

Lumani SG600R2 Smart Energy Wireless Router

Quick Start Guide

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WARNING

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference
- (2) This device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. . This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

Co-location statement

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Contains ZigBee FCC ID:QI3BIL-MD1000

WARNING

NCC Warning Statement

Article 12

Without permission, any company, firm or user shall not alter the frequency, increase the power, or change the characteristics and functions of the original design of the certified lower power frequency electric machinery.

Article 14

The application of low power frequency electric machineries shall not affect the navigation safety nor interfere a legal communication, if an interference is found, the service will be suspended until improvement is made and the interference no longer exists.

CHAPTER 1

Introduction

Introduction of SG600 R2

The issue of environmental protection and energy conservation has been received great attentions since the global warming and energy shortage have become a serious worldwide crisis. Lumani highlights the importance of energy preservations and managements, and contributes smart solutions for Telco/ISP/SI service providers who dedicate to strengthening customer satisfactions. With the implement of the smart control, track, and monitor power consumption technologies, energy usage could be clearly examined and analyzed anytime and anywhere simply through a smart phone. It helps reduce energy waste, provide a green environment, and further increase the benefit of the mutual investment, that is, the investors and customers.

Lumani brings a great amount of benefits with a long-term effect: Increase Average Revenue, Increase Customers' Satisfaction and Loyalty, Reduce Customers' Churn Rate, Leverage Existing Network Infrastructure, Bring GREEN and Carry Out CSR. Furthermore, Lumani also provides effective power management, highly flexible on connection and establishment, and extended applications on other services. Creating a win-win situation for service providers and customers and establishing a green society are what Lumani expect to accomplish.

SG600 R2 Application



The Limani SG600R2, ZigBee Wireless Smart Energy Gateway, is a TCP/IP based ZigBee/Wi-Fi appliance designed for users to enjoy real-time power management. Integrated with ZigBee wireless technology, the Lumani SG600R2 can communicate wirelessly with Lumani ZigBee-enabled smart device, like SG3015-Tx meter and SG110-A Temperature / Humidity sensor.

The Lumani SG600R2 not only provides a wireless AP feature for connecting with local smart phone or notebook but also acts as a wireless client for connecting to Internet. This feature can extend the wireless coverage and reduce the wiring cost.

This ZigBee Wireless Smart Energy Gateway pushes all the recorded data to the back-end / cloud system which were built by SI and software companies so users can remotely monitor energy consumption and manage their appliances. This solution is ideal for SI of energy management, utility projects and service providers.

CHAPTER 2

Installation of Web Manager

The router not only functions as a smart wireless bridge but builds Power Management Application into Web GUI. End users can monitor real time power information and control the Smart Energy Meter through Web GUI remotely. Please be noted that here we just focus on functions that are relevant to the power smart management. Let's start the configurations.

2.1 Quick Start

Step 1 : Hardware setting

Connect the Lumani SG600 R2 to your PC's Ethernet interface with supplied RJ-45 Ethernet cable and the other side to a router or modem with Ethernet cable or wireless client for the internet connection.



Step 2: Computer IP setting

The default address of Lumani SG600R2 is **192.168.5.254**. For the first setting, please modify your PC IP to the recommended IP **192.168.5.100** (ranged from 192.168.5.1 to 192.168.5.251).

Step3: Access to Lumani SG600 R2 WEB GUI

1. Open your web browser and enter the IP address of your router, which by default is **192.168.5.254**, and click “Go”. Then a login window prompt will appear.
2. The default username and password are “admin” and “admin” respectively. Choose “Administrator” from the account type to configure and manage the web settings if you are authorized to access the router.



3. Once you have logged in to your Lumani SG600 R2, you can begin to set it up according to your requirements. You would see the main page of basic status, including Device Information, Port Status, and WAN information.

The screenshot shows the web interface of a Billion SG600 R2 router. The header includes the 'BILLION' logo, the text 'Intelligent Application Box', and 'Powering communications with Security'. A left sidebar contains navigation links: Status, Quick Start, Power Management, and Configuration. The main content area is titled 'Status' and is divided into three sections: Device Information, Port Status, and Internet. The Device Information section lists: Model Name (SG600R2), System Up-Time (1 Min(s)), Current Time (Thu Jan 1 00:00:53 UTC 1970), Software Version (3.02.rc6), MAC Address (60:03:47:06:14:C6), ZigBee Firmware (bscp-hazc-1.0.6), and ZigBee EUI64 (0004ED0100000422). The Port Status section shows Ethernet and Wireless both with green checkmarks. The Internet section has tabs for Protocol, Operation, Connection, IP Address, Subnet Mask, Default Gateway, and Primary DNS. Under the Operation tab, there are 'Release' and 'Renew' buttons for DHCP. At the bottom right, there are 'Restart' and 'Save Config' buttons. The footer contains the copyright notice: 'Copyright © Billion Electric Co., Ltd. All rights reserved.'

Device Information	
Model Name	SG600R2
System Up-Time	1 Min(s)
Current Time	Thu Jan 1 00:00:53 UTC 1970
Software Version	3.02.rc6
MAC Address	60:03:47:06:14:C6
ZigBee Firmware	bscp-hazc-1.0.6
ZigBee EUI64	0004ED0100000422

Port Status	
Ethernet	✓
Wireless	✓

Internet						
Protocol	Operation	Connection	IP Address	Subnet Mask	Default Gateway	Primary DNS
DHCP	<button>Release</button> <button>Renew</button>					

4. Time Zone Setting

First, set up the time to meet the time zone of your country. Click "Continue".

The screenshot shows the 'Quick Start' section of the web interface, specifically the 'Time Zone' settings. It includes fields for 'Current Time' (Sat Jan 1 03:38:06 UTC 2000), 'Time Zone' (a dropdown menu showing '(GMT) England'), 'NTP Server' (64.236.96.53), and 'NTP synchronization' (300). Below these fields is a 'Continue' button. Examples of NTP servers are listed: time.nist.gov, ntp0.broad.mit.edu, and time.stdtime.gov.tw.

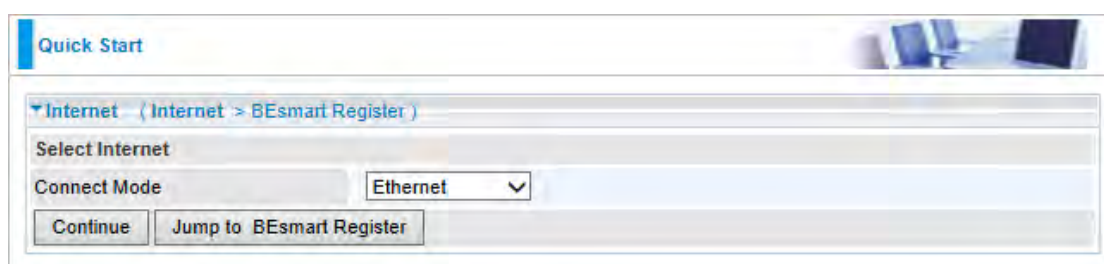
Time Zone	
NTP Settings	
Current Time	Sat Jan 1 03:38:06 UTC 2000
Time Zone:	(GMT) England
NTP Server	64.236.96.53
NTP synchronization	300

5. Lumani SG600R2 provides the WAN interface based on your own backbone router. There are 2 Connect Modes: **Ethernet** and **Wireless Client**.

EWAN: Your backbone router/cable modem is based on Ethernet base.

Wireless Client: Your backbone router or cable modem has the Wi-Fi function.

For the detail Configuration, please refer to Lumani SG600R2 internet configuration document.



Quick Start

Internet (Internet > BESmart Register)

Select Internet

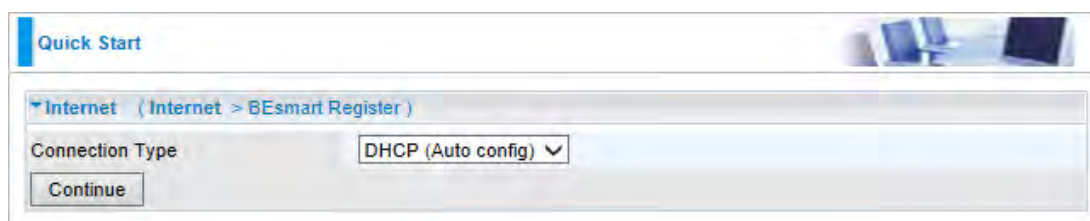
Connect Mode Ethernet

Continue Jump to BESmart Register

6. There are 3 types of connection protocols available for WAN connect mode: **Obtain an IP Address Automatically**, **Fixed IP Address**, and **PPPoE** connection.

Obtain an IP Address Automatically (DHCP)

When connecting to the ISP, your router also functions as a DHCP client. That is, your backbone device is xDSL router and your PC is assigned an IP address automatically.



Quick Start

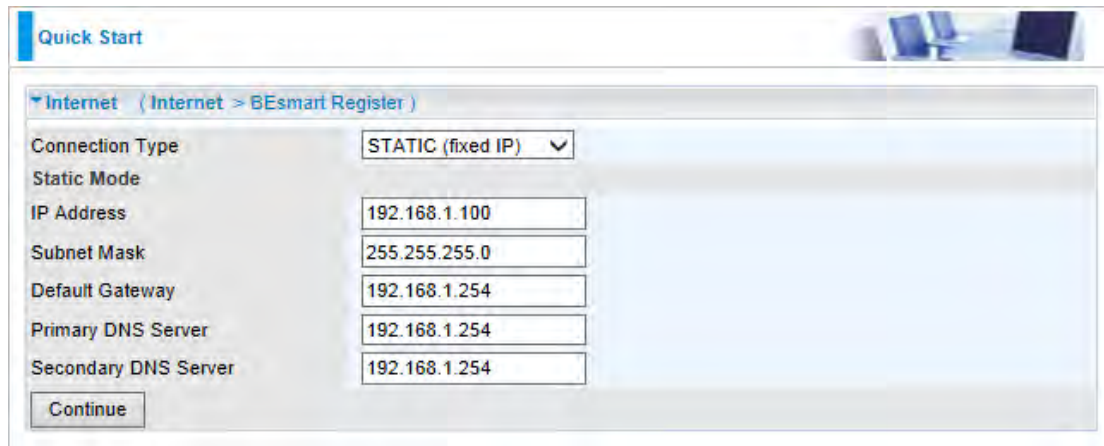
Internet (Internet > BESmart Register)

Connection Type DHCP (Auto config)

Continue

Fixed IP Address (STATIC IP)

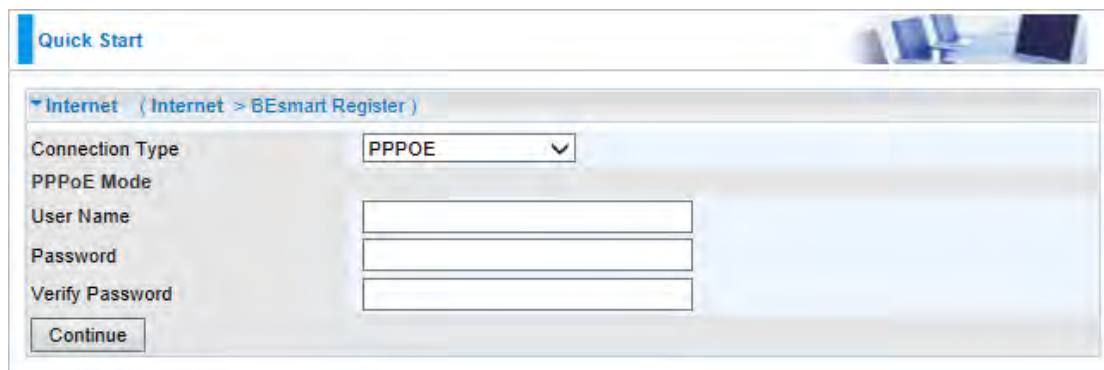
Your backbone device is xDSL router and your PC IP is based on Static IP.
Enter the information provided by your ISP



The screenshot shows a web-based configuration interface titled 'Quick Start'. Under the 'Internet' tab, the 'BEsmart Register' sub-tab is active. The 'Connection Type' is set to 'STATIC (fixed IP)'. Below this, several fields are populated with values: 'Static Mode' is empty, 'IP Address' is '192.168.1.100', 'Subnet Mask' is '255.255.255.0', 'Default Gateway' is '192.168.1.254', 'Primary DNS Server' is '192.168.1.254', and 'Secondary DNS Server' is '192.168.1.254'. A 'Continue' button is located at the bottom left of the configuration area.

PPPOE

If your backbone device is xDSL cable modem, please choose PPPOE.
For the detail internet configurations, please refer to Lumani S600 R2 internet

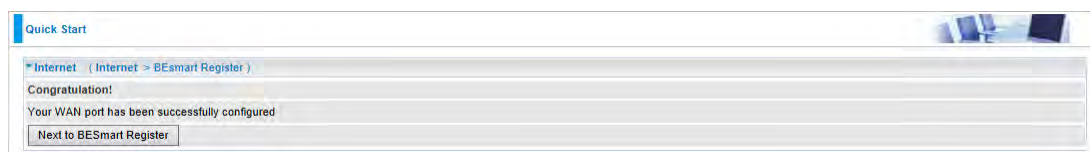


The screenshot shows the same 'Quick Start' configuration interface, but the 'Connection Type' is now set to 'PPPOE'. The 'PPPoE Mode' is empty. Below this, there are three input fields for 'User Name', 'Password', and 'Verify Password', all of which are currently empty. A 'Continue' button is located at the bottom left of the configuration area.

settings.

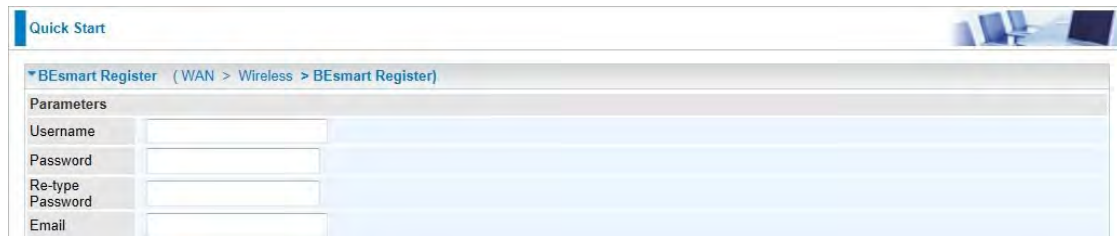
Click "Continue" to proceed to the next step.

7. After clicking "Continue", the program would start to save the settings. After successfully saving the settings, you would be directed to Registration.



The screenshot shows the 'Quick Start' interface with a success message: 'Congratulations! Your WAN port has been successfully configured'. Below the message is a 'Next to BEsmart Register' button.

8. This is Registration for cloud server. Create a username and password and offer the E-mail for the registration, then read the term and check the box “I accept the Term of Service”. Click “Apply” to confirm the application.

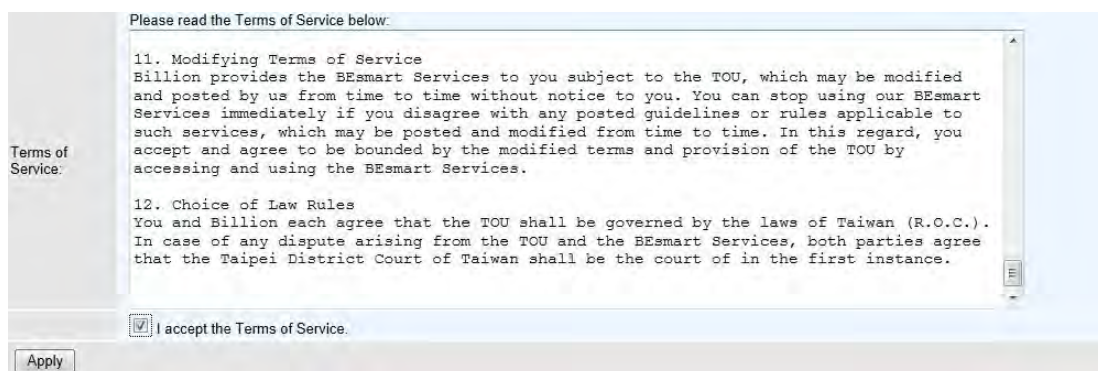


Quick Start

BEsmart Register (WAN > Wireless > BEsmart Register)

Parameters

Username	<input type="text"/>
Password	<input type="password"/>
Re-type Password	<input type="password"/>
Email	<input type="text"/>



Terms of Service:

Please read the Terms of Service below:

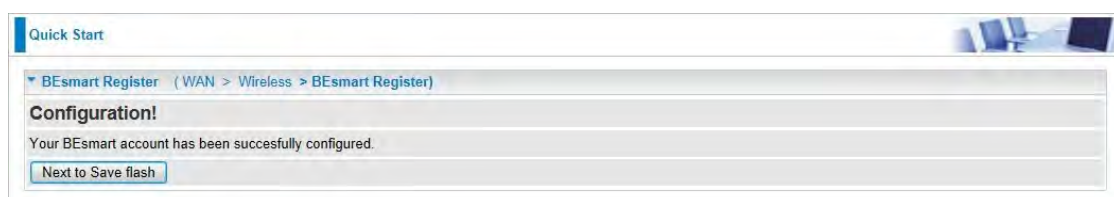
11. Modifying Terms of Service
Billion provides the BEsmart Services to you subject to the TOU, which may be modified and posted by us from time to time without notice to you. You can stop using our BEsmart Services immediately if you disagree with any posted guidelines or rules applicable to such services, which may be posted and modified from time to time. In this regard, you accept and agree to be bounded by the modified terms and provision of the TOU by accessing and using the BEsmart Services.

12. Choice of Law Rules
You and Billion each agree that the TOU shall be governed by the laws of Taiwan (R.O.C.). In case of any dispute arising from the TOU and the BEsmart Services, both parties agree that the Taipei District Court of Taiwan shall be the court of in the first instance.

☒ I accept the Terms of Service.

Apply

11. Congratulations! Your cloud server has been successfully registered. All the received power information would be stored on the cloud. Click “Need to Save Flash” button to save your settings.



Quick Start

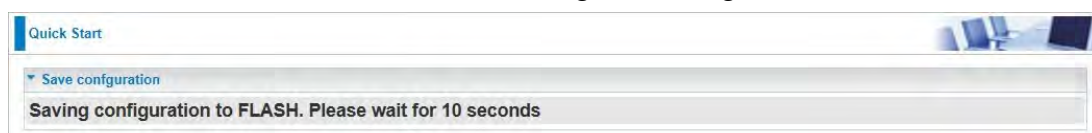
BEsmart Register (WAN > Wireless > BEsmart Register)

Configuration!

Your BEsmart account has been successfully configured.

Next to Save flash

12. Please wait for 10 seconds for saving the configuration.



Quick Start

Save configuration

Saving configuration to FLASH. Please wait for 10 seconds

13. The easy configurations of your device have been finished.
Congratulations!



NOTE:



Please ensure that the smart wireless bridge and its backbone router/modem are maintained in a connection status or it may result in different power consumption data between measurement and real condition.