SG6300NZL Quick Start Guide

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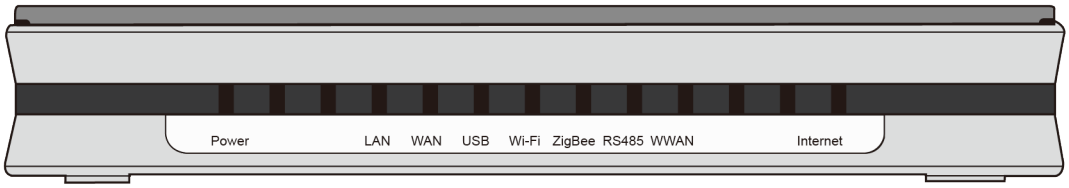
Chapter 1: SG6300NZL Hardware Installation

1.1 SG6300NZL Overview

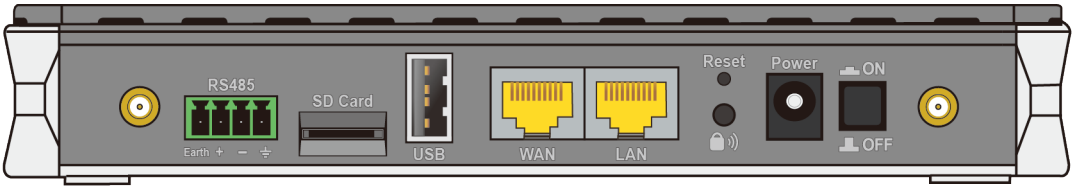
SG6300NZL Front Panel LEDs



1	Power	Green: Power ON Red: System failure. Restart the device or contact
2	LAN	Lit up: Successfully connected with a broadband connection device Blinking: Data being transmitted/received
3	WAN	Lit up: Successfully connected with a broadband connection device Blinking: Data being transmitted/received
4	USB	Green: Connecting to a USB dongle or a hard drive.
5	Wi-Fi	Lit up: Successfully connected with a broadband connection device Blinking: Data being transmitted/received
6	ZigBee	Flashes about once every 3 seconds when the wireless connection is established. Flashes about 3 times per second when the device is set to the state waiting for being joined by other smart meters.
7	RS485	Green: Build up the connection between Gateway and RS485 device
8	WWAN	4G LTE status Green: Excellent signal condition Green flashing quickly: Good signal condition Orange flash quickly: Fair signal condition Orange flash slowly: Poor signal condition Orange: No signal

9	Internet	Off: No LTE module Green: Connect to internet Orange: Disconnect to internet

SG6300NZL Rear Panel



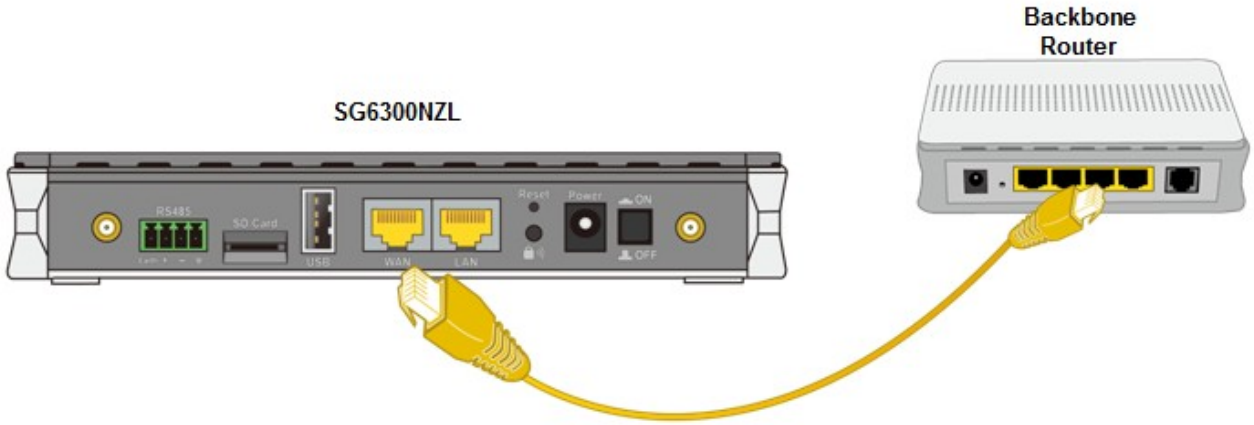
1	RS485	Connect to RS485 device
2	SD Card	Data storage
3	USB	Data storage
4	WAN	WAN 10/100M Ethernet port (with auto crossover support); connect Cable modem here.
5	LAN	Connect a UTP Ethernet cable (Cat-5 or Cat-5e) to one of the LAN ports when connecting to a PC or an office/home network of 10Mbps or 100Mbps.
6	ZigBee	Push ZigBee button to trigger ZigBee function, thus smart meter allowing join in is starting
7	Reset	To be sure the device is being turned on press RESET button for 6 seconds and above: restore to factory default settings. (Cannot login to the router or forgot your Username/Password. Press the button for more than 6 seconds). Caution: After pressing the RESET button for more than 6 seconds, to be sure you power cycle the device again.
8	Power	Connect it with the supplied power adapter.
9	Switch	Device is power on/off.

1.2 Internet Installation

EWAN Installation

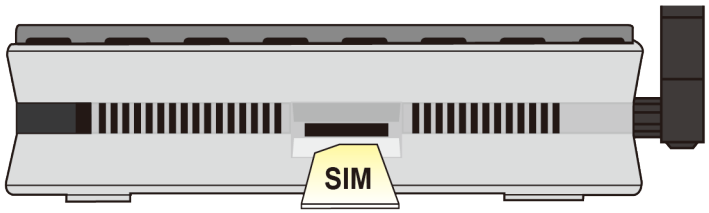
SG6300NZL's **WAN** port connects to backbone router's **LAN** port.

Please refer 5.1 Internet connection configuration by Quick Start to set internet.



4G LTE Installation

Insert the SIM card with the gold contact facing down.



Please refer 5.1 Internet connection configuration by Quick Start to set internet.

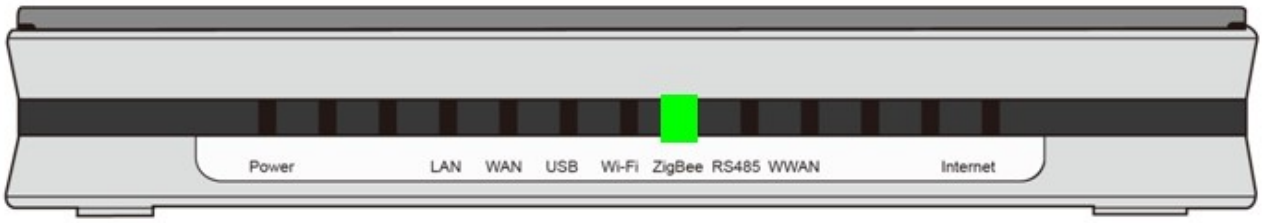
1.3 ZigBee Pairing

Example SG3015 serials pair to SG6300NZL

STEP_1 Ensure the ZigBee device power on and not join any ZigBee coordinator.
If Status LED lit green that mean ZigBee Meter is waiting mode, please go STEP 3
If Status LED blinking green that mean ZigBee Meter has been pair other SG6300NZL, Before pair ZigBee Meter with SG6300NZL, please refer ZigBee Meter UM to do un-pairing.

STEP_2 Push ZigBee button on the rear panel of the ZigBee Coordinator to make a connection.

STEP_3 Then, ZigBee LED in the front panel will blink quickly around 60 seconds



STEP_4 The smart meter will be automatically paired and joined to the ZigBee network.
The Meter Status LED would blink slowly and steadily, indicating that the power meter is successfully paired

STEP_5 Access to SG6300NZL's WEB GUI to configure your ZigBee Device
Please refer 6.1 ZigBee Configuration

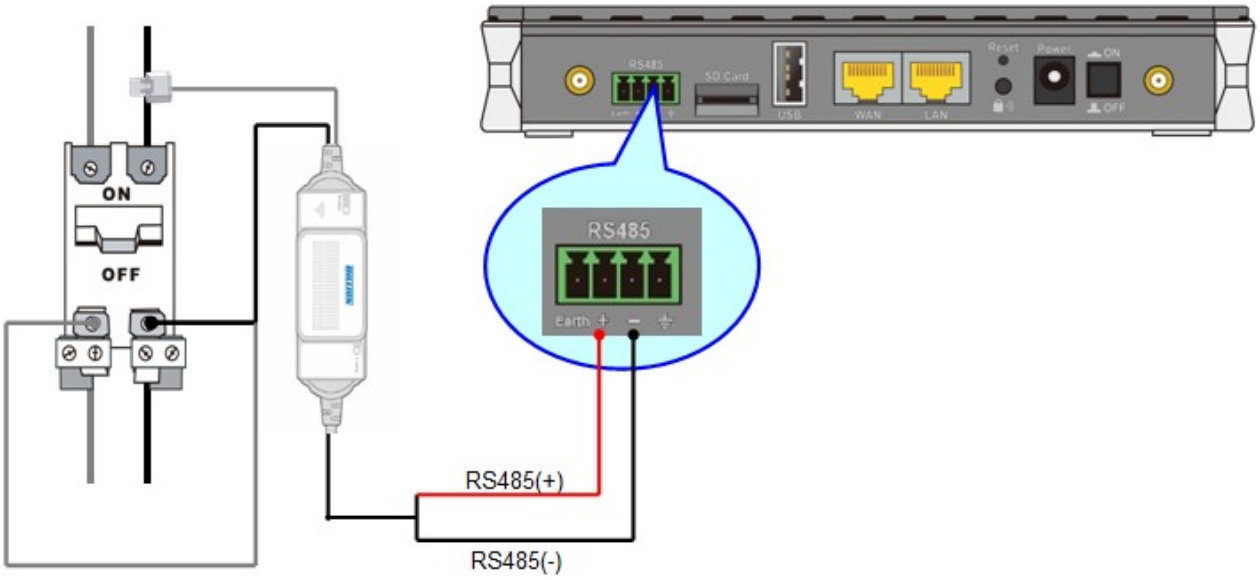
1.4 RS485 Installation

Example SG3010S serials connect to SG6300NZL by RS485

STEP_1 Install SG3010S in the real side, ensure meter power ON.

STEP_2 SG3010S's RS485+ connect to SG6300NZL's RS485+

SG3010S's RS485- connect to SG6300NZL's RS485-



STEP_3 Access to SG6300NZL's WEB GUI to configure your ZigBee Device

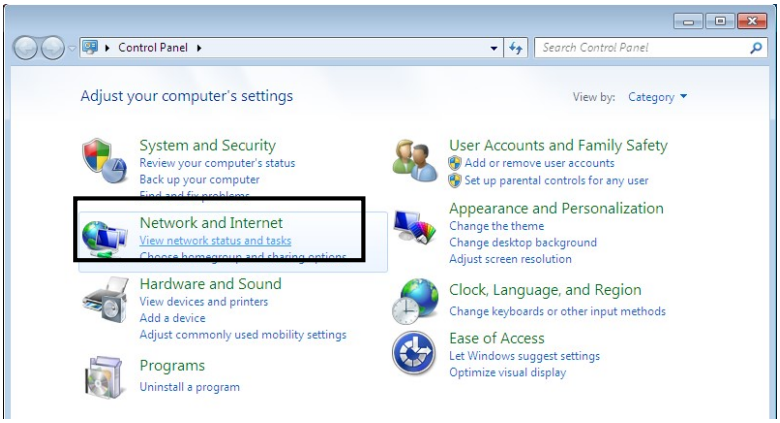
Please refer 7.1 RS485 Configuration

Chapter 2: Network Configuration

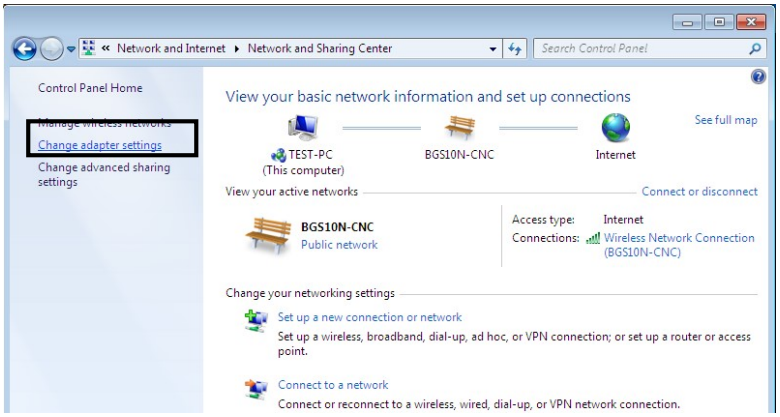
2.1Configuring a PC in Windows 7

1. Go to **Start**. Click on **Control Panel**.

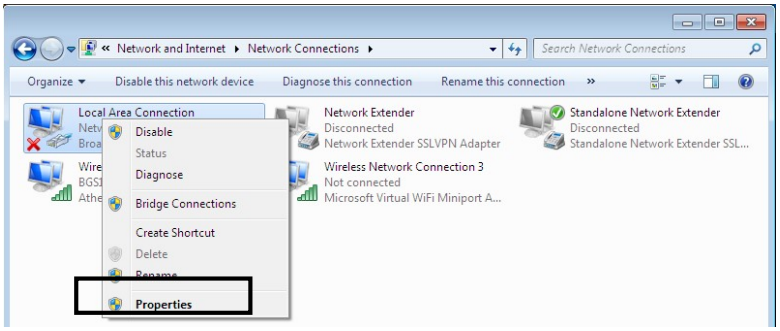
2. Then click on **Network and Internet**.



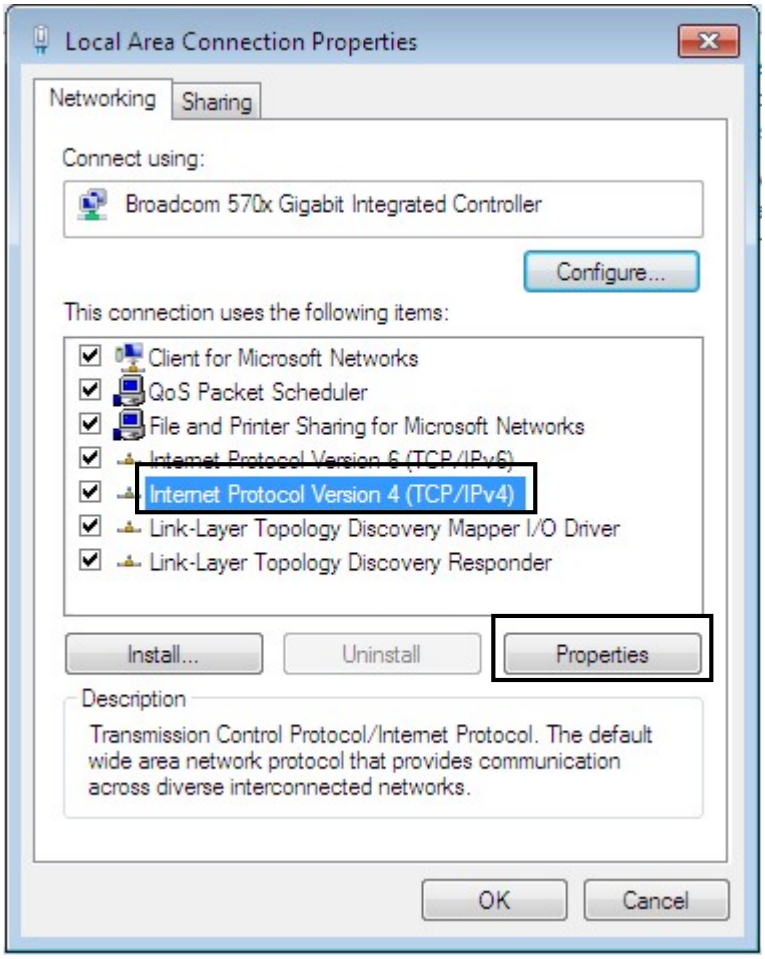
3. When the **Network and Sharing Center** window pops up, select and click on **Change adapter settings** on the left window panel.



4. Select the **Local Area Connection**, and right click the icon to select **Properties**.

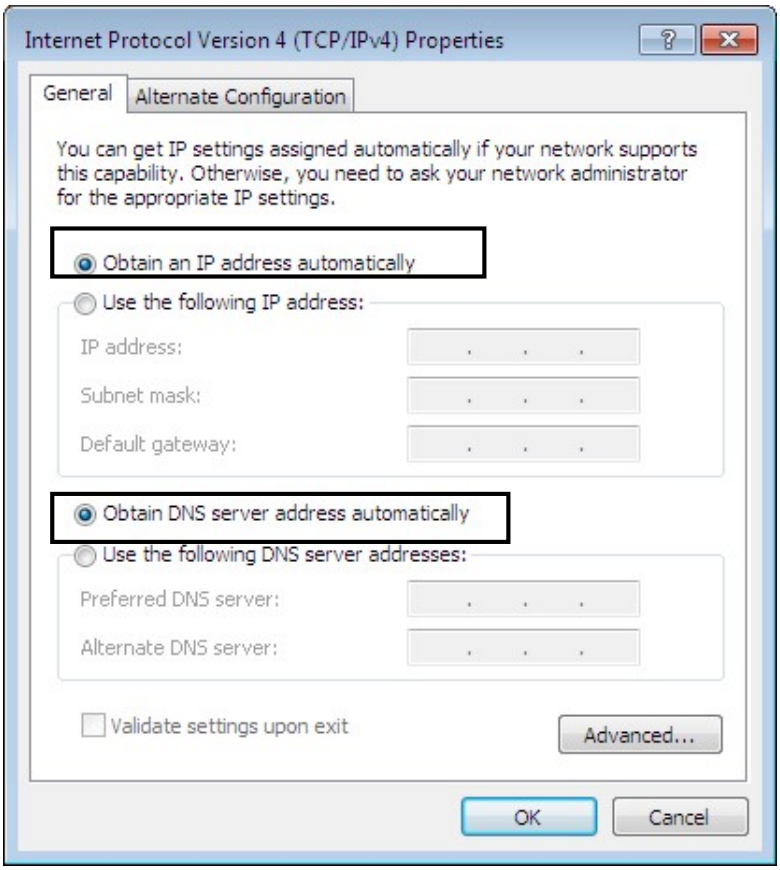


5. Select **Internet Protocol Version 4 (TCP/IPv4)** then click **Properties**.



6. In the **TCP/IPv4 properties** window, select the **Obtain an IP address automatically** and **Obtain DNS Server address automatically** radio buttons. Then click **OK** to exit the setting.

7. Click **OK** again in the **Local Area Connection Properties** window to apply the new configuration.



Chapter 3: Factory Default Settings

Before configuring the Billion SG6300NZL router, you need to know the following default settings.

Web Interface: (Username and Password)

- Username: admin
- Password: admin

The default username and password are “**admin**” and “**admin**” respectively.

Device LAN IP settings

- IP Address: 192.168.5.254
- Subnet Mask: 255.255.255.0

ISP setting in WAN site

- Obtain an IP Address Automatically

DHCP server

- DHCP server is enabled.
- Start IP Address: 192.168.5.100
- IP pool counts: 100

LAN and WAN Port Addresses

The parameters of LAN and WAN ports are preset at the factory. The default values are shown below

LAN Port		WAN Port
IP address	192.168.5.254	The DHCP function is *enabled* to automatically get the WAN port configuration from the ISP.
Subnet Mask	255.255.255.0	
DHCP server function	Enabled in LAN port	
IP addresses for distribution to PCs	100 IP addresses continuing from 192.168.5.100 through 192.168.5.199	

Chapter 4: Information from your ISP

Before configuring this device, you have to check with your ISP (Internet Service Provider) what kind of services are provided, such as PPPoE, Obtain an IP Address Automatically, Fixed IP address.

Gather the information as illustrated in the following table and keep it for reference.

PPPoE	Username, Password, Service Name, and Domain Name System (DNS) IP address (it can be automatically assigned by your ISP when you connect or be set manually).
Obtain an IP Address Automatically	DHCP Client (it can be automatically assigned by your ISP when you connect or be set manually).
Fixed IP Address	IP address, Subnet mask, Gateway address, and Domain Name System (DNS) IP address (it is fixed IP address).

Chapter 5: Configuring Internet with your Web Browser

Open your web browser, enter the IP address of your SG6300NZL, which by default is **192.168.5.254**, and click "**Go**", a user name and password window prompt appears. Enter the user name and password that your **Administrator** has set for you and select the **Account Type**, then click **Login**. When you are authorised, you will access to the router.The default username and password are **"admin"** and **"admin"** respectively for the Administrator account type.

5.1: Internet Connection by Quick Start

This is a useful and easy utility to help you to setup the router quickly and to connect to your ISP (Internet Service Provider) with only a few steps. It will guide you step by step to setup password, time zone, wireless and WAN settings of your device. The Quick Start Wizard is a helpful guide for the first-time users to the device.

For detailed instructions on configuring WAN settings, see refer to the Interface Setup section.

Click NEXT to move on to STEP_ 1.

STEP_1 Password

Set new password of the “admin” account to access for router management. The default is “admin”.

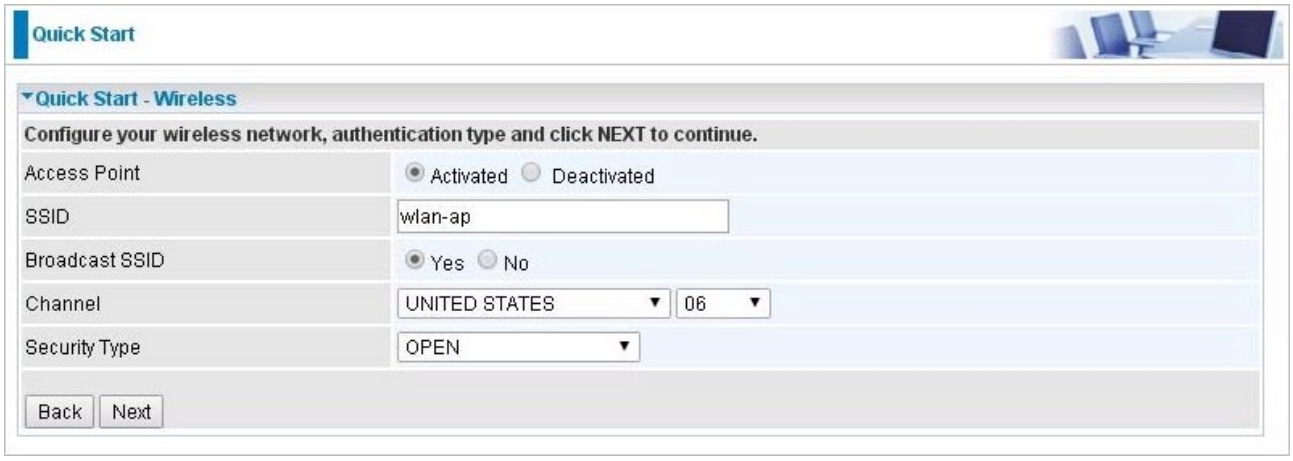
Once changed, please use this new password next time when accessing to the router. Click NEXT to continue. **Suggest do not change the password.**

STEP_2 Time Zone

Choose your time zone. Click NEXT to continue.

STEP_3 Wireless

Set up your wireless connection if you want to connect to the Internet wirelessly on your PCs. Click NEXT to continue.

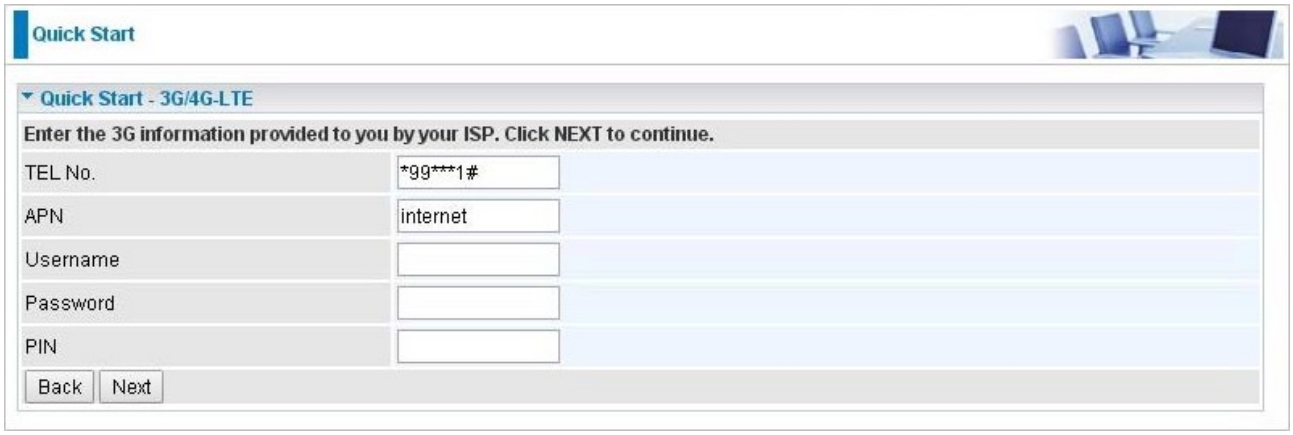


STEP_4 ISP Connection Type

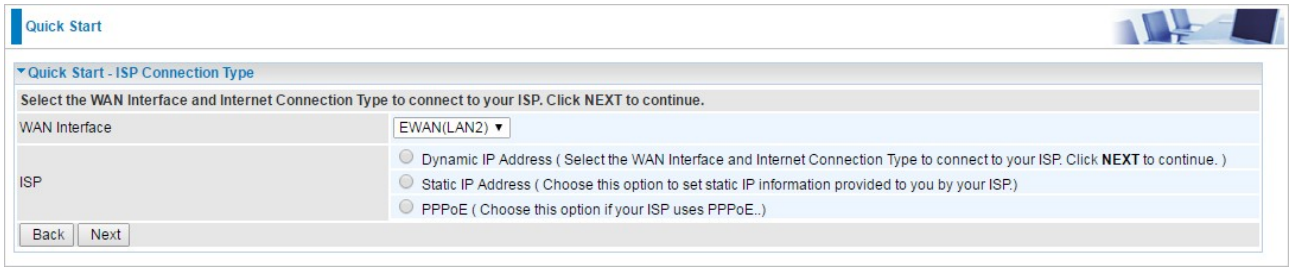
Set up your Internet connection.

4.1 Select an appropriate WAN connection protocol then click **NEXT** to continue.

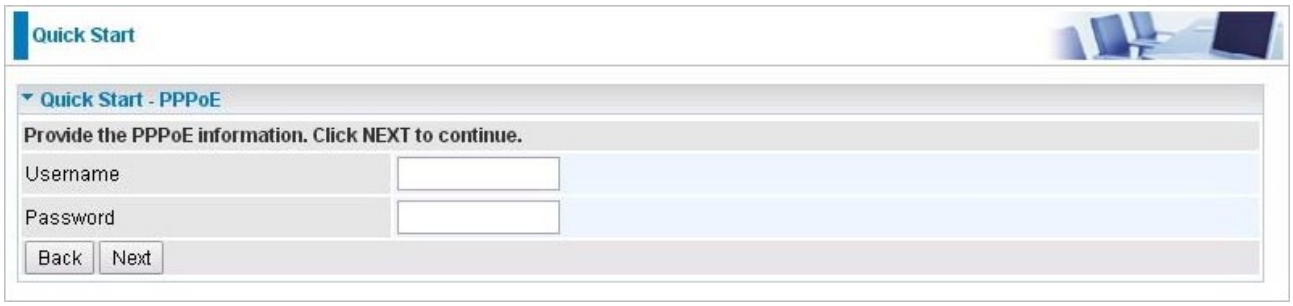
Input all relevant 3G/4G-LTE parameters from your ISP.



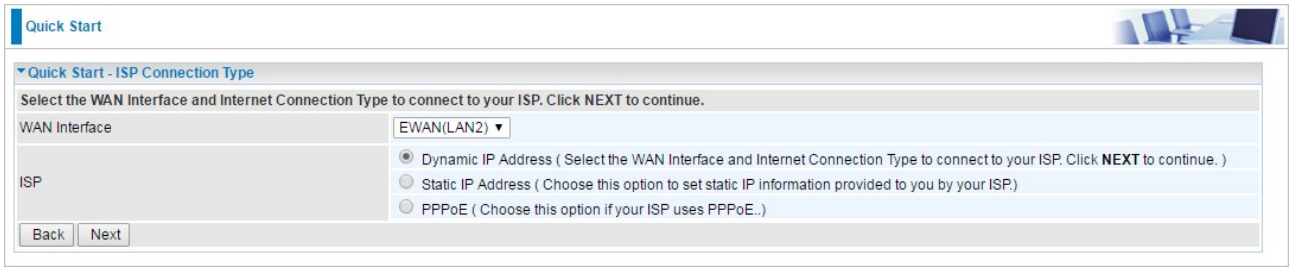
4.2 If selected **EWAN**



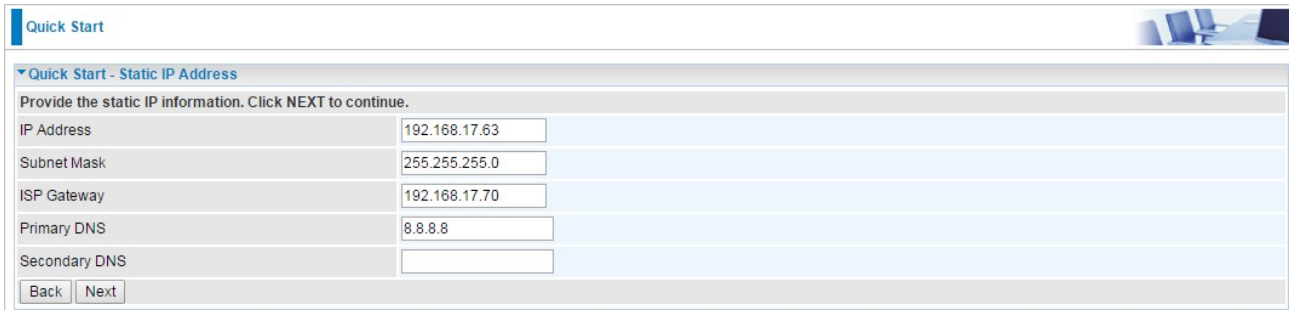
If selected PPPoE, please enter PPPoE account information provided by your ISP. Click NEXT to continue. Or, others protocol assigned by your ISP.



If selected Dynamic IP Address. When connecting to the ISP, Billion SG6300NZL also functions as a DHCP client. Billion SG6300NZL can automatically obtain an IP address, subnet mask, gateway address, and DNS server addresses if the ISP assigns this information via DHCP.



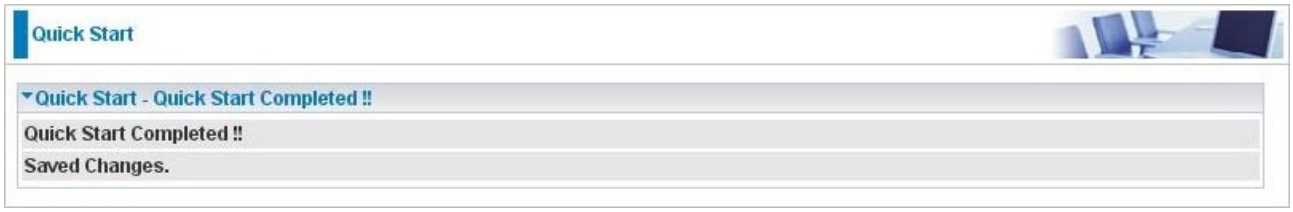
If selected Static IP Address. You will need to enter in the Connection type, IP address, Netmask, and gateway address, provided to you by your ISP. Each IP address entered in the fields must be in the appropriate IP form, which are four IP octets separated by a dot (x.x.x.x). The Router will not accept the IP address if it is not in this format.



STEP_5 Quick Start Completed

The Setup Wizard has completed. Click on BACK to modify changes or mistakes. Click NEXT to save the current settings.

STEP_6 Quick Start Completed



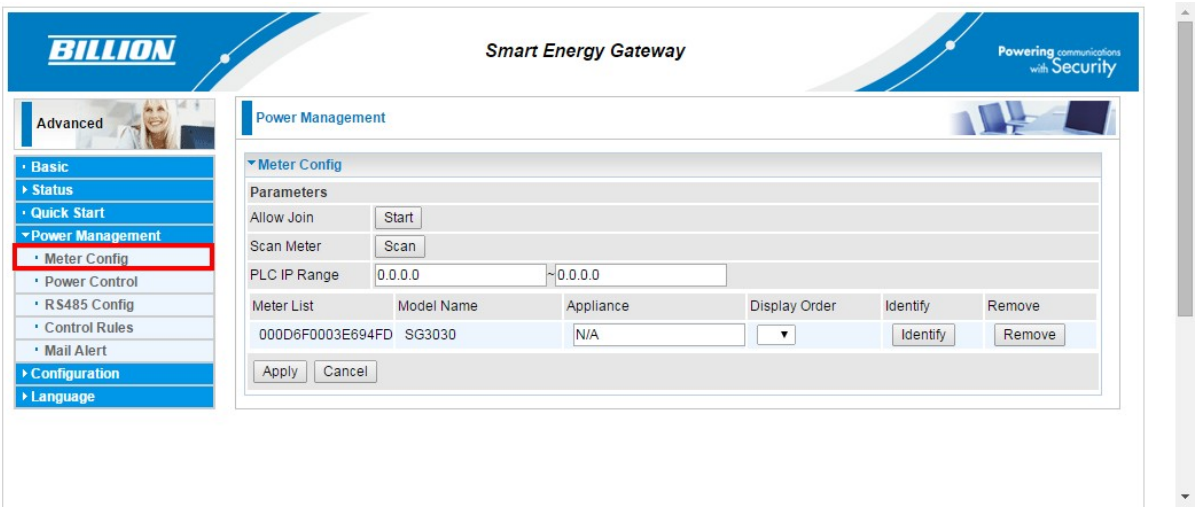
Chapter 6: Energy Management with ZigBee device

SG6300NZL build basic energy management application on WEB GUI, user can monitor real time power information and remote control power meter on the WEB GUI.

6.1 ZigBee Configuration

Once ZigBee Meter joined ZigBee Network, this page will show on ZigBee information.

Advance->Power Management-> Meter Config



Allow Join: SG6300NZL will start allow ZigBee node joining to ZigBee Network.

Scan Meter: Show the current ZigBee nodes on the WEB GUI.

Meter List: Show the EUI64 of ZigBee nodes.

Alias: Setup alias name for ZigBee nodes.

Identify: Click "**Identify"** button on the WEB GUI, then INC. LED will be blinking orange. It can help user recognize which meter is under controlled.

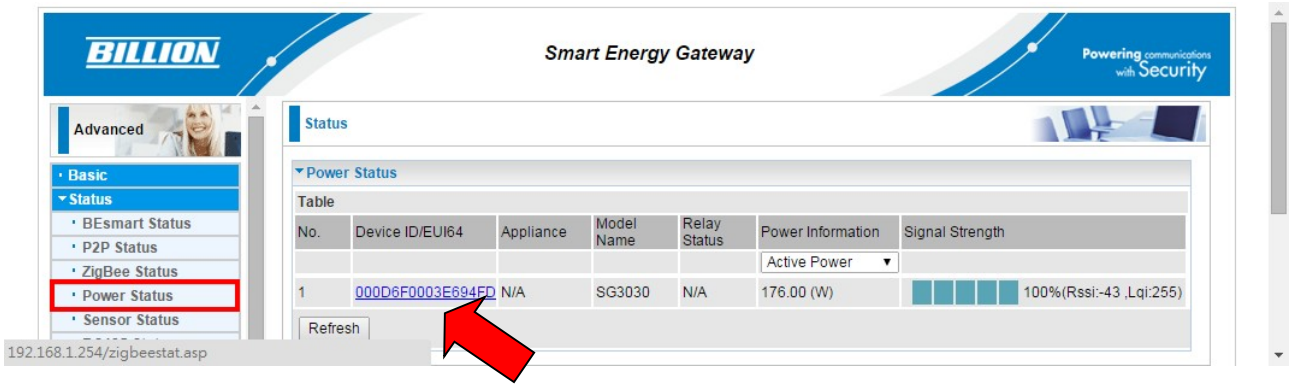
Remove: Remove ZigBee nodes from ZigBee Network.

6.2 ZigBee Device Monitor

Show various power information from ZigBee Meters measured

Route

Advance->Status->Power Status



Device ID: EUI64 of ZigBee Meters.

Appliance: Base on Alias Name.

Power Status: Show current relay status of ZigBee Meter.

ON: Relay ON

OFF: Relay OFF

N/A: Not support relay feature

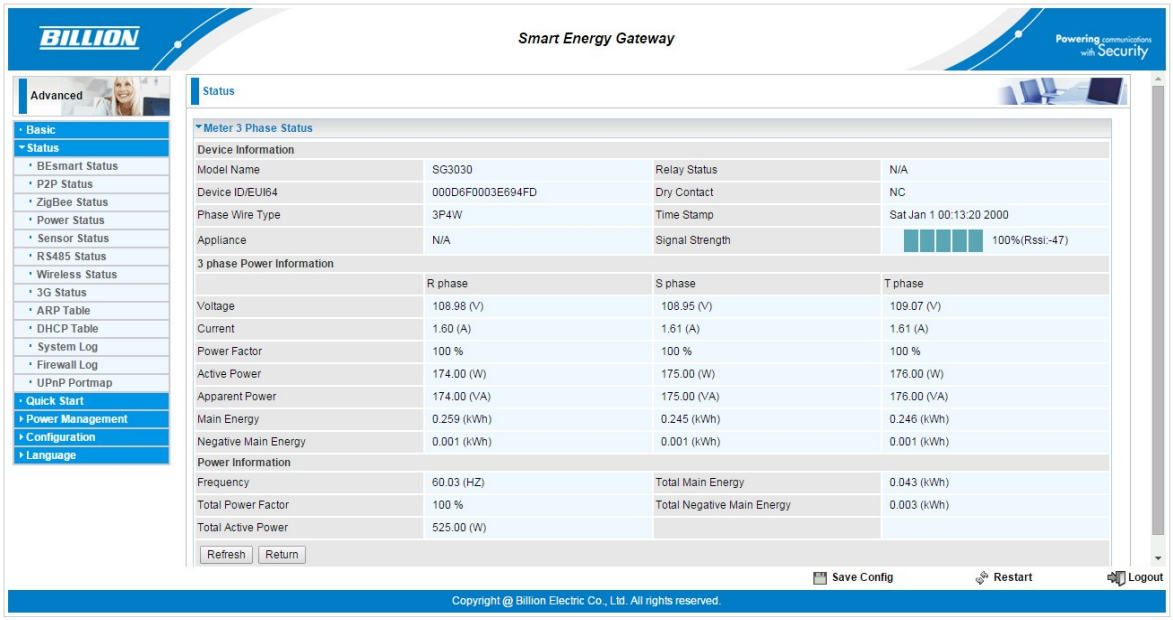
Signal Strength: Show the Signal Strength between ZigBee nodes and next ZigBee nodes.

Power information:

Show Power information include as below

Voltage, Current, Frequency, PF, Active Power, Apparent Power, Mainenergy.

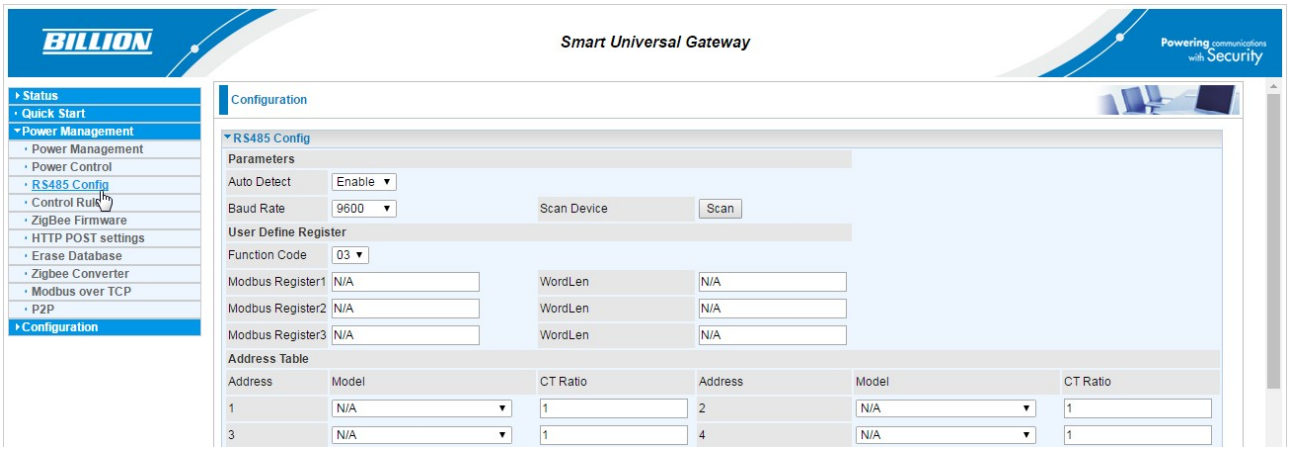
When you click blue link you will see detail power information.



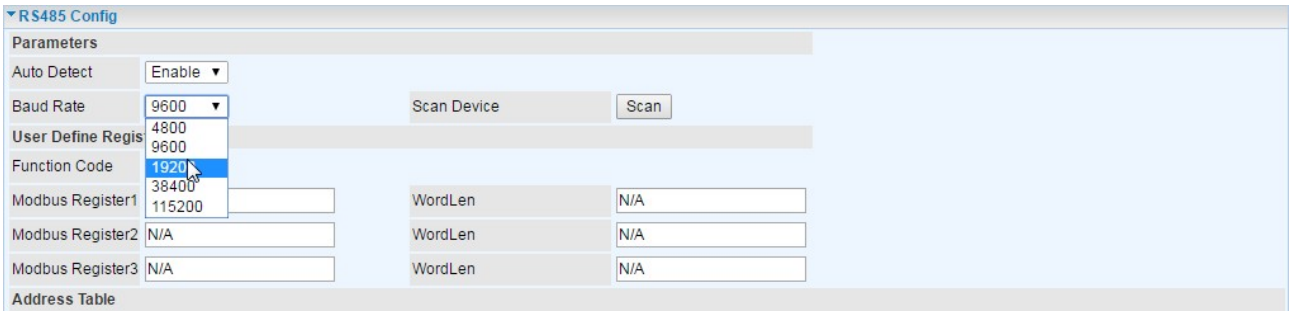
Chapter 7: Energy Management with RS485 device

7.1 RS485 Configuration

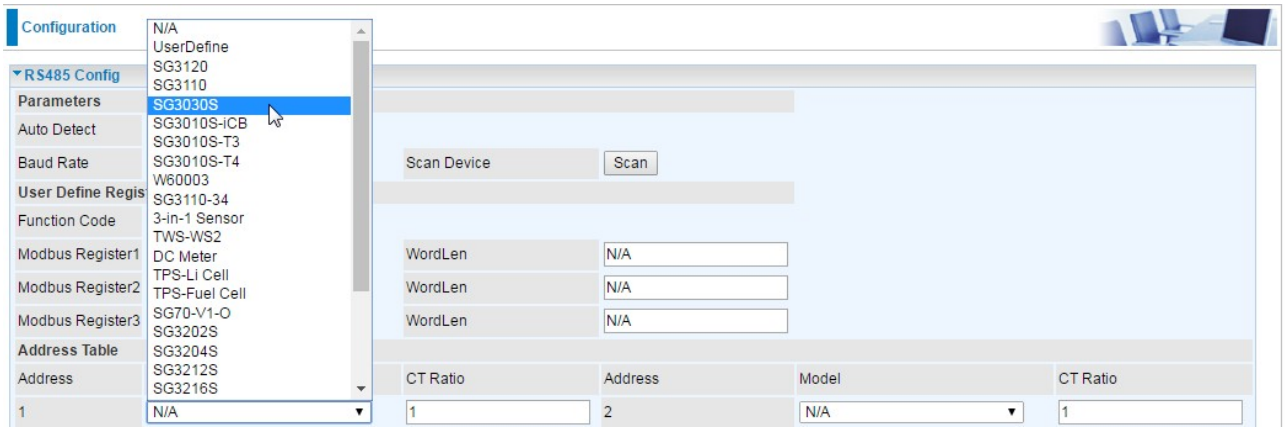
Advance->Power Management-> RS485 Config



Set Baud Rate for RS485 used.



Set the RS485 device to each ID, please ensure all RS485 devices already connect to SG6300NZL.

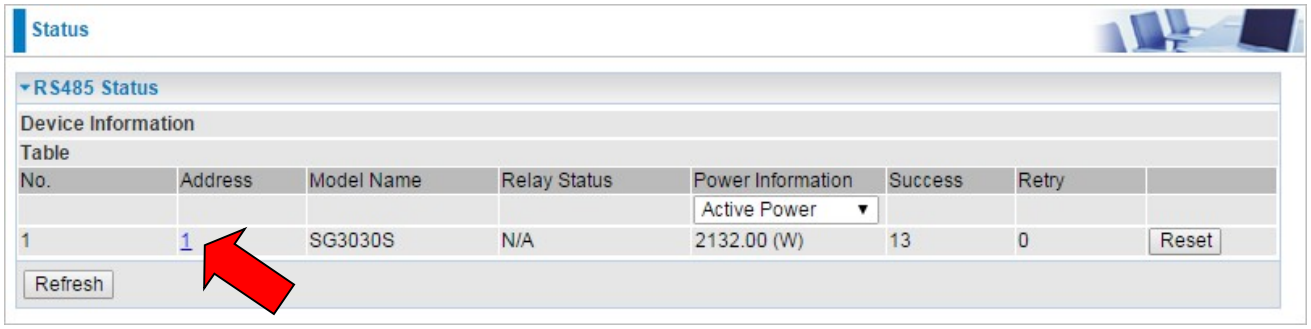


7.2 RS485 Device Monitor

Show various power information from RS485 Meters measured

Route

Advance->Status->RS485 Status



Address: Modbus address of RS485 Meters.

Model Name: The model name of RS485 device.

Power Status: Show current relay status of RS485 Meter.

ON: Relay ON

OFF: Relay OFF

N/A: Not support relay feature

Success:

The number of SG6300NZL reads RS485 device success.

Retry:

The number of SG6300NZL re-reads RS485 device.

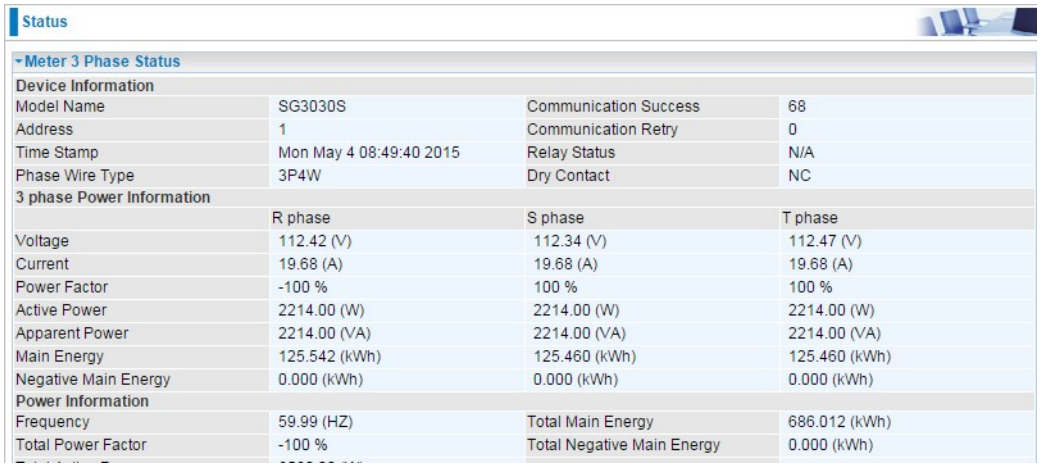
Reset:

Reset the number of success and retry.

Power information:

Show Power information include as below

Voltage, Current, Frequency, PF, Active Power,

Apparent Power, Mainenergy (accumulation Power).

When you click blue link you will see detail power information.