

How to use Modbus Master Function on iSite Router

DESCRIPTION

Modbus protocol is a data communication protocol widely used in industrial environments. Modbus supports communication to and from multiple devices via serial port or Ethernet.

SilverNet routers can act as a Modbus RTU/TCP master(client) to request Modbus Slave unit device(server) data. The router also supports forwarding data to a remote server and sending alarms.

REQUIREMENT

SilverNet iSite Series Router

1 computer

TCPCOM(sscom or Netassisst)

Modbus Slave tool

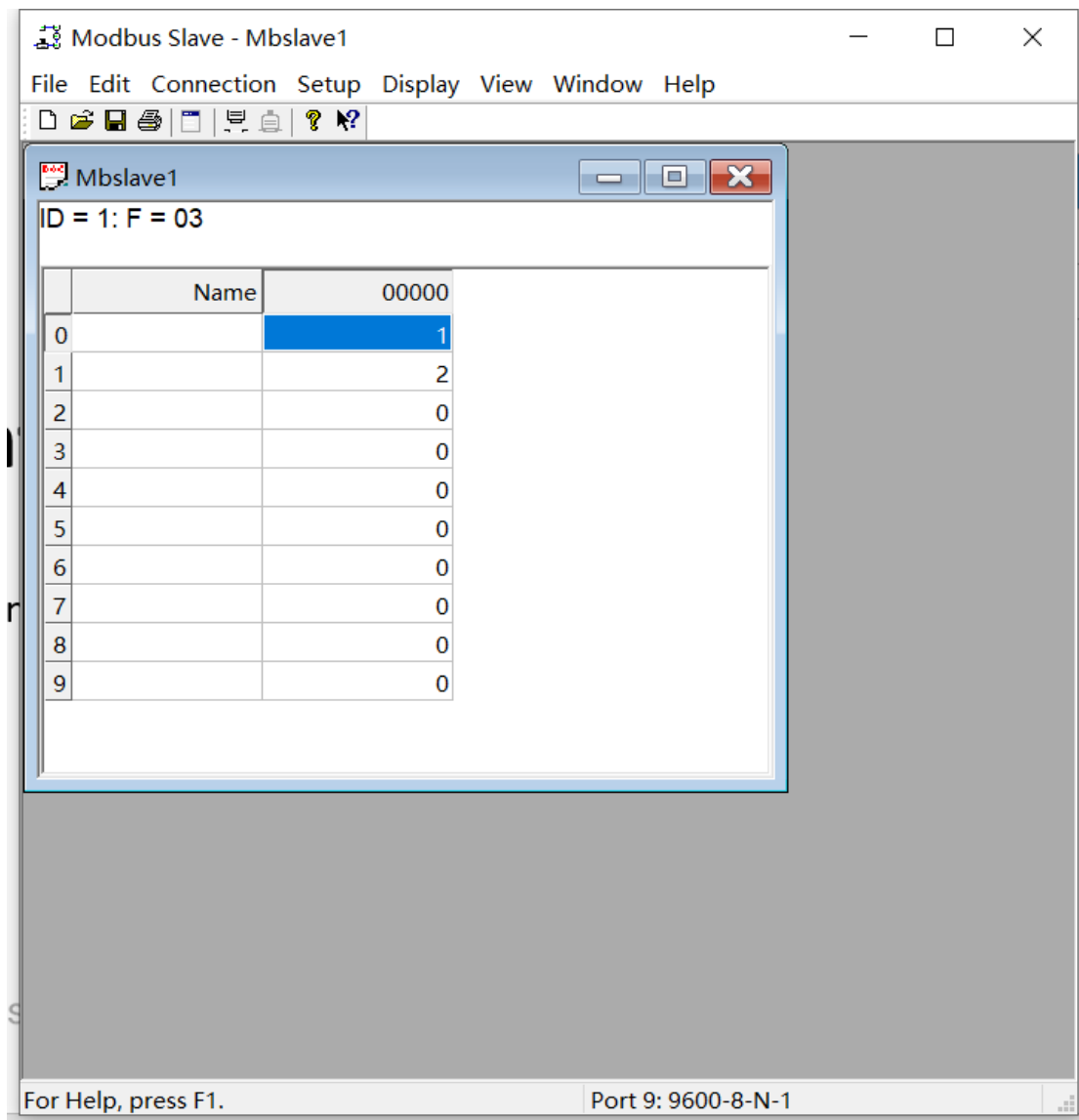
Serial port to USB converter

CONFIGURATION

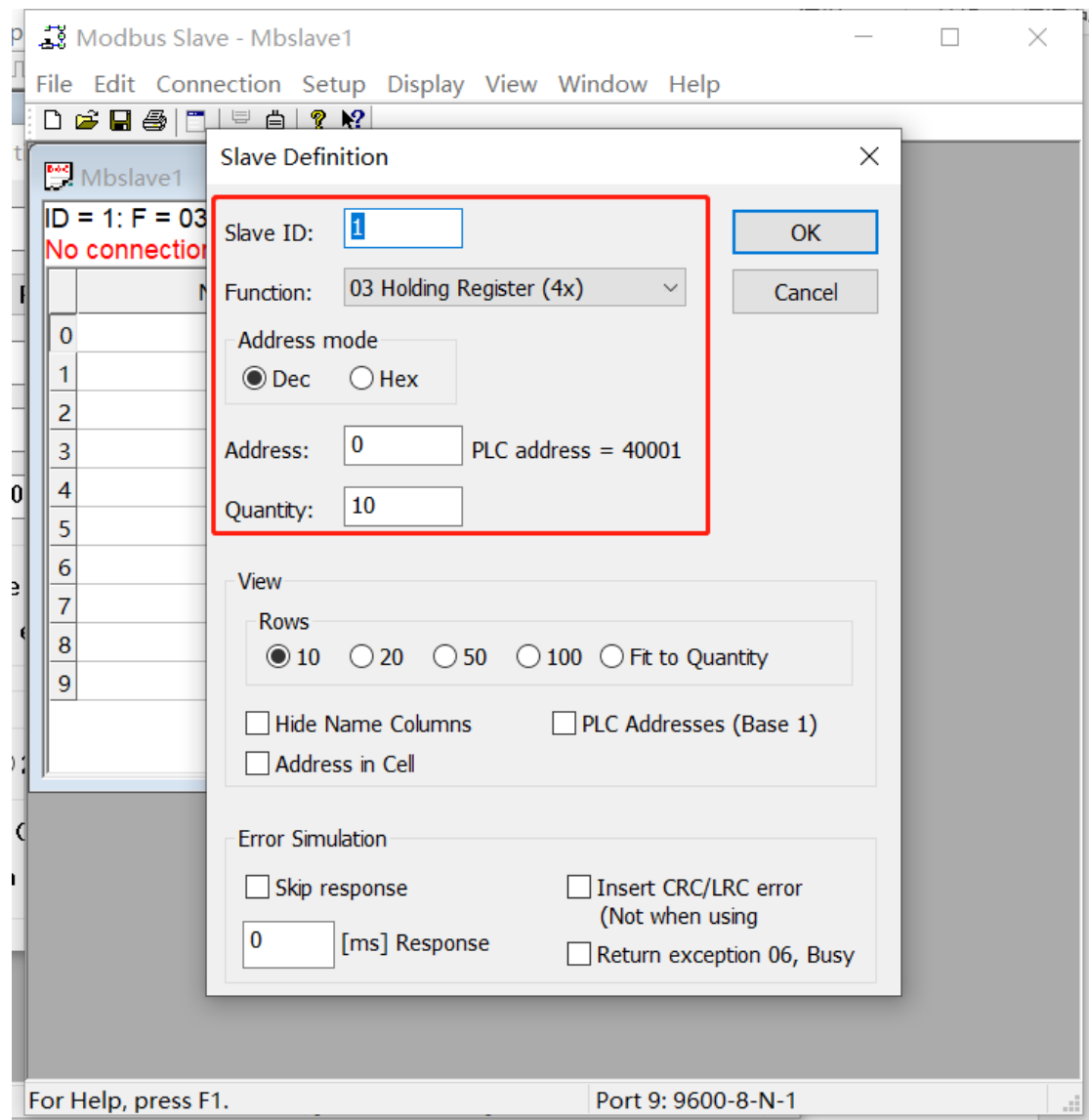
Modbus RTU Master (client)



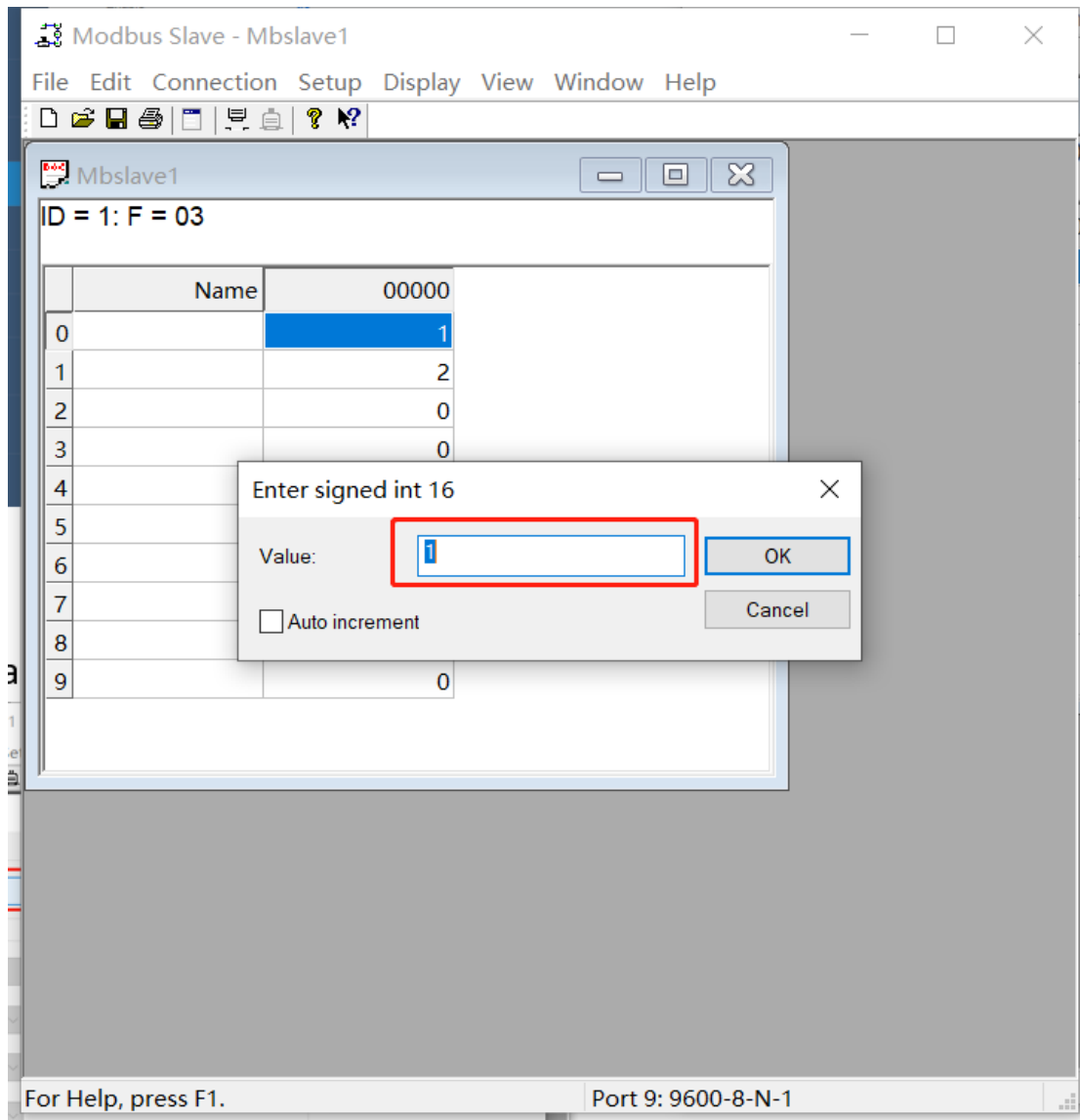
1. Connect PC to serial port of SilverNet router. Open the Modbus Slave which simulate as a Modbus Slave device unit.



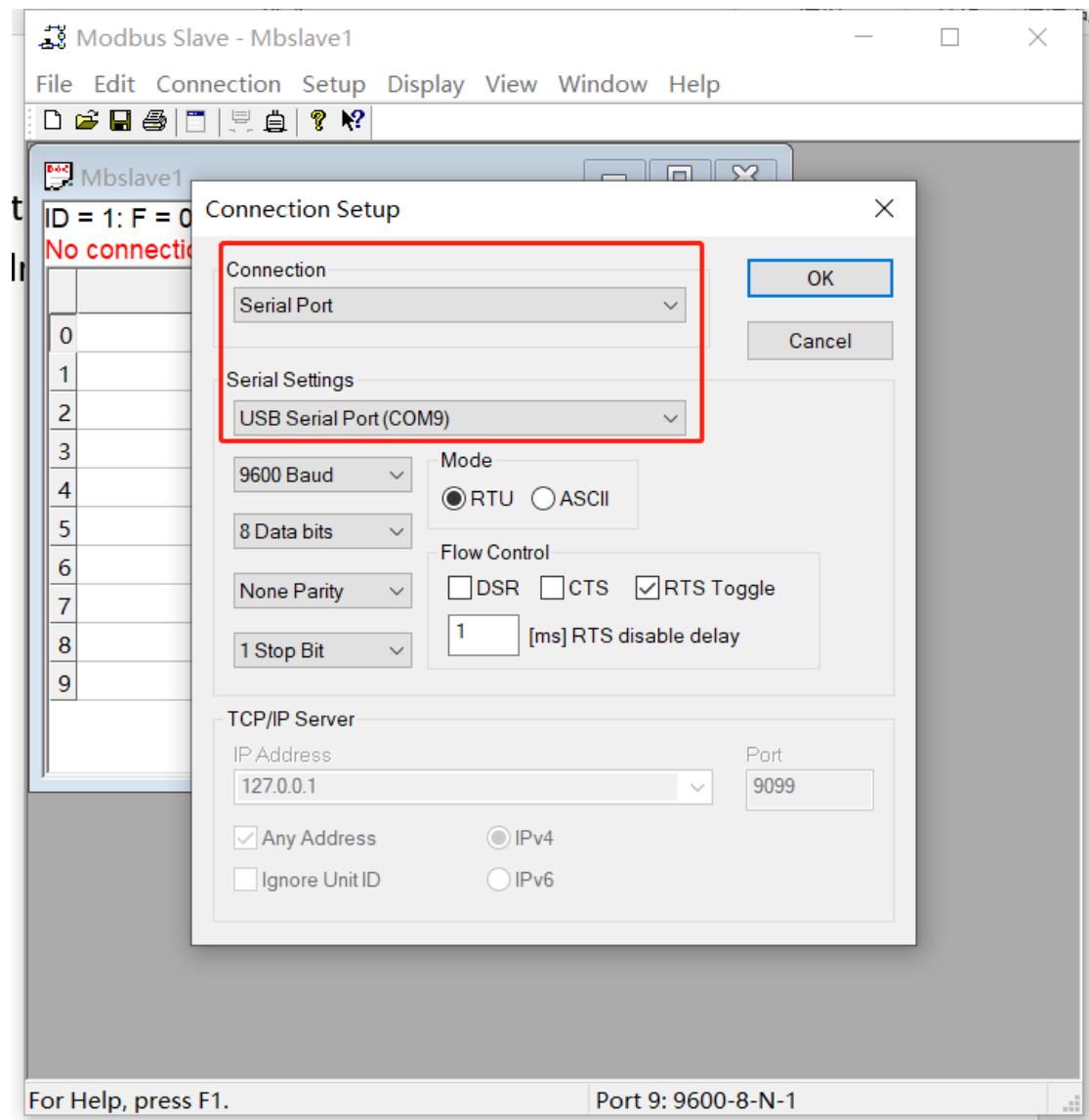
2. Navigate to **Setup->Slave Definition**, configure accordingly the Slave definition;



3. Double click the table and set the value in Modbus Slave;



4. Navigate to **Connection-> Connect**, then set the connection as Serial Port and select the corresponding COM port, finally choose the RTU mode;



5. Login the web page of the router, enter into **Serial Port->Serial**, set the serial port mode as Modbus Master.

For your device security, please change the default password!

Status
Network
System
Industrial
I/O
Serial Port
Modbus Slave
Modbus Master
GPS
Maintenance
APP

Serial 1Serial 2

Serial Settings

Enable ☒
Serial Type RS232
Baud Rate 9600
Data Bits 8bits
Stop Bits 1bits
Parity None
Software Flow Control ☐
Serial Mode Modbus Master

Save & Apply

- Navigate to the **Modbus Master->Channel**, click + in Channel Setting to add the channel, select the link as **Serial** and set the Modbus parameter according to Modbus Slave Definition setting. If you need to transmit Modbus device data to remote server, click + in TCP forwarding to add the server.

admin

For your device security, please change the default password!

Status
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Maintenance
APP

Modbus MasterChannel

Channel Setting

Name	Slave ID	Address	Number	Type	Link	IP Address	Port	Sign	Decimal Place	Operation
1	1	0	10	Holding Register(RNT)	Serial 1				0	X +

Alarm Setting

Name	Condition	Alarm	Operation
			+

TCP Forwarding

Name	IP	Port	Operation
1	192.168.23.161	8099	X +

Save

- Navigate to the **Modbus Master->Modbus Master**, enable the Modbus master setting, and set the read interval.

For your device security, please change the default password

admin

Modbus Master Channel

Modbus Master Setting

Enable ☒

Read Interval s

Max. Retries

Max. Response Time ms

Execution Interval ms

Channel Name

Click **Read** to test the result read from the Modbus Slave.

For your device security, please change the default password

admin

Modbus Master Channel

Modbus Master Setting

Enable ☒

Read Interval s

Max. Retries

Max. Response Time ms

Execution Interval ms

Channel Name

Result

- Run the SSCOM.exe on the PC and choose the TCP server to monitor the data, the router will transmit the raw data from Modbus slave device.
- The router supports Alarm functions, you can set the condition if the collect data is greater / less than a certain value or it is within the range, it will trigger the router to send SMS or Email.

Modbus Master Channel

Alarm Setting

Name

Condition

Max. Threshold

Alarm ☐ SMS ☐ Email

Normal Content

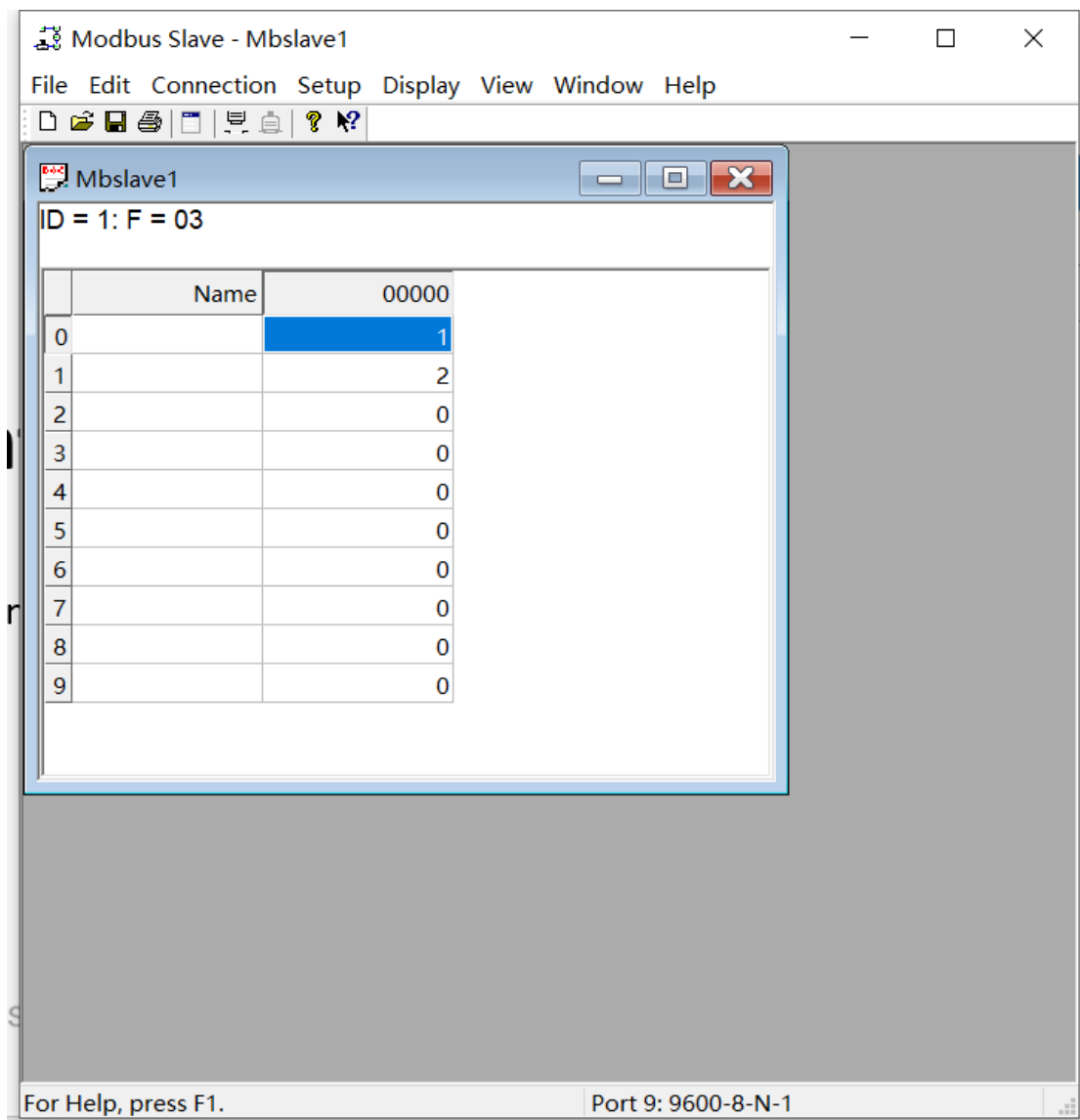
Abnormal Content

Continuous Alarm ☐

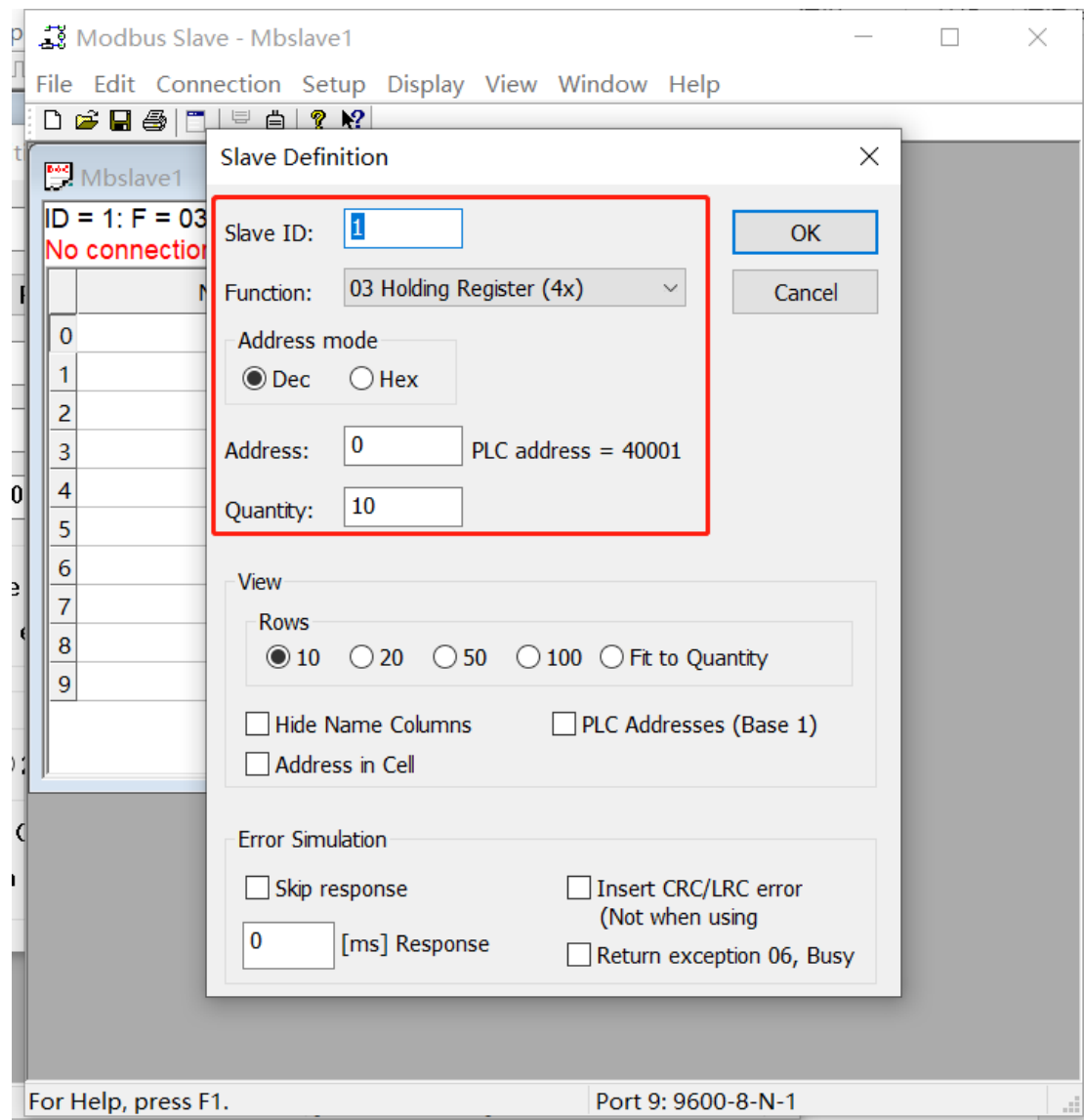
MODBUS TCP MASTER (CLIENT)



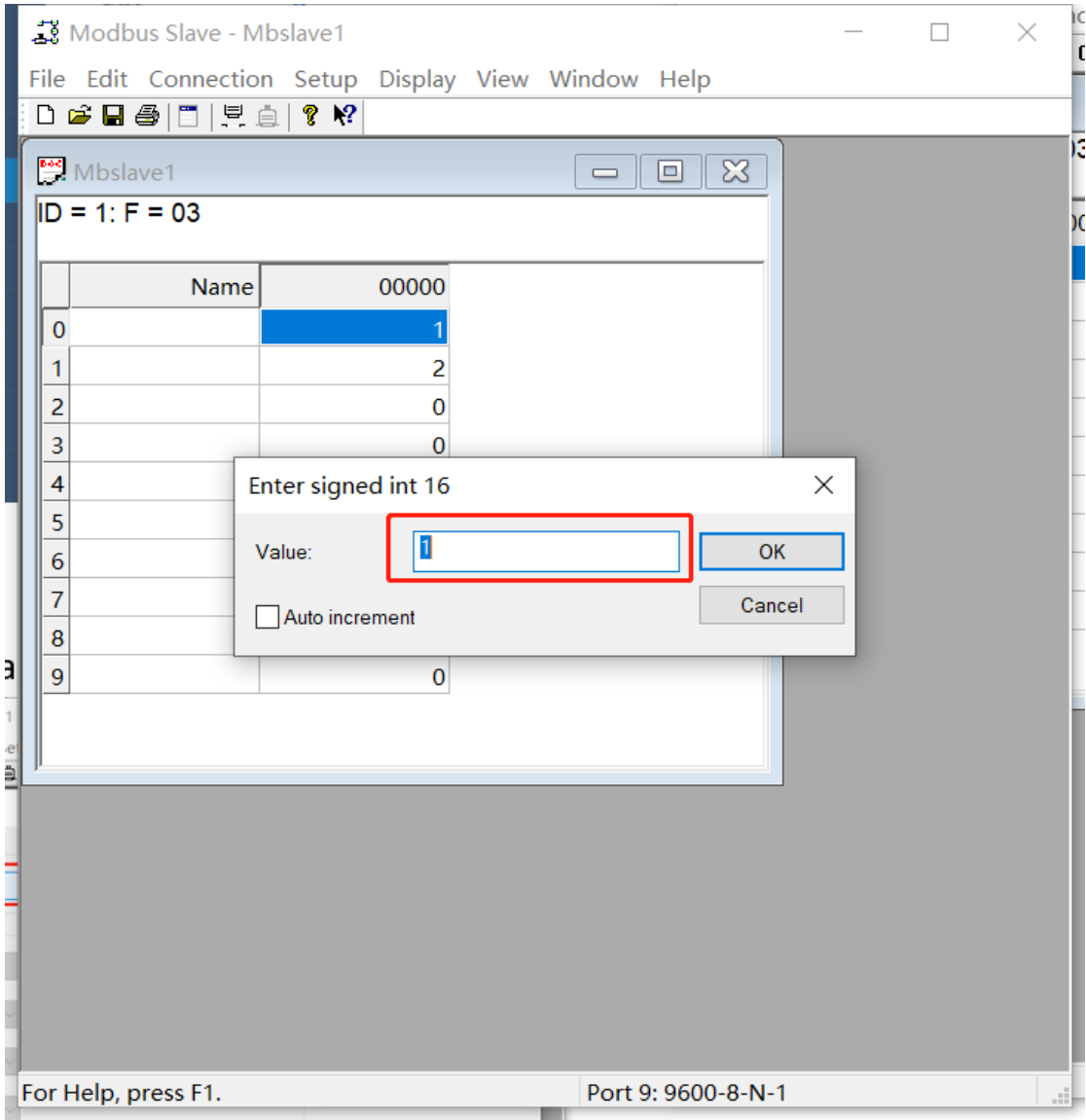
1. Connect PC to SilverNet router via LAN port. Open the Modbus Slave which simulate as a Modbus Slave device unit.



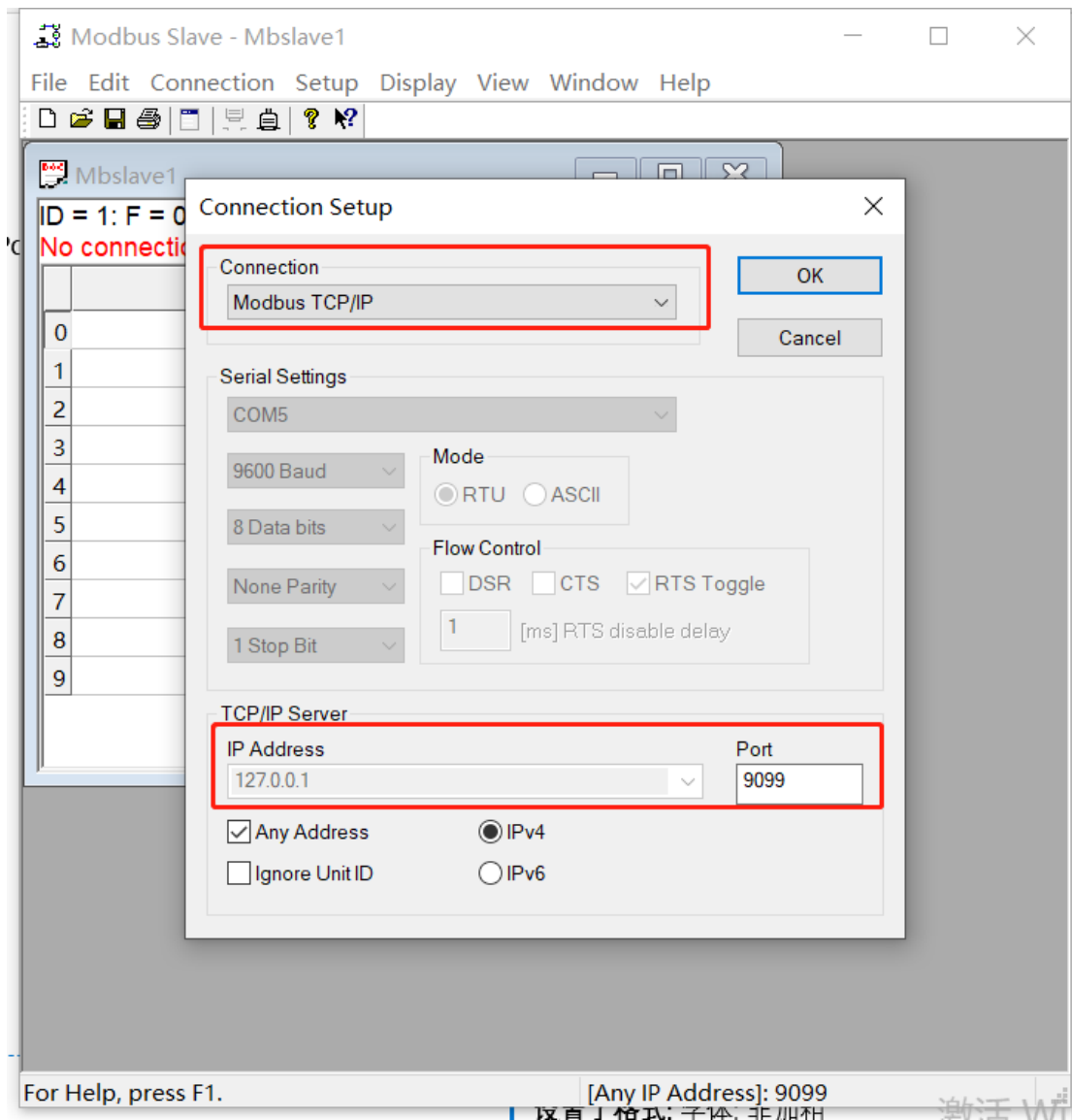
2. Navigate to **Setup->Slave Definition**, configure accordingly the Slave definition;



3. Double click the table and set the value in Modbus Slave;



4. Navigate to **Connection->connect**, set the connection as Modbus TCP and fill in the port



5. Login the web page of the router, enter into **Serial Port->Serial**, set the serial port mode as Modbus Master.

For your device security, please change the default password!

Serial 1 Serial 2

Serial Settings

Enable ☒

Serial Type

Baud Rate

Data Bits

Stop Bits

Parity

Software Flow Control ☐

Serial Mode

Save & Apply

6. Navigate to the **Modbus Master->Channel**, click + in Channel Setting to add the channel, select the link as **TCP** and set the Modbus parameter according to Modbus Slave Definition setting, fill in Modbus TCP slave IP address and port. If you need to transmit Modbus device data to remote server, click + in TCP forwarding to add the server.

For your device security, please change the default password!

Modbus Master Channel

Name	Slave ID	Address	Number	Type	Link	IP Address	Port	Sign	Decimal Place	Operation
1	1	0	10	Holding Register[]	TCP	192.168.23.161	9099		0	

Alarm Setting

Name	Condition	Alarm	Operation

TCP Forwarding

Name	IP	Port	Operation
1	192.168.23.161	8080	

Save

7. Navigate to the **Modbus Master->Modbus Master**, enable the Modbus master setting, and set the read interval.

For your device security, please change the default password

admin

Modbus Master Channel

Modbus Master Setting

Enable ☒

Read Interval s

Max. Retries

Max. Response Time ms

Execution Interval ms

Channel Name [Read](#)

[Save & Apply](#)

Click **Read** to test the result from the Modbus Slave.

For your device security, please change the default password

admin

Modbus Master Channel

Modbus Master Setting

Enable ☒

Read Interval s

Max. Retries

Max. Response Time ms

Execution Interval ms

Channel Name [Read](#)

Result

[Save & Apply](#)

8. Run the SSCOM.exe on the PC and choose the TCP server to monitor the data, the router will transmit the raw data from Modbus slave device.

9. SilverNet router supports Alarm functions, you can set the condition if collect data is greater / less than a certain value or it is within the range, then it will trigger the router to send SMS or Email.

The screenshot displays the 'Alarm Setting' configuration window in the SilverNet router's web interface. The window is titled 'Modbus Master' and 'Channel'. The 'Alarm Setting' section is active. A red rectangular box highlights the configuration area. The settings are as follows:

- Name:** 1
- Condition:** GE(>)
- Max. Threshold:** 0
- Alarm:** ☐ SMS ☐ Email
- Normal Content:** Note: \$YEAR/\$MON/\$DAY \$TIME, get NORMAL data \$VALUE from address \$ADDRESS of channel \$NAME. (Abnormal scope is)
- Abnormal Content:** Note: \$YEAR/\$MON/\$DAY \$TIME, get ABERRANT data \$VALUE from address \$ADDRESS of channel \$NAME. (Abnormal scope is)
- Continuous Alarm:** ☐

At the bottom of the configuration area are two buttons: 'Save' and 'Cancel'.