware, running the software, and clicking on "Device Management," proceed with the necessary configurations.

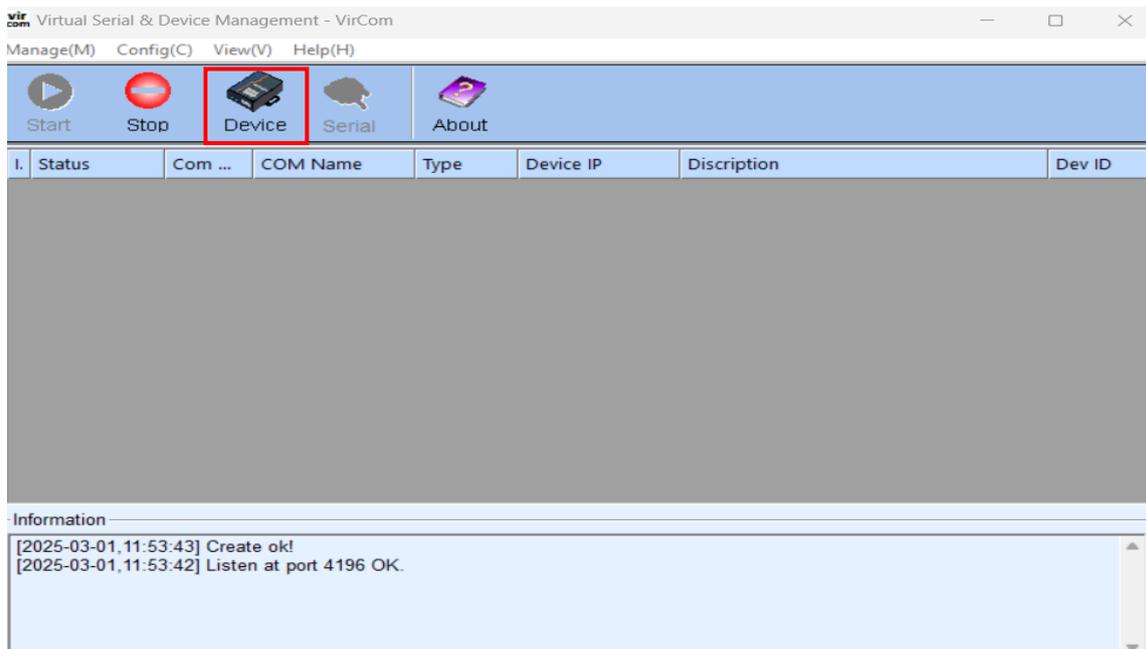


Fig.1 Device management

2. In the Device Management interface, click on “IO controller” as shown in the figure.

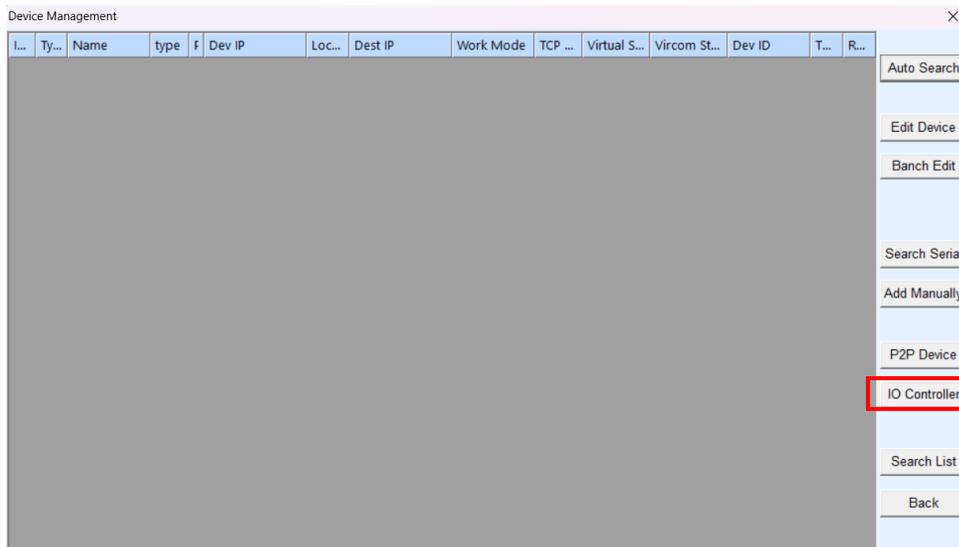


Fig.2 Device management

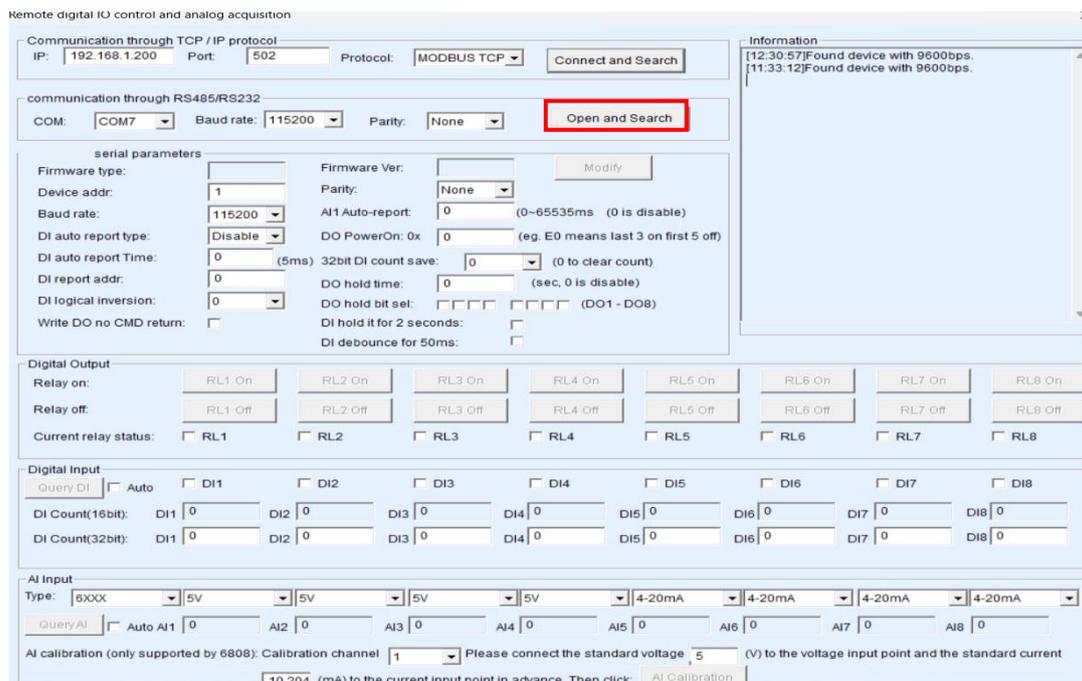


Fig.3 IO controller

5. Click on “open and search”.
6. For the DI and AI upload simultaneously click on “DI auto report type” and set DI+AI as show in fig 4.
7. A1 auto report as per you user requirement.

3.2 TCP/IP configuration :-

1. Click on "Device Management."

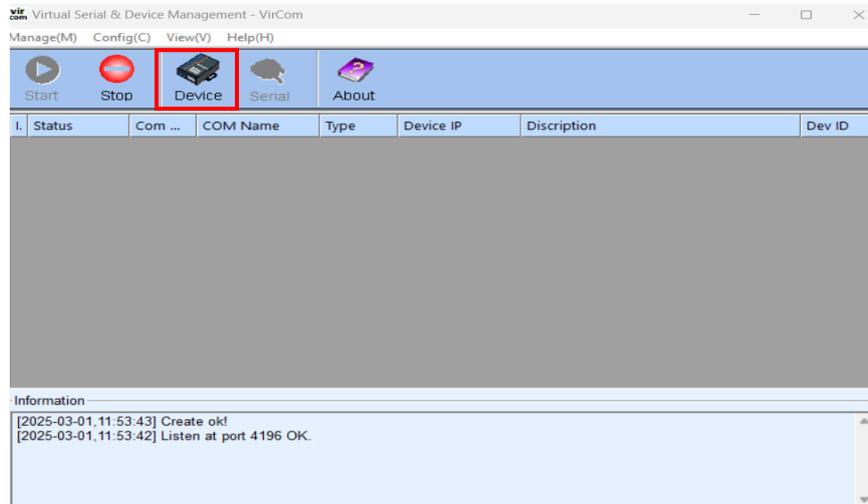


Fig.5 Vircom Main Interface

2. In device management interface Click on "Auto search". As you can see, the connected device is visible in the Device Manager, as shown in Figure 6.

4. Click "Edit Device" to set the parameters.

Device Management

I...	Ty...	Name	type	f	Dev IP	Loc...	Dest IP	Work Mode	TCP ...	Virtual S...	Vircom St...	Dev ID	T...	R...	
1	Su...	SL6042			192.168.1.200	502	192.168.1.3	TCP Server	Not ...	Haven't ...	Not Linked	4469A290	0	0	Auto Search

Edit Device
 Batch Edit
 Search Serial
 Add Manually
 P2P Device
 IO Controller
 Search List
 Back

Fig. 6 Device List

5. IN network setting you have to change IP address, port and baud rate and then click “modify setting”.

Device Settings

Device Info

Virtual Serial: Not Use

Dev Type:

Dev Name: SL5143D

Dev ID: 28788B19AA78

MAC Addr: 04EEE819AA90

Firmware Ver: V1.470

Network

IP Mode: Static

IP Address: 192 . 168 . 1 . 200

Port: 501

Work Mode: TCP Server

Net Mask: 255 . 255 . 255 . 0

Gateway: 192 . 168 . 1 . 1

Dest. IP/Domain: 192.168.1.3 Local IP

Dest. Port: 1883 UDP Dynamic

Advanced Settings

DNS Server IP: 8 . 8 . 4 . 4

Dest. Mode: Dynamic

Transfer Protocol: None

Keep Alive Time: 60 (s)

Reconnect Time: 12 (s)

Http Port: 80

UDP Group IP: 230 . 90 . 76 . 1

Register Pkt: ASCII

Restart If No Data every 300 Sec.

Enable Parameter Send every 5 Min.

More Advanced Settings...

Function of the device

Web Download

DNS System

REAL_COM Protocol

Modbus TCP To RTU

Serial Commnad

DHCP Support

Storage Extend

Multi-TCP Connection

Serial

Baud Rate: 9600

Data Bits: 8

Parity: None

Stop Bits: 1

Flow Control: None

Get Default Save As Default Load Default

Modify Key Firmware/Config Restart Dev **Modify Setting** Cancel

Fig. 7 Device setting

3.2.1 Hardware Connection:-

The hardware connection of the SLE7500 device is very similar to that of the SLE7500, except that the connection between the PC and the device is established via a LAN cable, meaning it uses TCP/IP communication.

3.2.2 Control Panel Setting:-

Open the control panel → Click Network and Internet → Click Network and Sharing Center → Click Change adapter settings → Open IPv4 Properties, Right-click on your active network connection (Ethernet/Wi-Fi) → Click Properties.

To Connect to a Network (LAN or Internet)

Add the network credential, it need to be same as your device.

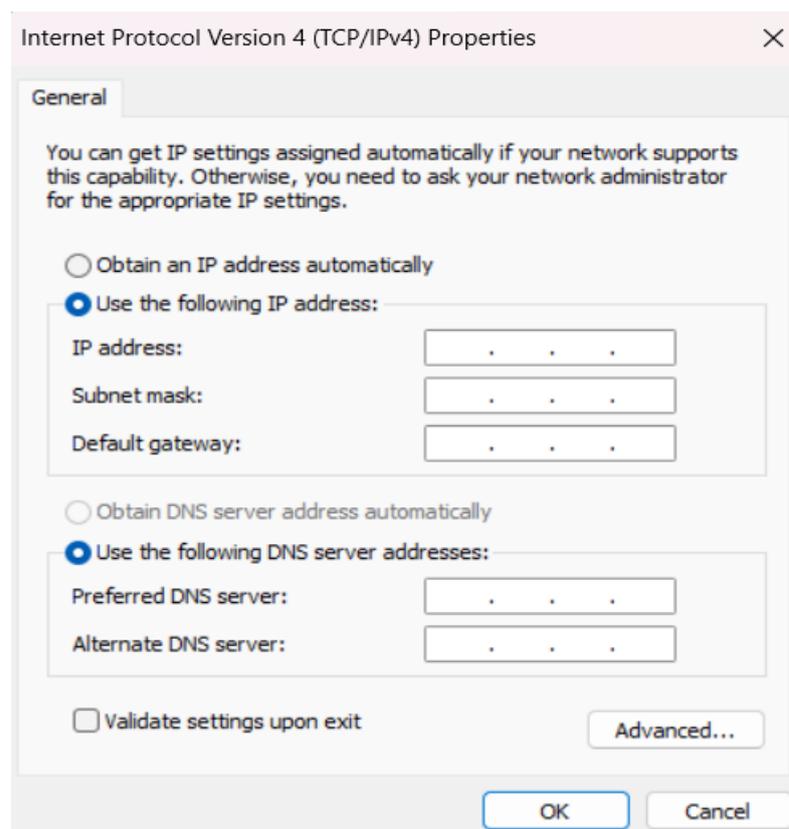
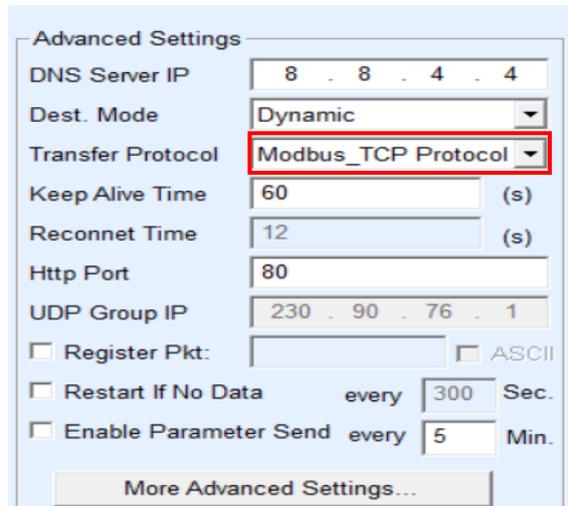


Fig.8 To Connect to a Network (LAN or Internet)

3.2.3 Modbus Communication Settings :-

1. In advance setting, set transfer protocol as Modbus_TCP protocol.



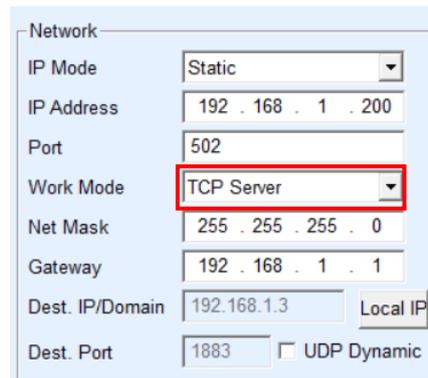
Advanced Settings

DNS Server IP	8 . 8 . 4 . 4
Dest. Mode	Dynamic
Transfer Protocol	Modbus_TCP Protocol
Keep Alive Time	60 (s)
Reconnet Time	12 (s)
Http Port	80
UDP Group IP	230 . 90 . 76 . 1
<input type="checkbox"/> Register Pkt:	<input type="checkbox"/> ASCII
<input type="checkbox"/> Restart If No Data	every 300 Sec.
<input type="checkbox"/> Enable Parameter Send	every 5 Min.

More Advanced Settings...

Fig.9 Enable Modbus TCP Function

2. In network setting, set work mode as TCP server and then click on “modify setting”.



Network

IP Mode	Static
IP Address	192 . 168 . 1 . 200
Port	502
Work Mode	TCP Server
Net Mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 1 . 1
Dest. IP/Domain	192.168.1.3 Local IP
Dest. Port	1883 <input type="checkbox"/> UDP Dynamic

Fig.10 Modbus TCP as client.

3. Go back to device management interface click on “IO controller”.

Fig.11 IO controller

3.2.4 Modbus Address :-

Register Address	No. of DI/DO/AI	Modbus Command	Description	R/W
00001	0	01	No. 1 DI	Read Only
00002	1	01	No. 2 DI	Read Only
00003	2	01	No. 3 DI	Read Only
00004	3	01	No. 4 DI	Read Only
00017	0	01/05	No. 1 DO	Read/Write
00018	1	01/05	No. 2 DO	Read/Write
00019	2	01/05	No. 3 DO	Read/Write
00020	3	01/05	No. 4 DO	Read/Write
30001	0	04	No. 1 AI	Read Only

30002	1	04	No. 2 AI	Read Only
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4. Testing Devices on Modbus poll :-

4.1 SLE7000:-

1. There are 2 methods to communicate with E7000: virtual serial port and Modbus TCP. Note user must set APP protocol of E7000 to "Modbus TCP to RTU" for this method.
2. Open modbus poll software as FIG 12:

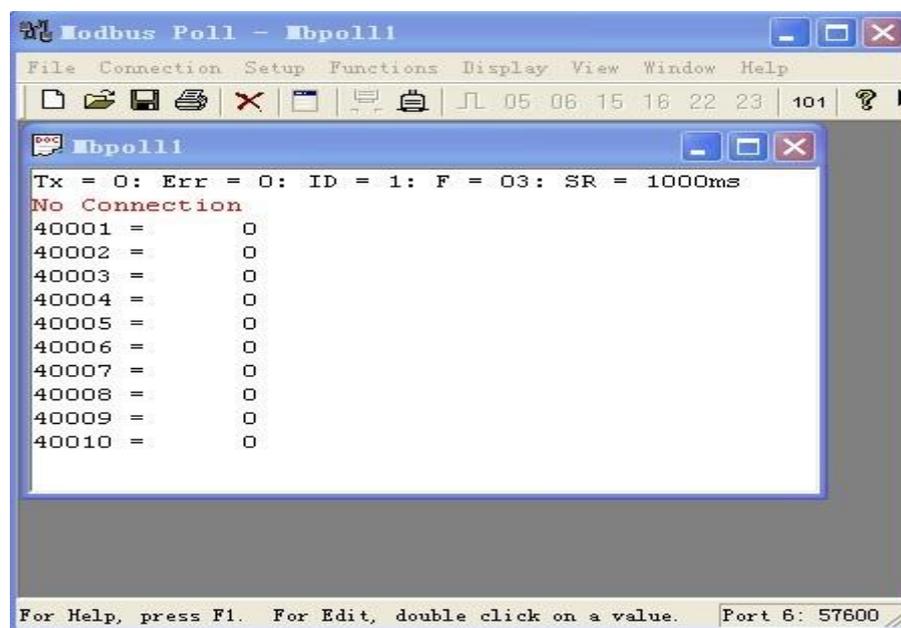


Figure 12.

3. Then press SETUP, and config a new polling name POLL1 to read DI as Figure 13:

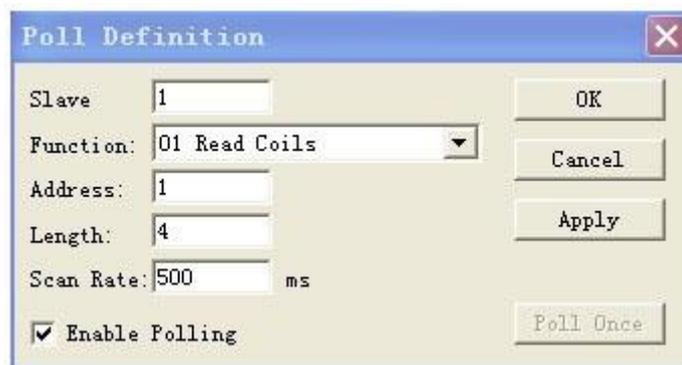
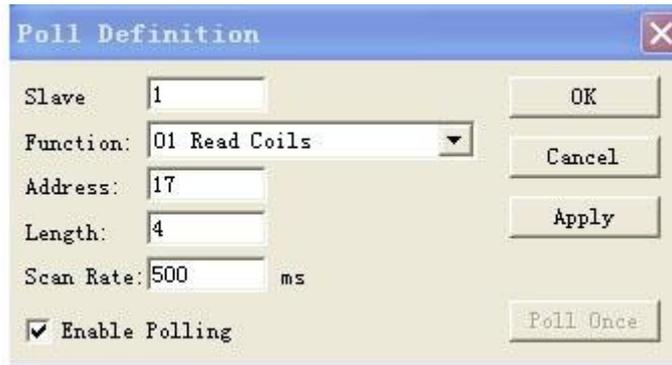


Figure 13.

4. Then config a new POLL2 to read DO as Figure 14:

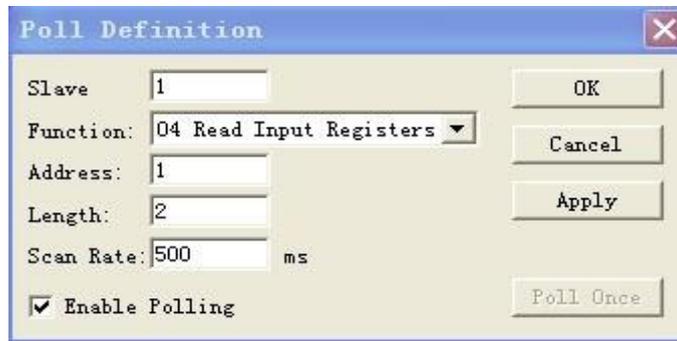


The dialog box titled "Poll Definition" contains the following fields and controls:

- Slave: 1
- Function: 01 Read Coils (dropdown menu)
- Address: 17
- Length: 4
- Scan Rate: 500 ms
- Enable Polling
- Buttons: OK, Cancel, Apply, Poll Once

Figure 14.

5. Then config a new POLL3 to read AI as Figure 15:



The dialog box titled "Poll Definition" contains the following fields and controls:

- Slave: 1
- Function: 04 Read Input Registers (dropdown menu)
- Address: 1
- Length: 2
- Scan Rate: 500 ms
- Enable Polling
- Buttons: OK, Cancel, Apply, Poll Once

Figure 15.

6. After all that config, then see following as Figure 18:

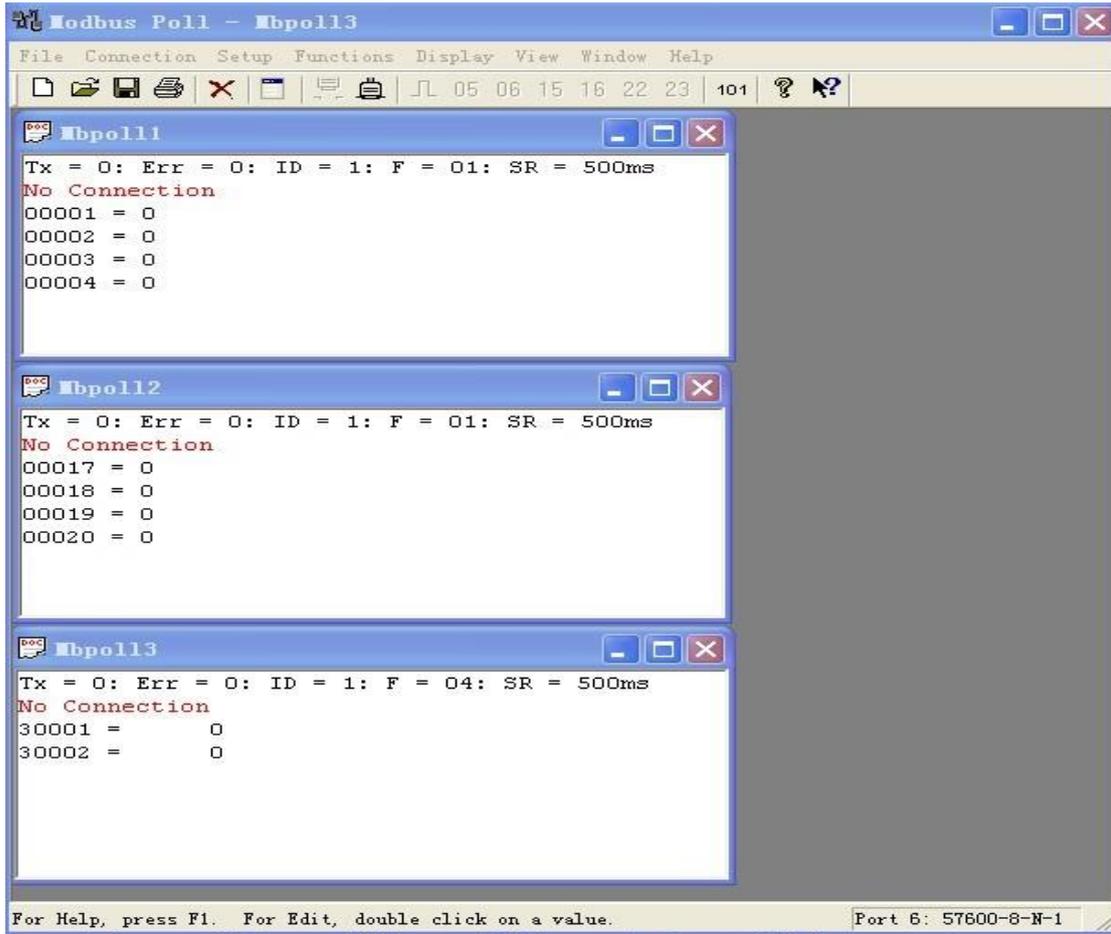


Figure 16.

- Following we show how to use virtual serial port method, Config connection as Figure 17. Then press OK to open the COM6 to communicate with E7000.

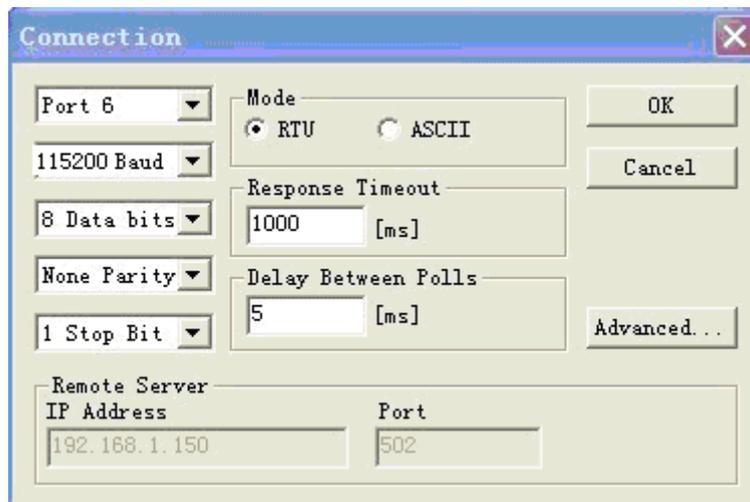


Figure 17

- Following we show the Modbus TCP method. Config connection as Figure 18. Press OK to start TCP connection with E7000.

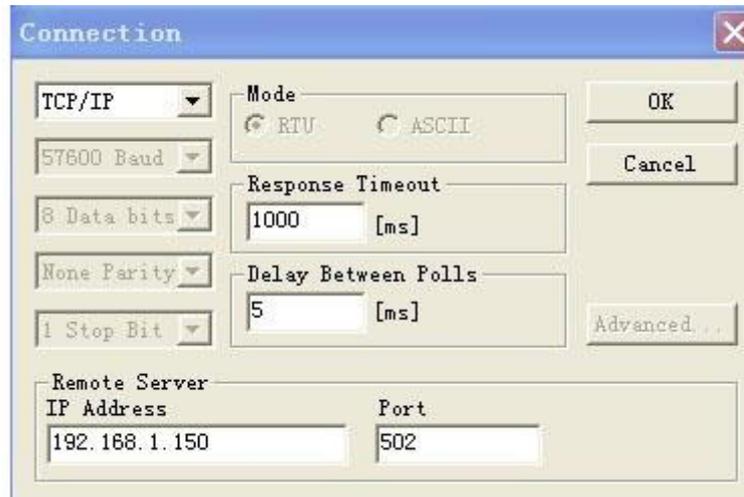


Figure 18

4.2 Test SLE7500 :-

The only difference is when in E7500 the serial port is real serial port, and in E7000 the serial port is virtual serial port. You may need a RS485 to USB convertor to connect between you PC real serial port and E7500 RS485 port.