

Modbus Server for Energy meter Quick Guide

1. Package Contents

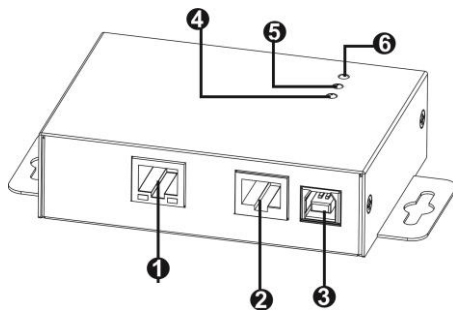
You should have received the following items inside of package:

- Modbus server
- Quick Guide
- USB Communication cable

2. Product Introduction

Modbus server is used in conjunction with three pieces of hybrid inverters and energy meter. Each inverter is equipped with Modbus card. It's to control power generation and battery charging of three inverters and communicate inverters and energy meter via Modbus server.

3. Product Overview



- ① Ethernet port (10/100Base-T)
- ② RS-485 port
- ③ 5Vdc DC input
- ④ Data receiving indicator
- ⑤ Data transmission indicator
- ⑥ Power indicator

4. Installation and Connection

Pre-installation

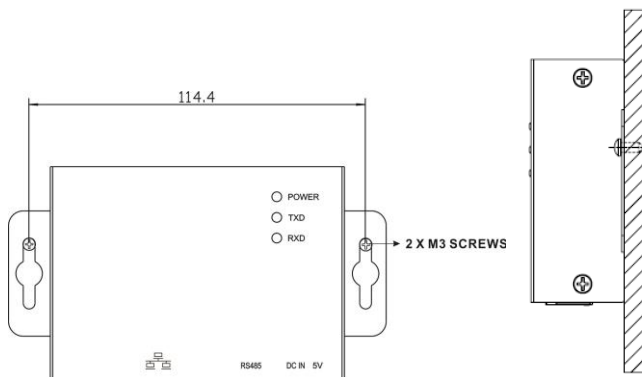
Before making connection to Modbus server device, make sure the inverter is already installed with Modbus card.

Wall-mounting

Step 1: Use a vertical line and the length of the line must be 114.4 mm. Mark the two ends on the wall.

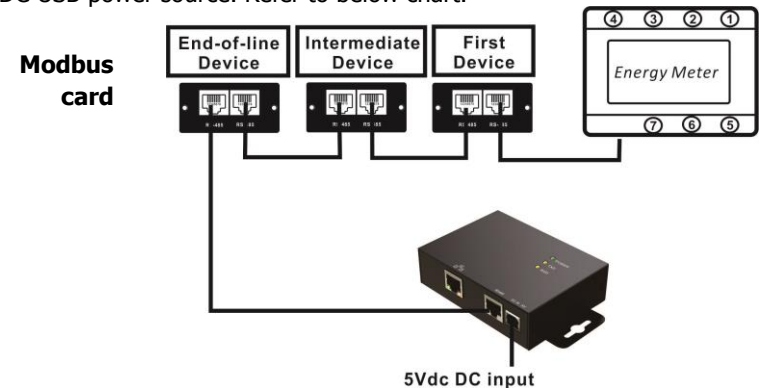
Step 2: Drill two marks by screws.

Step 3: Mount the unit by positioning the key-hole slots over the mounting screws.

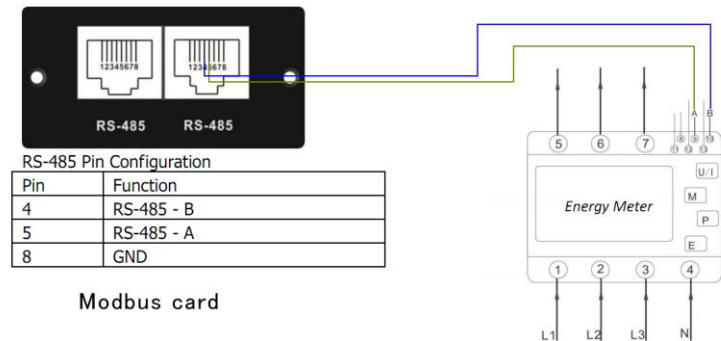


Connection

Use one Ethernet cable to connect to Ethernet port (①) of the server. Use one RJ45 cable to connect to RS-485 port (②) of the server and Modbus card of inverter. Then, use bundled USB cable to connect to USB port (③) of the server and 5V DC USB power source. Refer to below chart.



For wiring connection of first device and energy meter, please refer to below chart.



4. Modbus Web Server

Modbus server is embedded software called "Modbus Web Server". Simply open IE browser and enter IP address of Modbus server. Default IP address is 192.168.102.230. Click "Status" to display information of Modbus server.

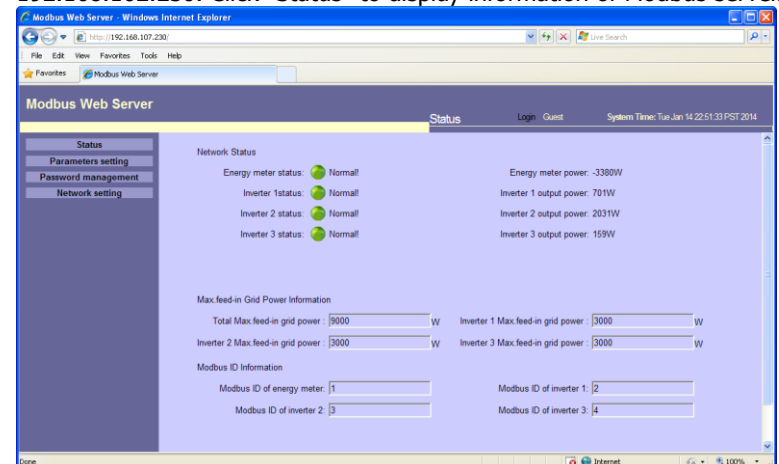


Chart 1

Modbus Server for Energy meter Quick Guide

4-1. Password

It's requested to enter password for modifying setting in Modbus Web server. The length of password is 8~15 digits. Default password is "12345678".

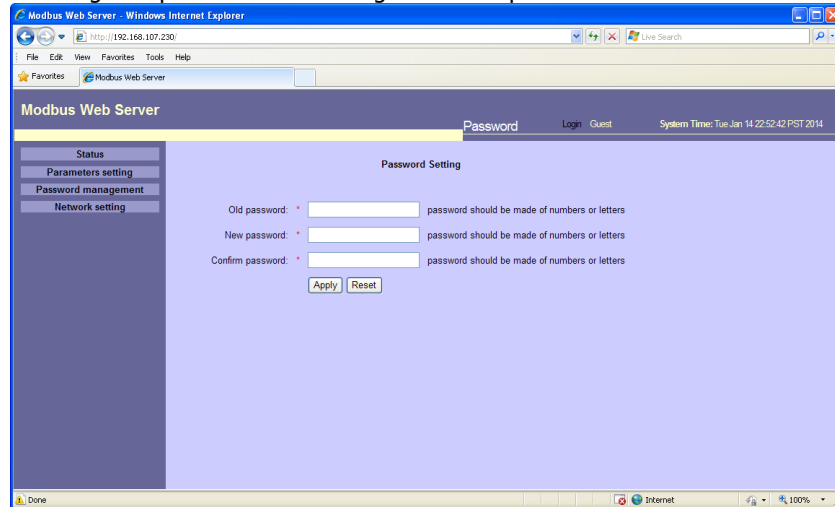


Chart 2

4-2. Network Setting

There are two methods to obtain IP address.

- Automatically obtain IP address (DHCP)
- Manually configure IP address (default)

The system will default manually configure IP addresses. The default IP is displayed as "192.168.102.230", Net mask as "255.255.255.0" and default gateway is "0.0.0.0".

Note: This modification will cause Modbus Web Server and Modbus server to reboot.

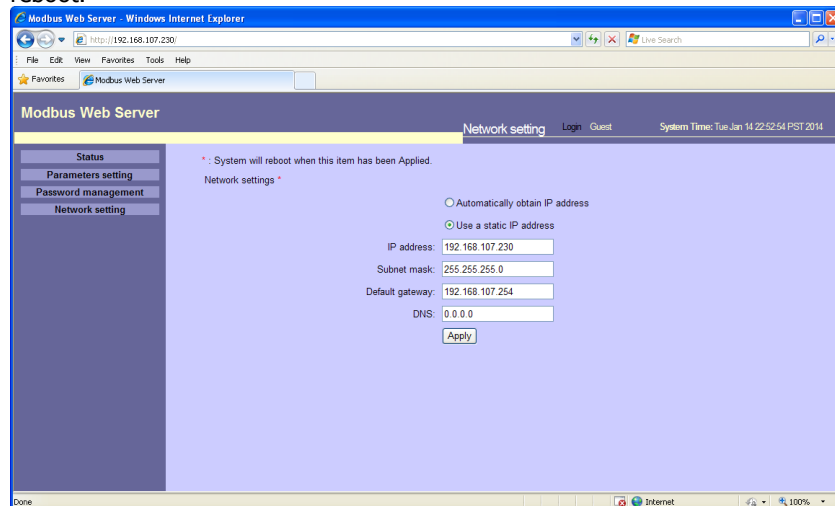


Chart 3

4-3. Parameter Setting

Select mode setting and set up Max. feed-in grid power and modbus ID.

There are two mode settings:

- Reset total feed-in power to zero
- Reset feed-in power to zero in each phase

Note: Make sure that all modbus IDs are different in the modbus network.

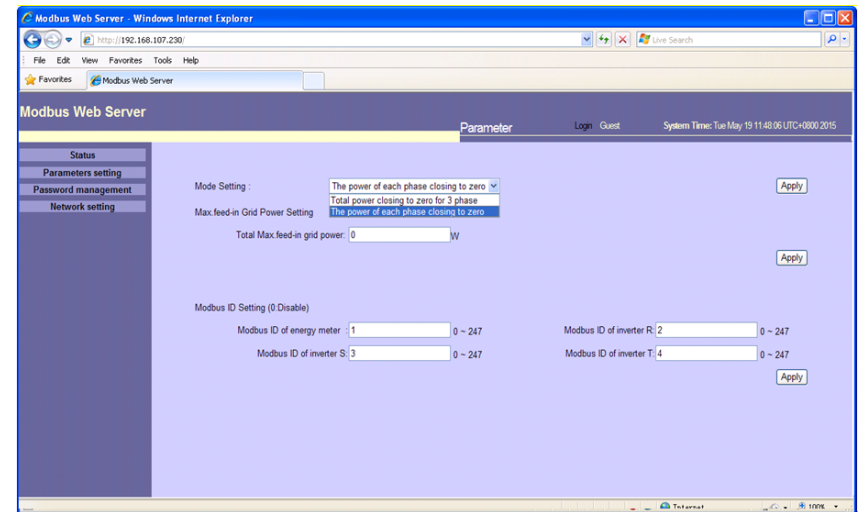
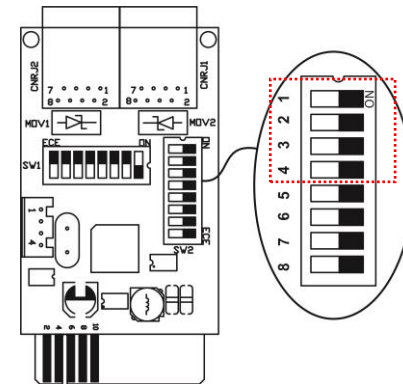


Chart 4

4-4. Modbus Card Setting (Refer to Connection Diagram)

It's necessary to set up Modbus card as server mode while integrated Modbus server in applications. Please refer detailed setting in section 6 in Modbus card II user manual.

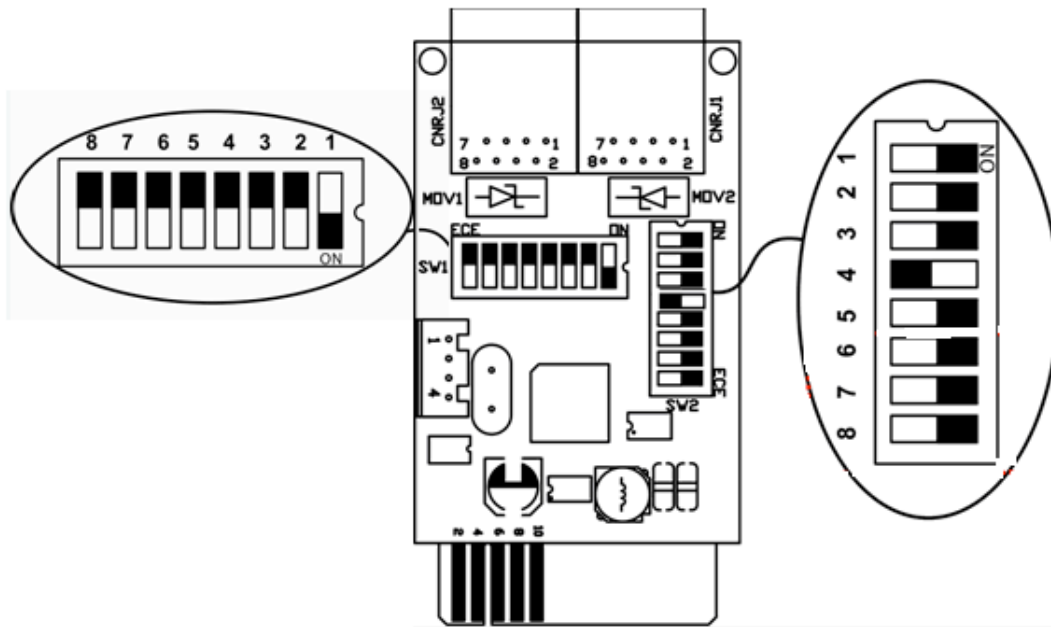


Function	Bit Setting		Meaning
Working mode	# 2	# 1	Working in server mode
	OFF	OFF	

The SOP of hybrid inverter with Energy meter

1. Config Modbus card II

Modbus ID :1 ,
baud rate 19200bps,
1 stop bits,
None parity.




2. Config energy meter.

Modbus ID :1 ,
baud rate 19200bps,
1 stop bits,
None parity.

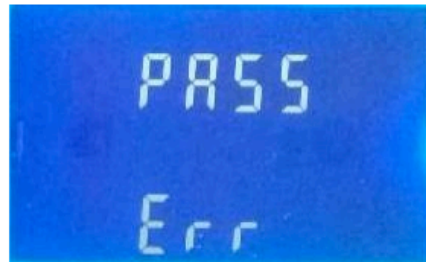
as below chart (Please check Eastron SDM630 DC user manual for detailed configuration.)

A. enter set-up mode

To enter set-up mode, pressing the  button for 3 seconds, until the password screen appears.



Setting up is password-protected so you must enter the correct password (default '1000') before processing. If an incorrect password is entered, the display will show: Err



B. set Modbus ID(modbus address) to 001

4.6 Communication

There is a RS485 port can be used for communication using Modbus RTU protocol. For Modbus RTU, parameters are selected from Front panel.

4.6.1 RS485 Address



(The range is from 0 to 247)

C. set baud rate to 19.2K HZ


4.6.2 Baud Rate

1		<p>From the Set-up menu, use and buttons to select the Baud Rate option.</p>
2		<p>Press to enter the selection routine. The current setting will flash.</p>
3		<p>Use and buttons to choose Baud rate 2.4k, 4.8k, 9.6k, 19.2k, 38.4k</p>
4	<p>On Completion of the entry procedure, press to confirm the setting and press to return to the main set up menu.</p>	

D. set parity to : NONE











4.6.3 Parity

1		<p>From the Set-up menu, use and buttons to select the Parity option.</p>
2		<p>Press to enter the selection routine. The current setting will flash.</p>
3		<p>Use and buttons to choose Parity (EVEN / ODD / NONE)</p>

4	<p>On Completion of the entry procedure, press  to confirm the setting and press  to return to the main set up menu.</p>
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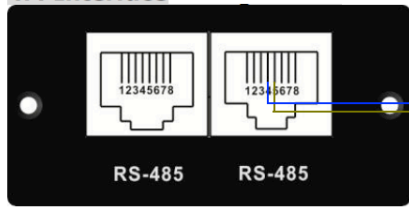
E. set stop bit : 1

4.6.4 Stop bits

1		<p>From the Set-up menu, use  and  buttons to select the Stop Bit option.</p>
2		<p>Press  to enter the selection routine. The current setting will flash.</p>
3		<p>Use  and  buttons to choose Stop Bit (2 or 1)</p>
4	<p>On completion of the entry procedure, press  to confirm the setting and press  to return to the main set up menu.</p>	

3. Connect Modbus card to Energy meter as below.

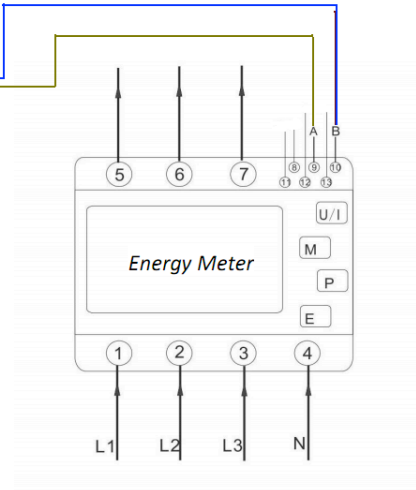
4.4 Interface



RS-485 Pin Configuration

Pin	Function
4	RS-485 - B
5	RS-485 - A
8	GND

Modbus card



4 . Setting the Infini, change the red box setting, the other setting to maintain the default values at Grid-Tie with Backup(II).

