

# Asoka PlugLAN™

## 3050 Energy Gateway

### User's Manual

**Version: 1.01a**

**© Copyright 2005. Asoka USA Corporation. All rights reserved. Asoka USA Corporation reserves the right to modify product offerings or specifications without advance notice. No part of this publication may be produced in any format without the express written permission of Asoka USA Corporation.**

1.	Introduction.....	3
1.1	Features.....	4
1.2	Package.....	4
2.	Hardware Installation.....	4
2.1	Connect Device and PC.....	4
2.2	Set Device in AC Power Panel Box.....	5
3.	3050 Configuration.....	7
3.1	Login.....	7
3.2	System.....	7
3.2.1	System Details.....	7
3.2.2	Date & Time.....	8
3.2.3	System Password.....	9
3.2.4	System Logs.....	10
3.2.5	System Reboot.....	11
3.2.6	System Backup.....	12
3.2.7	Firmware.....	13
3.3	LAN.....	14
3.3.1	IP Configuration.....	14
3.3.2	PowerView.....	15
3.3.3	NEK Setting.....	16
3.4	Advanced.....	17
3.5.1	Working Mode.....	17
3.5.2	SNMP Configuration.....	18
4.	Specification of power meter.....	20
4.1	Specification.....	20

## Technical Support

### Asoka USA Corporation

2344-A Walsh Avenue Santa Clara, CA 95051 USA

Tel: +1 650 286 1700

Fax: +1 650 286 1790

URL: [www.asokausa.com](http://www.asokausa.com)

You can download latest software from our website. If you have any question or difficulty during installation or using PlugLAN™ 3050, please contact our technical support engineer.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

## **About User's Manual**

User's Manual of 3050 is released in **August, 2008**, the version is 1.01a. This manual illustrate how to installation and configure 3050. Please spend some time to read this manual before using our 3050.

# 1. Introduction

Thanks for your selection of Asoka USA PlugLAN™ 3050. We are devoting to provide powerful, high-performance and applied power line network system. The product is designed for hotel, office, apartments. It provides a full commercial network solution with PLC technique. It should be set in user's power panel box, it has 21 channels of meter which can record real time AC power values (KWH, V, A, KW and PF) from each channel, so user can monitor their household appliances through internet easily and observably.

## 1.1 Features

- Complies IEEE 802.3, IEEE 802.3u, IEEE802.3x, IEEE 802.3z/ab standards
- Complies with IEEE802.1Q VLAN tag
- Complies with HomePlug 1.0
- Supports QAM 256/64/16, DQPSK, DBPSK and ROBO modulation schemes
- Supports OFDM with patented signal processing techniques
- Supports up to 85M bps with PLC
- Supports SNMP
- Supports RIPV1/2 including static routing and dynamic routing
- Supports Web-based GUI (CGI , SSL)
- Supports TFTP for firmware upgrade
- Provide 3 main meters and 18 sub meters which can record real time AC power values (KWH, V, A, KW and PF)
- Two 4G USB flash disks inside which can backup the real time AC power values

## 1.2 Package

Please make sure the package with contents as below:

- 1 3050
- 1 CAT-5 UTP Cable
- User's Manual
- 1 CD with Product Document
- 3 200A main CTs (current transformer)
- 6 30A sub CTs (current transformer)

If you find any item as upper lost or damaged, please contact the local sales.

## 2. Hardware Installation

### 2.1 Connect Device and PC

- Connect 3050 to AC power with wires **P1** (Phase1) and **N** (Neutral), please see Figure 1.
- Connect 3050 to a PC or Laptop with CAT5 cable through RJ45 port.
- Set network configuration of PC to communicate with 3050. The default IP address of 3050 is as below:
  - Default LAN IP address: 192.168.1.250
- Power on 3050, Use command “ping” in PC side to test the connection between the Gateway and PC. For example, you connect PC to LAN port, the IP address of PC should be set to “192.168.1.x” (1<x<255 and x!=253), the network mask is “255.255.255.0”.

### 2.2 Set Device in AC Power Panel Box

- Set the CTs: make the AC wires which we need monitor through CTs.
- Set 3050 in the AC power panel box and Connect wires of CTs to 3050 as Figure 2.
- Connect 3050 and AC power with wires **P1** (Phase1), **P2** (Phase2), **P3** (Phase3) and **N** (Neutral) as Figure 2.
- The device is powered on when LED *power* light, see Figure 1.
- The PLC signal have been received when LED *plc* flash, see Figure 1.

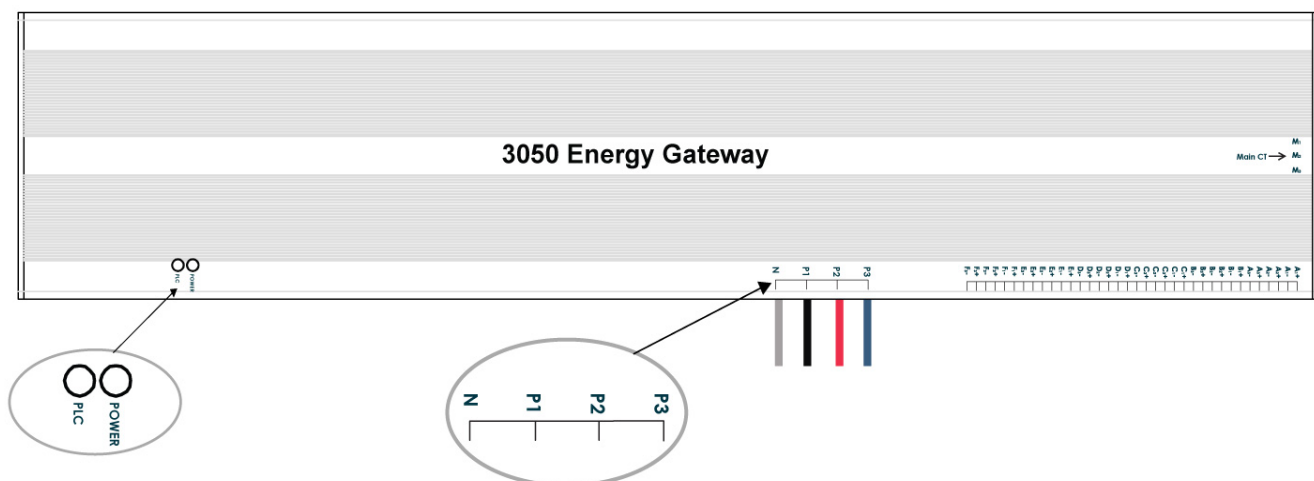


Figure1. 3050 silkscreen

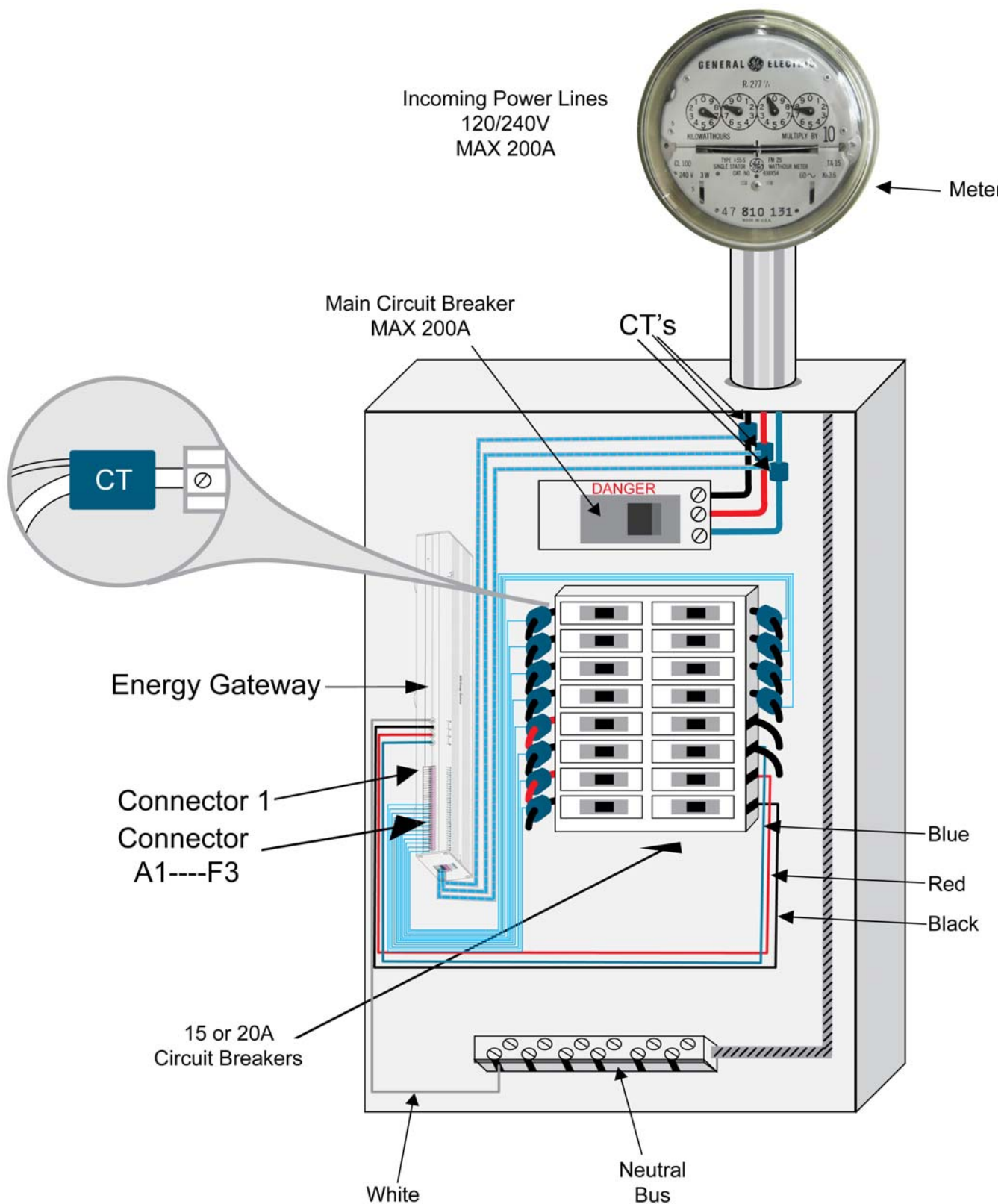


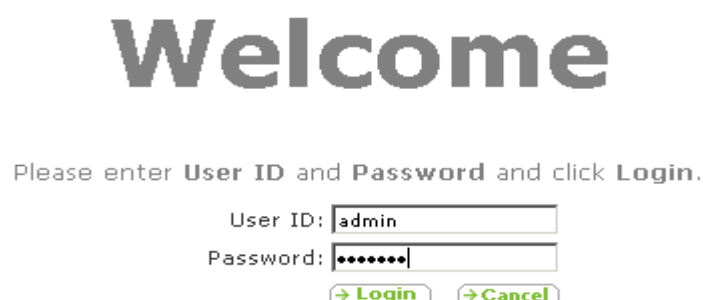
Figure2. 3050 Setting Drawing

## 3. Device Configuration

3050 provides Web-based GUI for user to configure the device. It means user can use any web explorer (Internet Explorer, Netscape Communicator etc.) to implement configuration of 3050.

### 3.1 Login

Connect monitor PC to RJ45 port, Start web explorer program, input corresponding IP address of 3050, then will display login page as Figure 3, input correct User ID & Password, then can enter management interfaces.



Please enter **User ID** and **Password** and click **Login**.

User ID:

Password:

Figure3. System Login

The default User ID is “admin” and the default Password is “welcome”. Please remember to modify User ID and Password after you login successfully first time.

### 3.2 System

System configuration provides interface to view the general configuration and status and set general configuration of the device including Date & Time, Password & User ID etc. It also provides interface to backup configuration, reset system, update firmware etc.

#### 3.2.1 System Details

When you login the web-based GUI of 3050, the pages as below will be shown as Figure 4 of the system details including status and basic configuration.

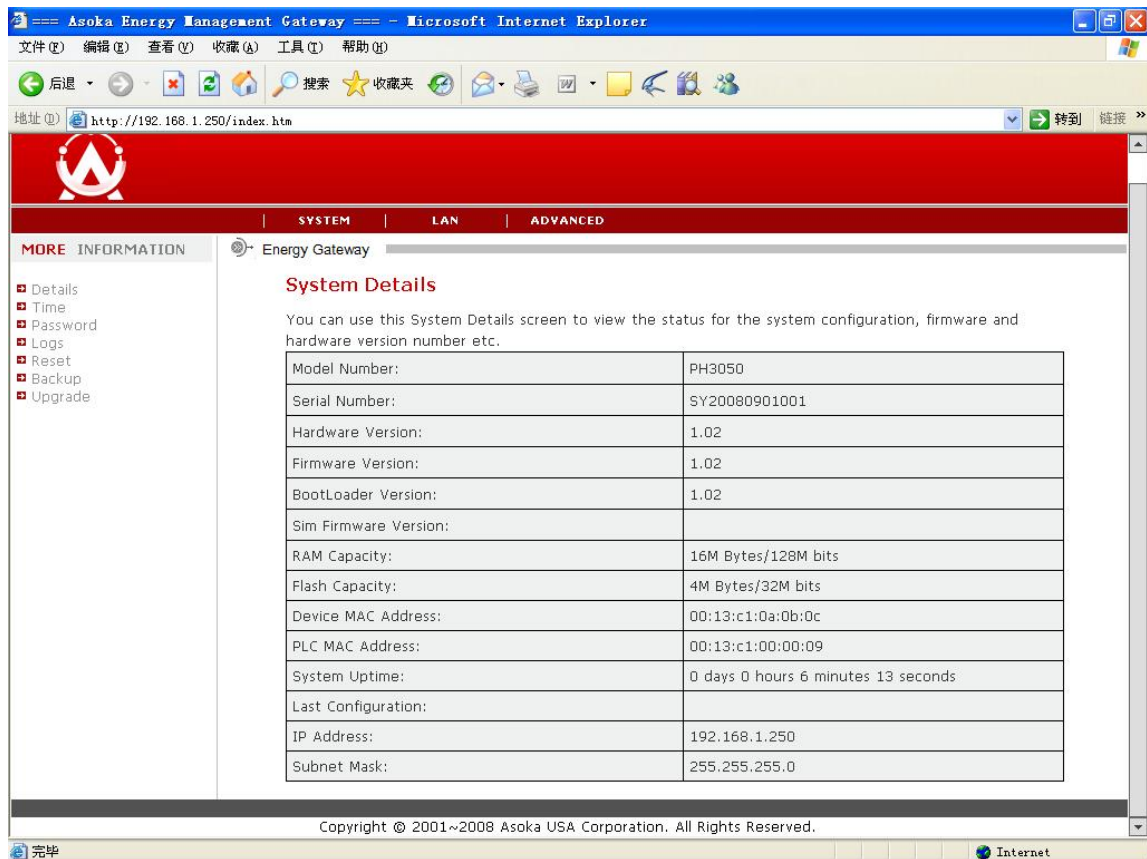


Figure4. System Details

- From the page, we can find that there is one main menu in the upper part for configuration.
- The submenu in the left part of the page show all items for each menu selected.

### 3.2.2 Date & Time

To set Date & Time of the gateway, and set the Time Interval for Power Meter, click submenu "SYSTEM-> time", the page as Figure 5 will display.



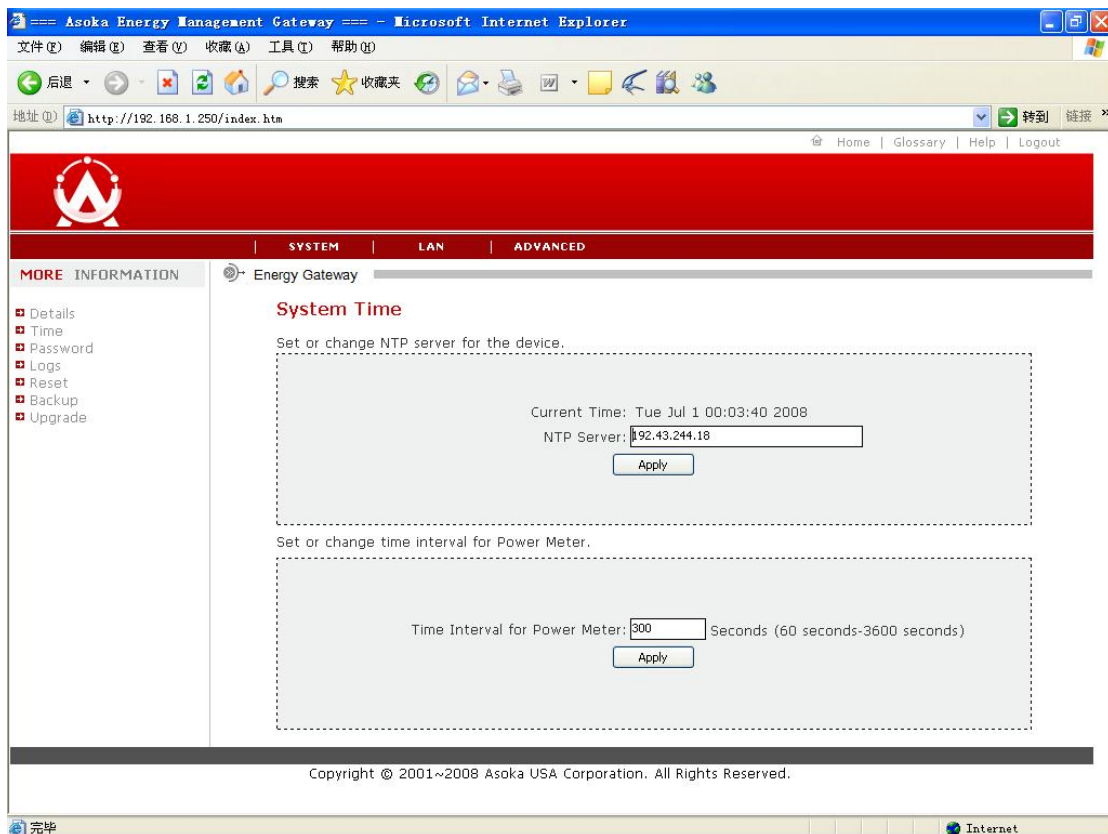


Figure5. System Time

The screen contains the following details:

1. NTP Server: To enter the IP address of NTP Server
2. Time Interval: To set the Time Interval of reading data from Power Meter

Click button “Apply” to save the configuration.

### 3.2.3 System Password

To change User ID or Password of the gateway, click submenu “SYSTEM->password”, the page as Figure 6 will display.

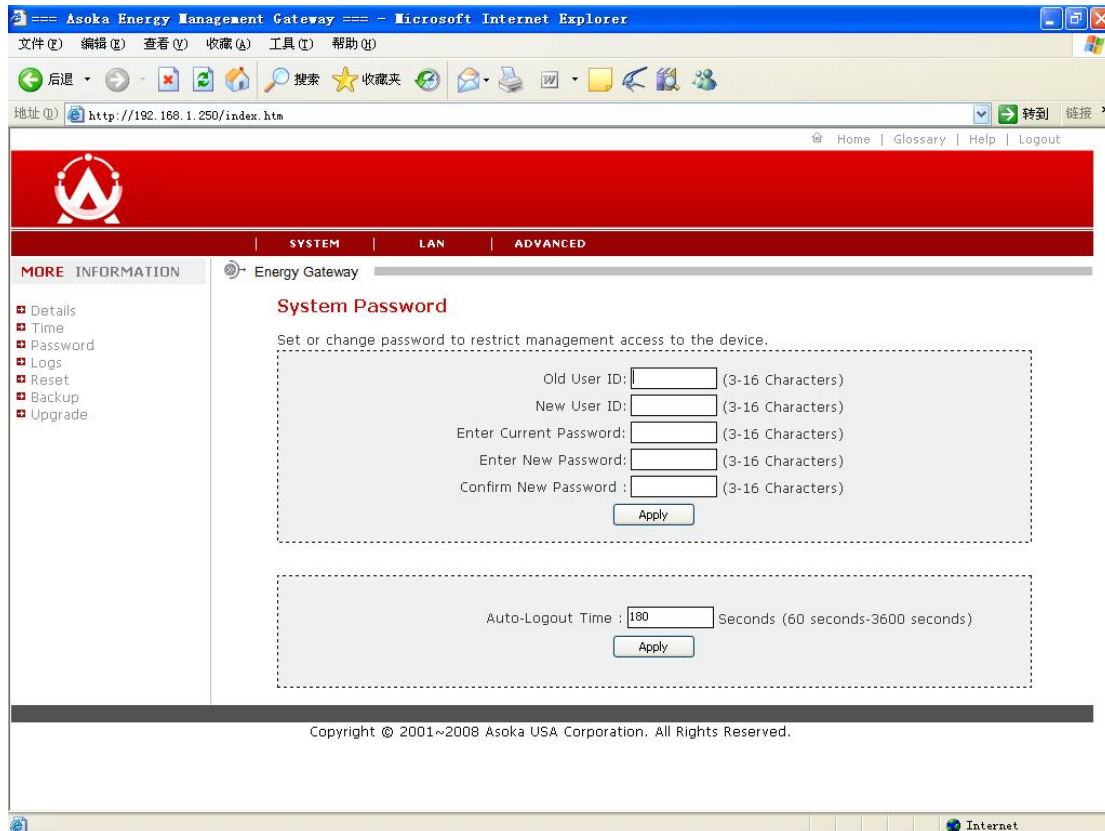


Figure6. System Password

- Input old user id in the first text box
- Input new user id in the second text box (input old user id means keep user id without change )
- Input current password in the third text box
- Input new password in the fourth text box
- Re-input new password in the fifth text box
- Click button 'Apply' begin set new user id or password, then a new page will show the result of the setting

### 3.2.4 System Logs

To view the system logs and set some parameters of logs, click submenu "SYSTEM->System Logs", a page as Figure 7 will display.

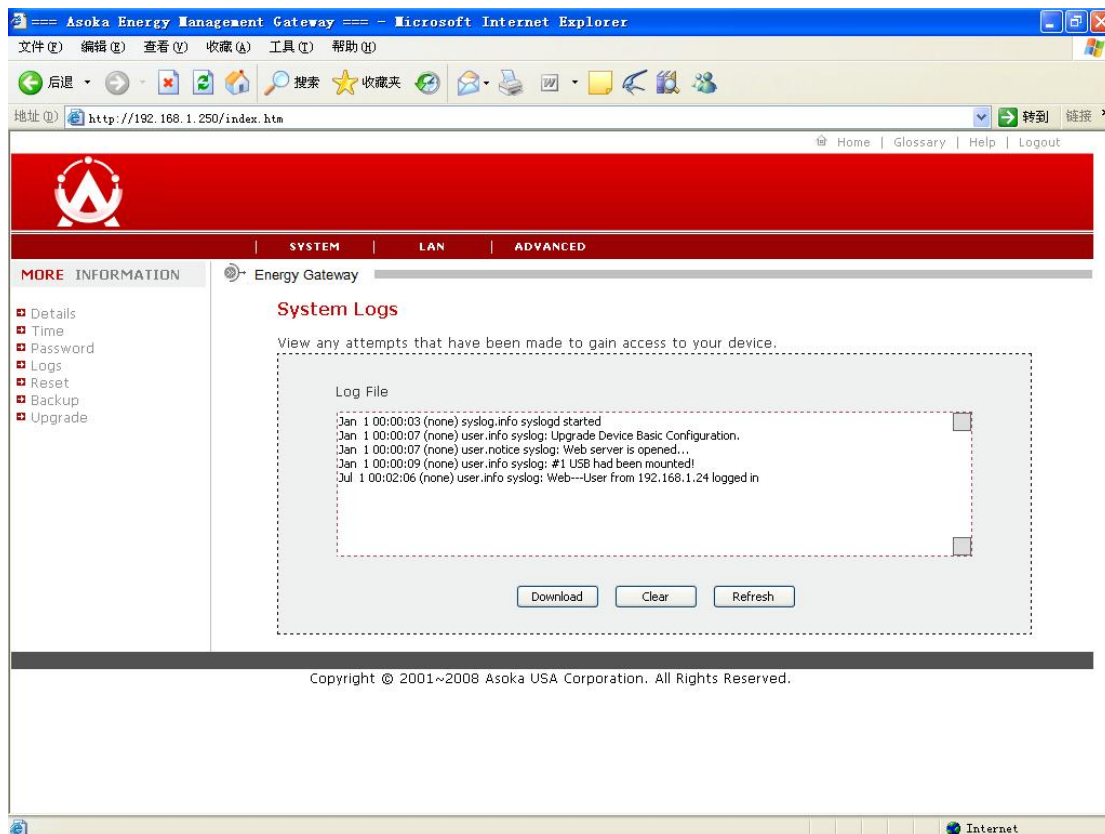


Figure7. System Logs

- The upper list box shows the current system logs
- Click button “Download”, a dialog will display to begin log file downloading
- Click button “Clear” to delete all current logs
- Click button “Refresh” to refresh this page to show latest logs

### 3.2.5 System Reset

To reset 3050 or set the configuration to factory default, click submenu “SYSTEM->Reset”, a page as Figure 8 will be shown.

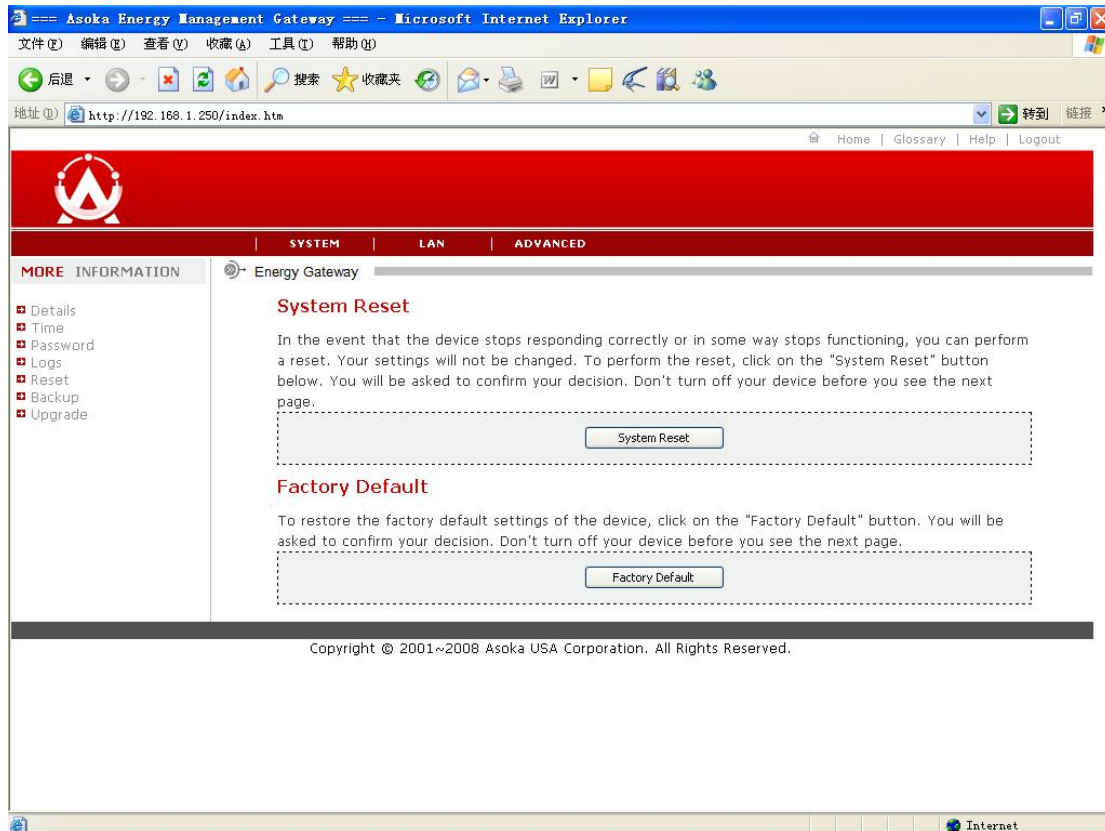


Figure8. System Reset

- To reset system, click button “System Reset”. If you confirm your decision, please wait a minute for the system reboot.
- To restore the factory setting to the gateway, click button “Factory Default”. If you confirm your decision, please wait a minute because the system should be rebooted.

### 3.2.6 System Backup

To save the system configuration or restore the system configuration with saved file, click submenu “SYSTEM-> Backup”, a page as Figure 9 will be shown.

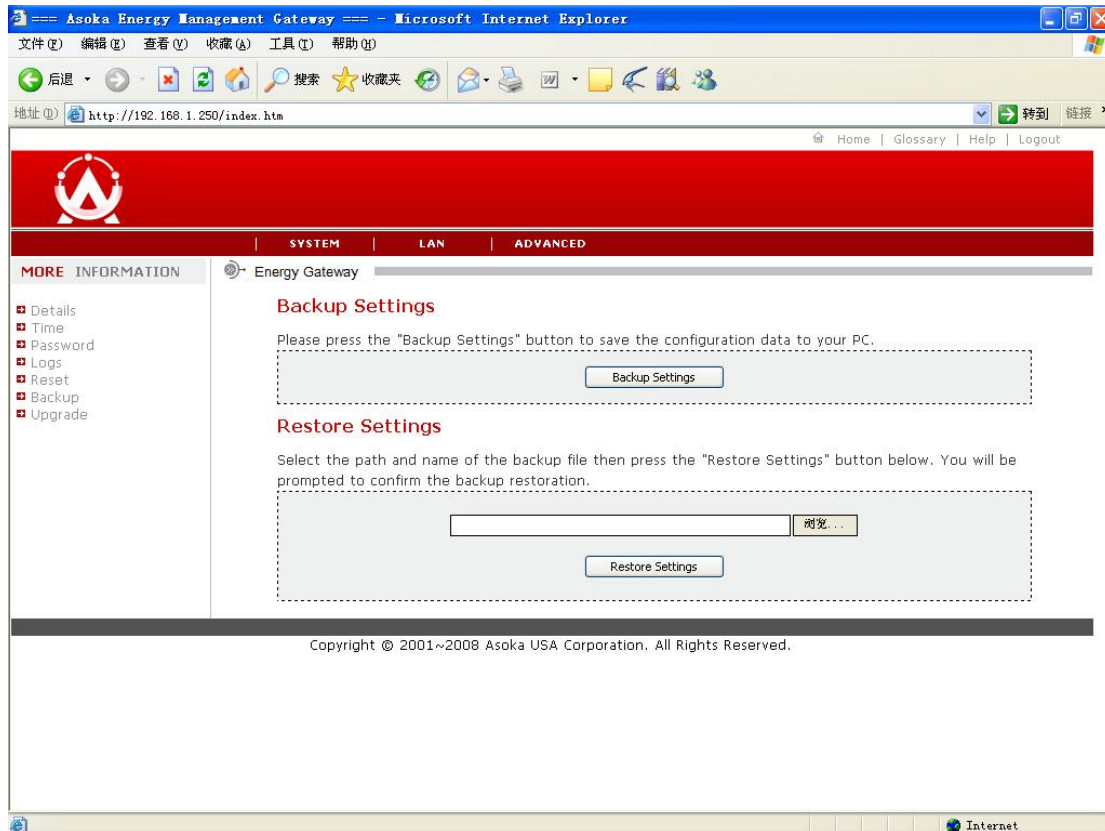


Figure9. System Reset

- To save the system configuration in local disk, click button “Back Settings”, then a windows dialog will be pop to guide you how to save the file to local disk.
- To restore settings of 3050, click button “Browser” to select the configuration file which saved in local host. Then click button “Restore Settings” begin to restore.

### 3.2.7 Firmware upgrade

To upgrade firmware, click submenu “System->Upgrade”, then a page as Figure 10 will be displayed.

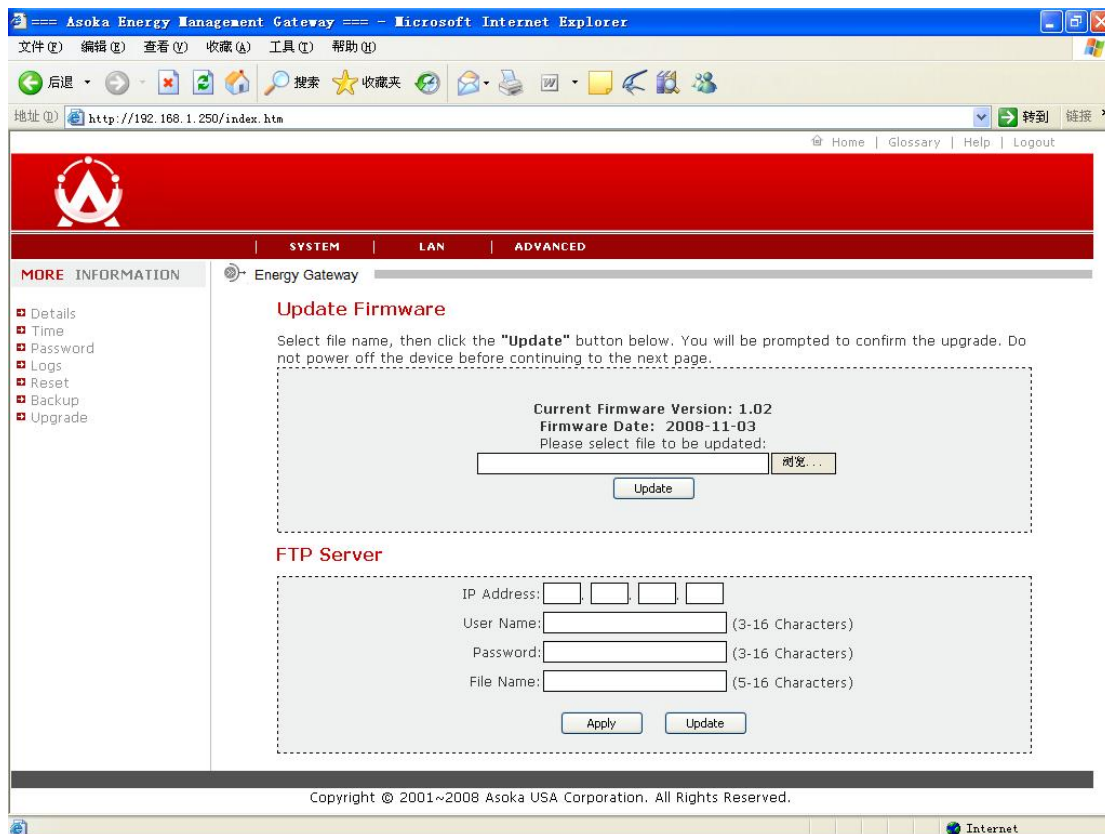


Figure10. Firmware Upgrade

- Click button “Browse” to select firmware file, then one windows dialog will be popped up for user to select local file
- Click button “Update” to begin update, if you confirm your decision, it will update the firmware and reboot the gateway, the process will cost about 2 minutes.

## 3.3 LAN

LAN menu provides interface to set IP address of 3050, view and scan devices, view temperature or control relay and set NEK of 3050.

### 3.3.1 IP Configuration

To configure the IP Address of 3050, click on the link IP Configuration in the left submenu, a screen is displayed as shown in Figure 11.

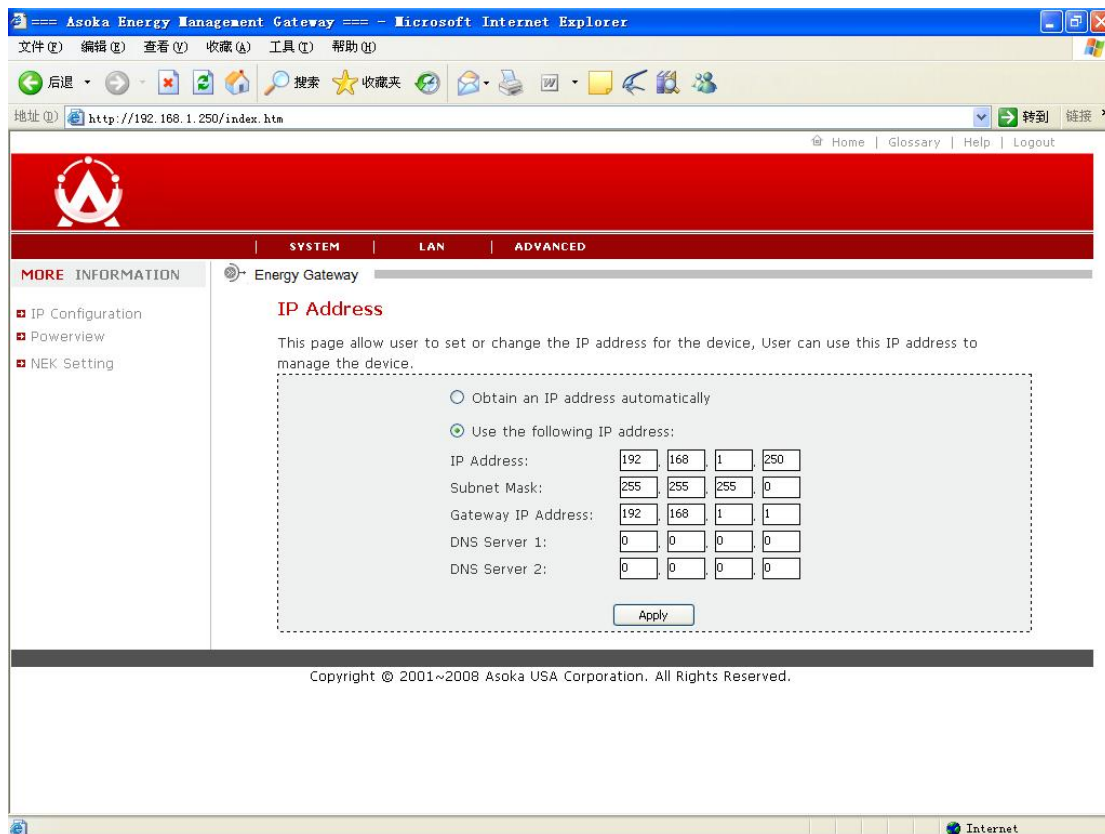


Figure11. IP Address Configuration

The screen contains the following details:

3. IP Address: To enter the IP address of 3050
4. Subnet mask: The fix subnet mask is “255.255.255.0”

Click button “Apply” to save the configuration and renew system IP address.

### 3.3.2 Power View

To view and scan devices in the same power line network with 3050, also view its temperature™ or control its relay, click on the link Power View of the left submenu, a screen is displayed as shown in Figure 12.

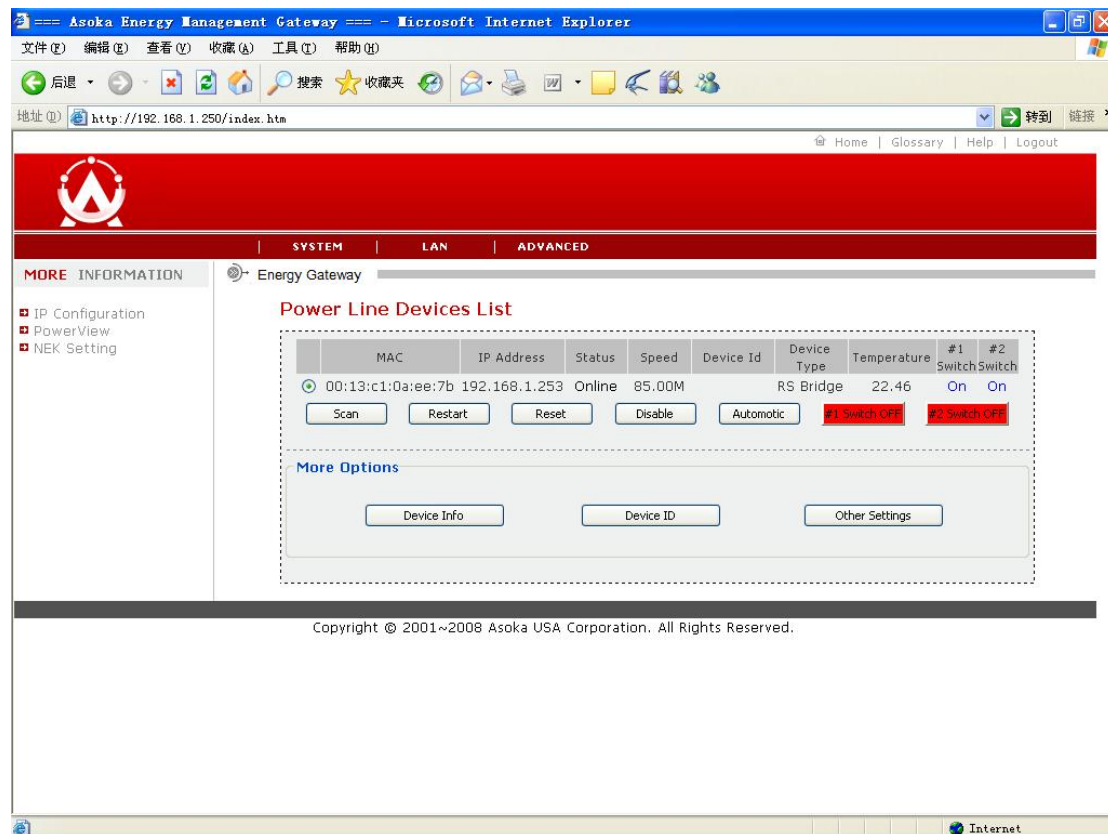


Figure12. Power View

The screen contains the following details.

1. Scanned Devices: The No. of the device have been scanned
2. MAC Address: The MAC address of the device
3. Temperature: where the device located

Click button “Scan Now” to refresh the device list.

Select either device, can control its relays as the following details.

- #1 Switch on/off To switch on/off relay1 in the thermostat 202
- #2 Switch on/off To switch on/off relay2 in the thermostat 202

### 3.3.3 NEK Setting

To set NEK of 3050, click on the link NEK Setting of the left submenu, a screen is displayed as shown in Figure 13.



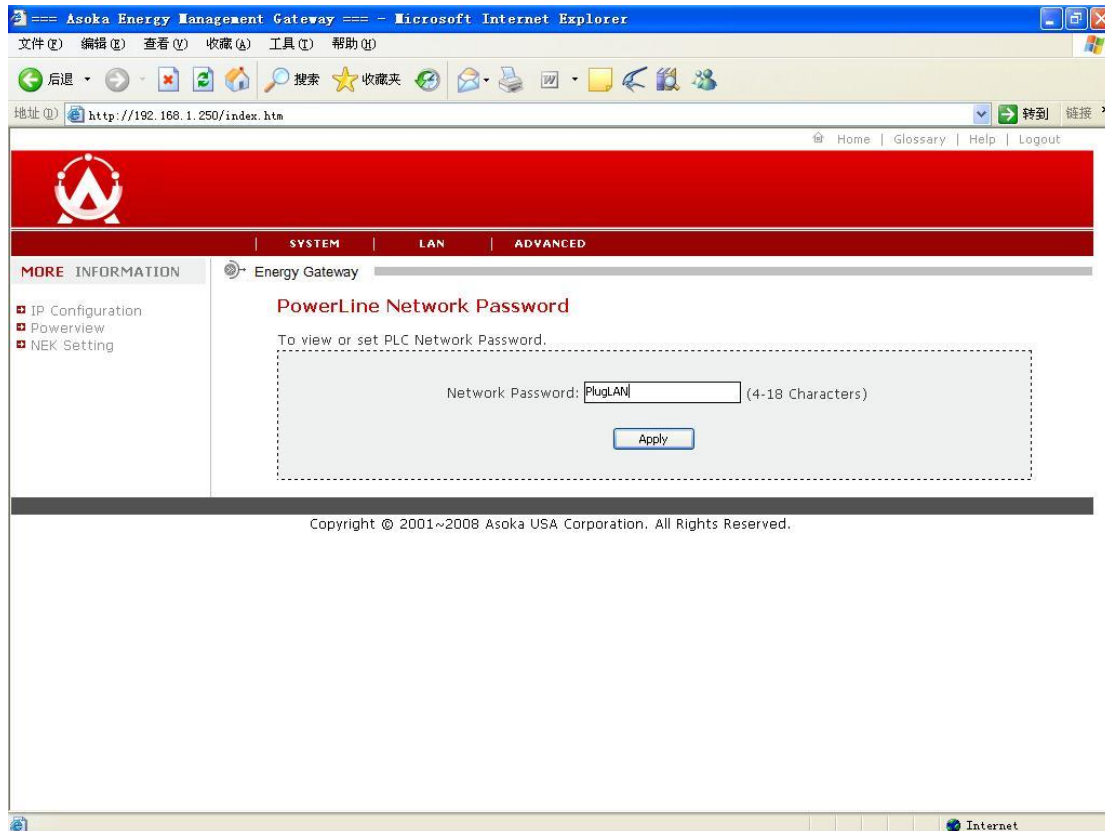


Figure13. NEK setting

- Input new NEK configuration of the power line network
- Click button “Apply” to save and set the configuration

## 3.4 Advanced

Advanced Menu provides the interface for advanced administrator to set working mode and 3050 including SNMP.

### 3.4.1 Working Mode

To enable Gateway Mode, click on the link Working Mode in the left submenu, a screen is displayed as shown in Figure 14.

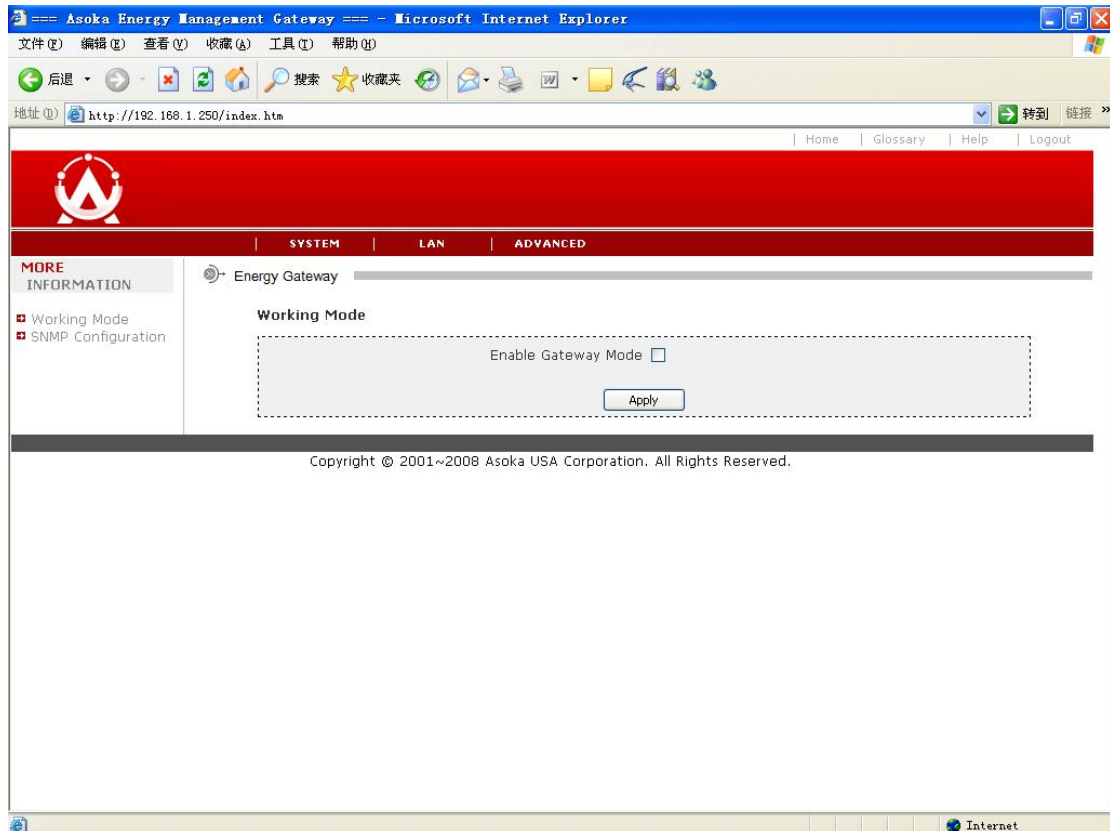


Figure14. Working Mode

Click button “Working Mode” to enable Gateway Mode.

### 3.4.2 SNMP Configuration

To view or set SNMP configuration, click on the link SNMP Configuration of the left submenu, a screen is displayed as shown in Figure 15.

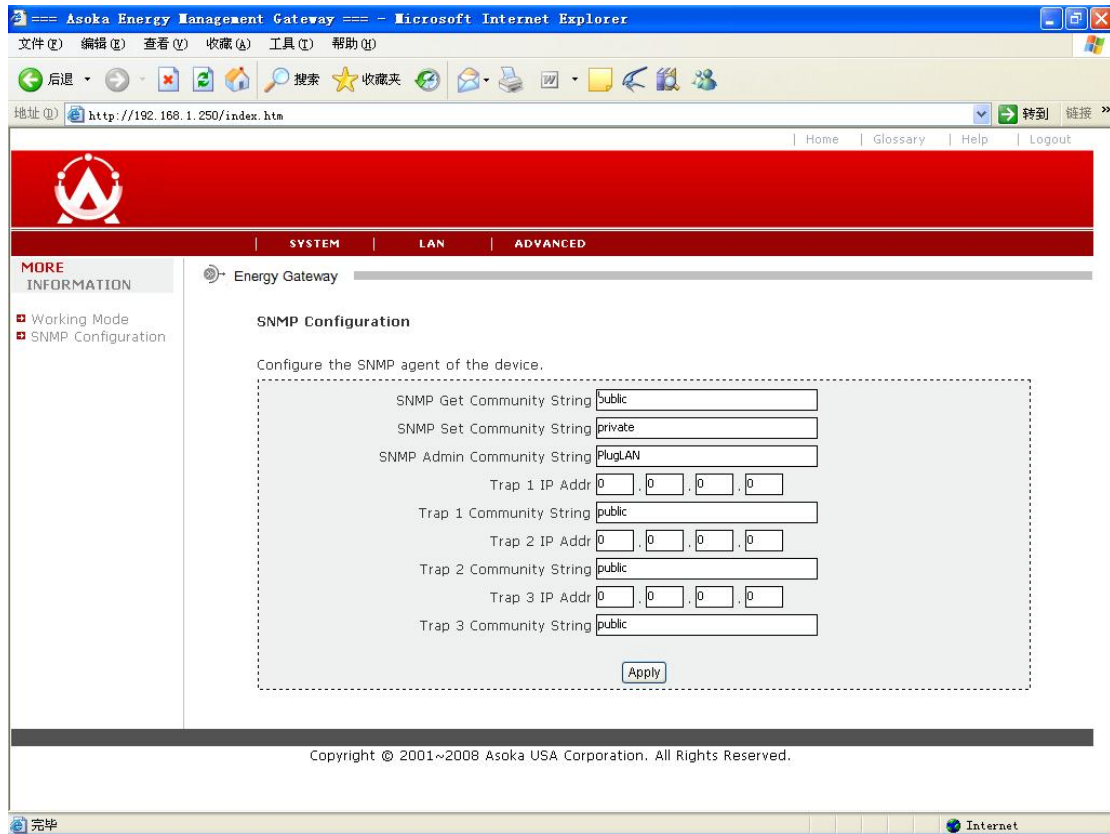


Figure15. SNMP Configuration

The screen contains the following details.

- Enable/Disable SNMP: To enable or disable SNMP agent. Select the check box to enable SNMP agent
  - Server IP: To enter the IP address of the SNMP Server
- Click button “Apply” to save the information had entered.

## 4. Specification of Power Meter

3050 provides 3 main meters and 18 sub meters for users.

### 4.1 Specification

Voltage	90V-265V
Current	Main: 10 (200A) Sub: 5 (30A)
Frequency	50/60 Hz
Environment temperature	-20~65°C
Min. load current	20mA AC @ 5 (30A) 40mA AC @ 10 (200A)
Precision for KWH	0.01kWh
Scale for KWH	XXXXXX.XX
Precision for V	0.01V
Scale for V	XXXX.XX
Precision for A	0.01A
Scale for A	XXXX.XX
Precision for KW	0.001kW
Scale for KW	XXX.XXX
Precision for PF	0.01
Scale for PF	XXXX.XX
Meter level	Class 1
Max. supply current	100mA DC

**FCC Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates 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.

This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.