



RPDU (Remote Power Distribution Unit) is an intelligent server rack power distribution solution, based on the embedded applications technology, SNMP, SSH, sensor network node and other high-techs. It helps the user remotely and real-time monitor and manage the server room power distribution and micro-environment, with an easy-to-read load display and Web interface, supporting multiple-user system and multiple network access methods.

## Main Function of Remote PDU

1. Remote monitor total load current, voltage, power (kW), power factor and energy consumption (kWh);
2. Remote monitor PDUs' outlet current, power (kW), energy consumption (kWh) and on/off state;
3. Remote switch on/off each outlet;
4. Remote monitor the server room environment, including: temperature, humidity, smoke, water logging and door opened or closed;
5. Keep the former state of each outlet when restart;
6. Set the power on/off interval;
7. Time calibration;





## **RPDU (remote PDUs)**

Self-defined threshold of current and T/H;

Automatic overload alarm;

Set whether to cut off power when overload occurs;

Alarm log, operation log and overload power off log;

Different user authority;

Monitor the cabinet environment by connected sensors;

Daisy-chain 10 pcs at most

## **Multi Alarms**

LED indicator flashes and buzzer rings;

Web interface indicator flashes;

Automatic e-mail;

SNMP trap;

Logic port signal



## **Classification**

Installation: Horizontal PDU (RPDUH), Vertical PDU (RPDUV)

Function series: 1, 2, 3

1: remote monitor the PDU at phase level

2: remote monitor the PDU at output level

3: remote monitor the PDU at phase and output level; switch  
on/off each output

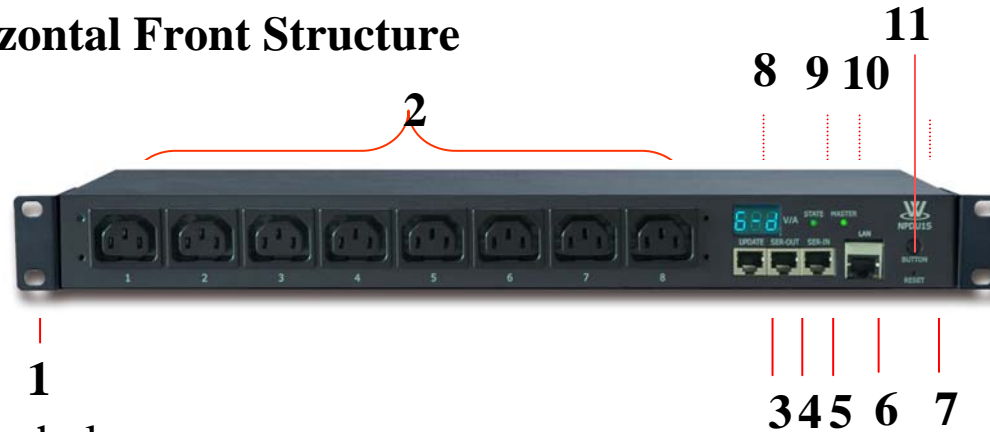
## **Applied arrange**

Rated inlet: 110VAC/250VAC;

Rated outlet: 110VAC/250VAC;

Max. power: 16~32A, 3x16/32A;

## RPDU Horizontal Front Structure



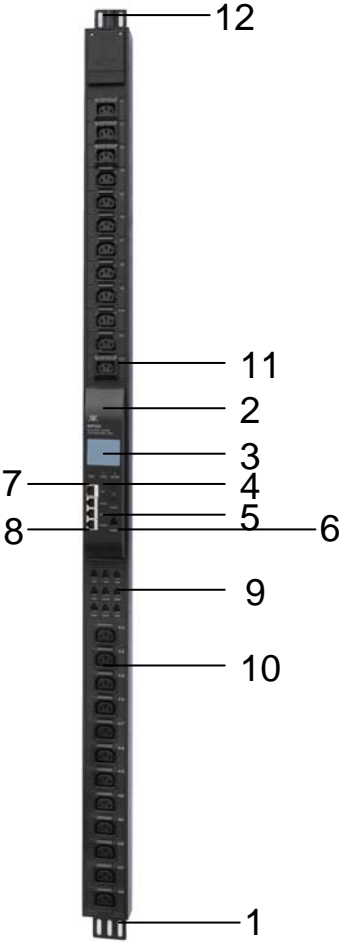
- 1. Mounting hole
- 2. Outlet: 8 x IEC320 C13
- 3. Update: Firmware update port
- 4. SER-OUT: Link to next device by daisy-chain
- 5. SER-IN: Link to previous device by daisy-chain
- 6. LAN: Link to net
- 7. RESET: Set Master/Slave device; reset
- 8. LED display panel: current, voltage, IP and etc
- 9. STATE: Running indicator
- 10. MASTER: Master/slave device indicator
- 11. BUTTON: Check the technical parameters

## RPDU: Horizontal PDU Back



- 1. Circuit breaker
- 2. Power input cable
- 3. Temperature/humidity sensor port
- 4. LOGIC port. Connect a sound and light alarm

# RPDU: Vertical PDU Front



- 1. Mounting bracket
- 2. Logo
- 3. LED display
- 4. STATE & MASTER indicator, RESET button
- 5. UP/down button
- 6. LOGIC port
- 7. LAN/SER-OUT/SER-IN port
- 8. Update port
- 9. Sensor port module (optional)
- 10. Output
- 11. Anti-fall IEC320 C13 socket
- 12. Power input cable

# RESET



## 1. Master/slave setting

Set the slave: Press & hold RESET for 2 seconds, MASTER indicator turns off, and then this NPDU is slave.

Set the master: Press & hold RESET for 5 seconds, MASTER indicator turns on, this NPDU is master

## 2. Check technology parameter

Press RESET to check NPDU software version, baud rate, IP, physical address and etc

## 3. Restart

Press & hold RESET for 10 seconds, the buzzer rings and PDU restart

Press RESET back to the factory default setting



# BUTTON



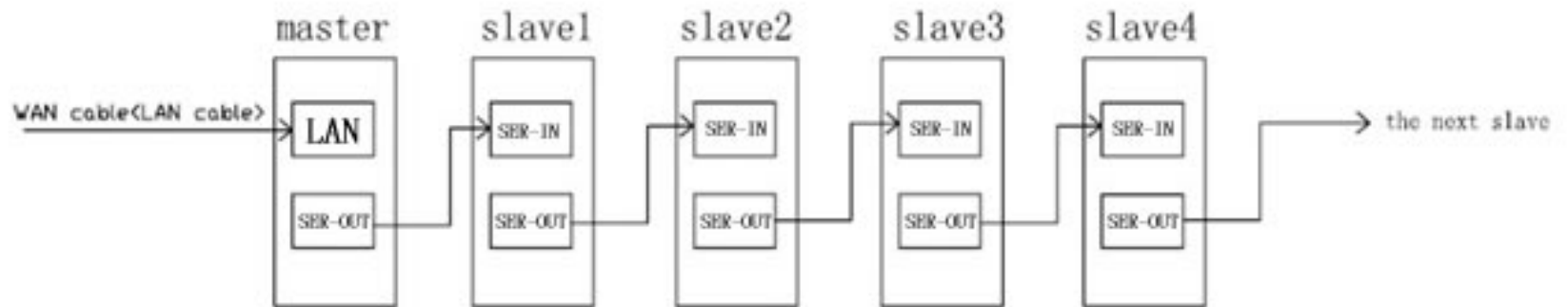
## 1. Check technical parameters

Press **BUTTON** to check load current, voltage, power (kW), power factor, energy (kWh) and etc.

## 2. Factory reset

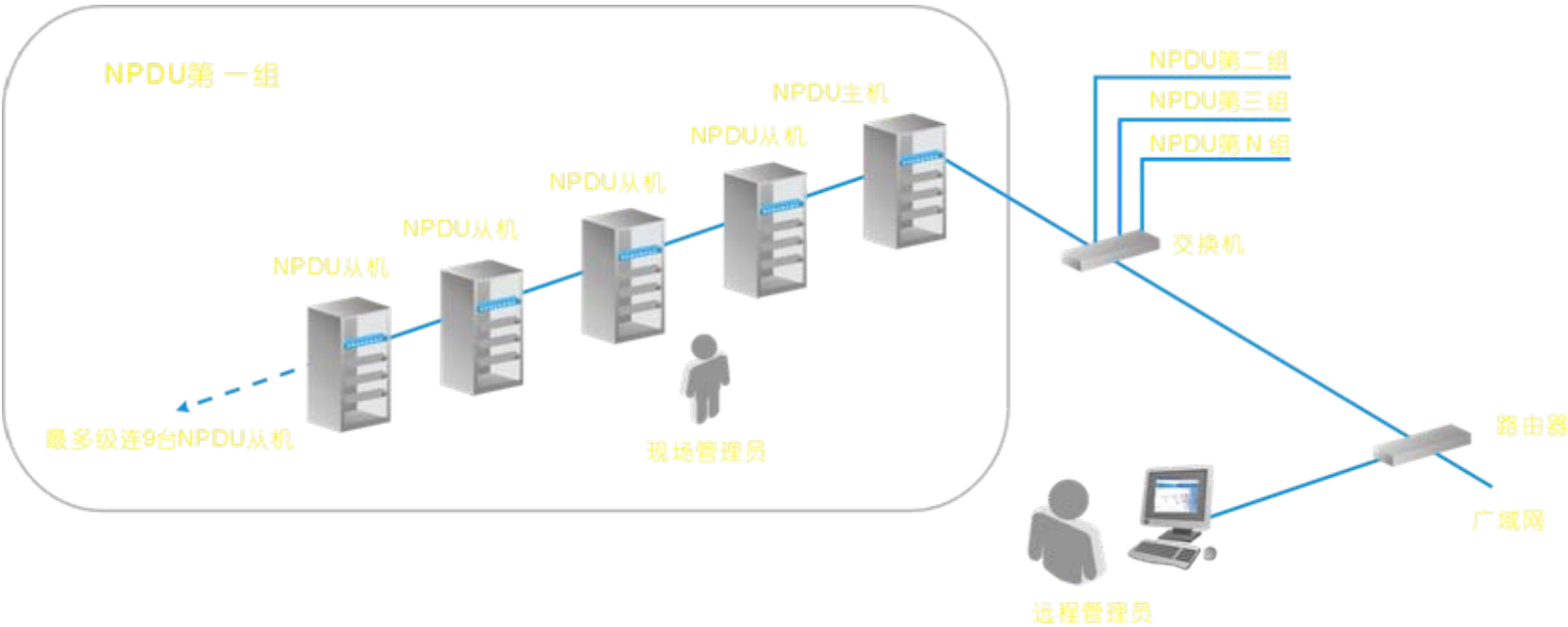
Press & hold **BUTTON** until it displays IP address, the system will be reset to factory default values.

## Daisy-chain

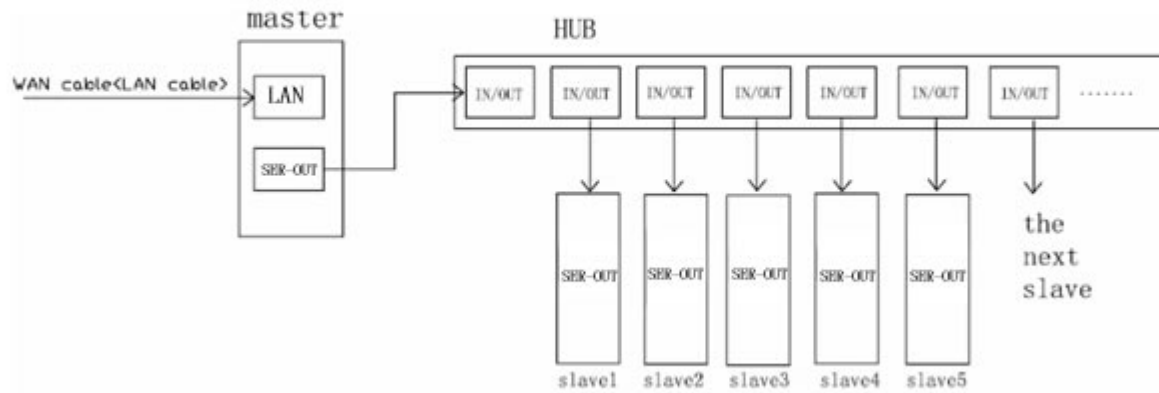


One Master can connect 9 Slave at most

# Connection Drawing for Remote PDU

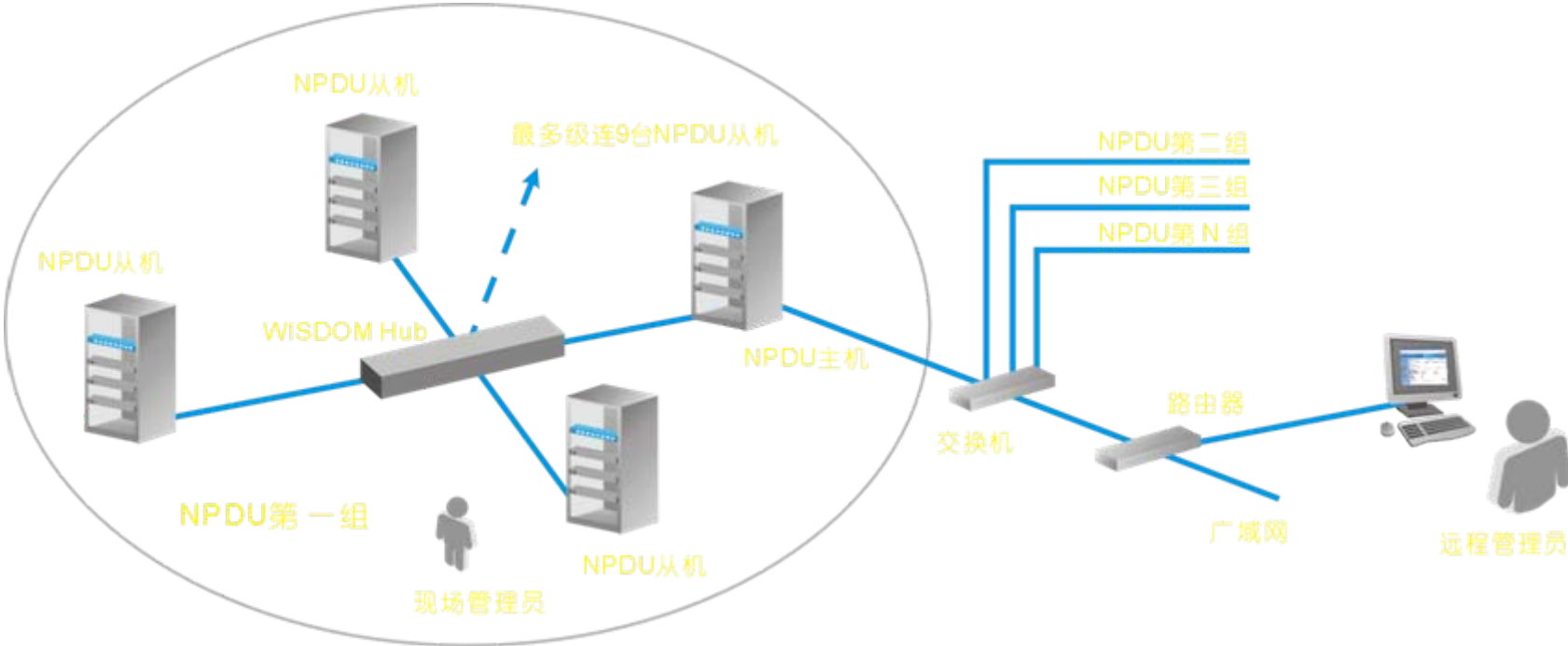


## Radial Pattern of RPDU



One master can connect 9 slave at most via RPDU HUB

# Connection Drawing of Remote PDUs



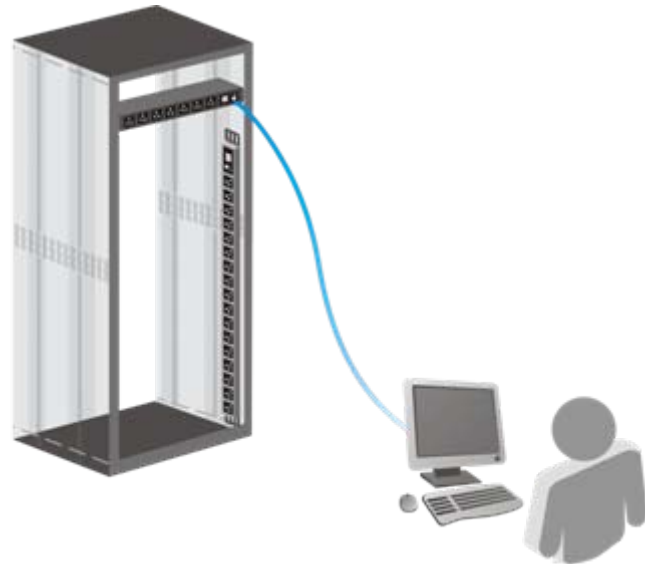
## **RPDU Multi Access Methods:**

1. Web, via IE
2. SNMP(V1/V2)
3. SSH, Telnet command line

**RPDU supports software update**

**RPDU Network Time-sync**

It can synchronize the system clock to a network time server.



# Outlet Energy (kWh)

The screenshot shows a web browser window displaying the NPDU Home interface. The browser address bar shows the URL <http://192.168.1.169/>. The interface includes a navigation menu with options like NPDU1 through NPDU10. The main content area displays the NPDU1 status (NPDU H D) and a table of output data. The table has the following columns: No., Output Name, Current(A), Power(KW), Energy(KWH), Status, On, Off, and Loop. The Power(KW) and Energy(KWH) columns are highlighted with red and blue boxes respectively. The interface also includes a sidebar with navigation options and a device information section.

No.	Output Name	Current(A)	Power(KW)	Energy(KWH)	Status	On	Off	Loop
1	Output 1	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Output 2	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Output 3	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Output 4	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	Output 5	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Output 6	0.0	0.00	0.00	ON	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	Output 7	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	Output 8	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Total Current:		0.0				All <input type="checkbox"/>	All <input type="checkbox"/>	All <input type="checkbox"/>

Device Information:  
Name:NPDU  
Version: 1.4.1.3  
Ip Address: 192.168.1.169  
MAC: 00:40:9D:4C:CC:E8  
Flash Size: 2 MB  
Cpu Usage: 6%  
Uptime: 1 h 26 mins 9 secs  
Update time: 21-12-2011

The power voltage and power factor of this NPDU  
Total Power : 0.00KW      Power Factor : 0.00      Total Voltage :223 V  
[View Energy](#)  
[View sensor](#)

Outlet power (kW) measurement: in red

Outlet energy (kWh): collect the data every 5 minutes, make a record every two hours, in blue

# Power Factor of our RPDU

The screenshot shows a web browser window displaying the NPDU Home page. The page has a navigation menu at the top with tabs for NPDU1 through NPDU10. The main content area is titled 'NPDU1 status (NPDU H D)'. It features a table with columns for No., Output Name, Current(A), Power(KW), Energy(KWH), Status, On, Off, and Loop. The table lists 8 outputs, with Output 6 being the only one in an 'ON' state. Below the table, there is a 'Total Current: 0.0' and three checkboxes for 'All' under 'On', 'Off', and 'Loop'. On the left side, there is a 'Device Information' section with fields for Name, Version, IP Address, MAC, Flash Size, CPU Usage, Uptime, and Update time. At the bottom of the page, there is a summary section titled 'The power voltage and power factor of this NPDU' which displays 'Total Power : 0.00KW' (highlighted in blue), 'Power Factor : 0.00' (highlighted in red), and 'Total Voltage : 223 V'. There are also links for 'View Energy' and 'View sensor'.

No.	Output Name	Current(A)	Power(KW)	Energy(KWH)	Status	On	Off	Loop
1	Output 1	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Output 2	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Output 3	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Output 4	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	Output 5	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Output 6	0.0	0.00	0.00	ON	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	Output 7	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	Output 8	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Device Information**

Name:NPDU  
Version: 1.4.1.3  
Ip Address: 192.168.1.169  
MAC: 00:40:9D:4C:CC:E8  
Flash Size: 2 MB  
Cpu Usage: 6%  
Uptime: 1 h 26 mins 9 secs  
Update time: 21-12-2011

**The power voltage and power factor of this NPDU**

Total Power : 0.00KW  
Power Factor : 0.00  
Total Voltage : 223 V

[View Energy](#)  
[View sensor](#)

Power factor: in red

Total power (kW): in blue



# Switch on/off Outlet

**ON:** switch on each outlet and click apply, in green;

**OFF:** switch off each outlet and click apply, in black;

**LOOP:** switch off first then switch on the outlet;

The screenshot shows a web browser window titled "NPDU\_Home - Windows Internet Explorer" with the address bar showing "http://192.168.1.169/". The page content includes a navigation menu with tabs for "NPDU1" through "NPDU10". The "NPDU1" tab is active, displaying "NPDU1 status (NPDU H D)".

No.	Output Name	Current(A)	Power(KW)	Energy(KWH)	Status	On	Off	Loop
1	Output 1	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Output 2	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Output 3	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Output 4	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	Output 5	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Output 6	0.0	0.00	0.00	ON	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	Output 7	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	Output 8	0.0	0.00	0.00	OFF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below the table, there is a "Total Current:" field showing "0.0" and three "All" checkboxes for "On", "Off", and "Loop". A green box highlights the "On" column, a black box highlights the "Off" column, and a blue box highlights the "Loop" column.

On the left side of the interface, there is a "Device Information" section with the following details:

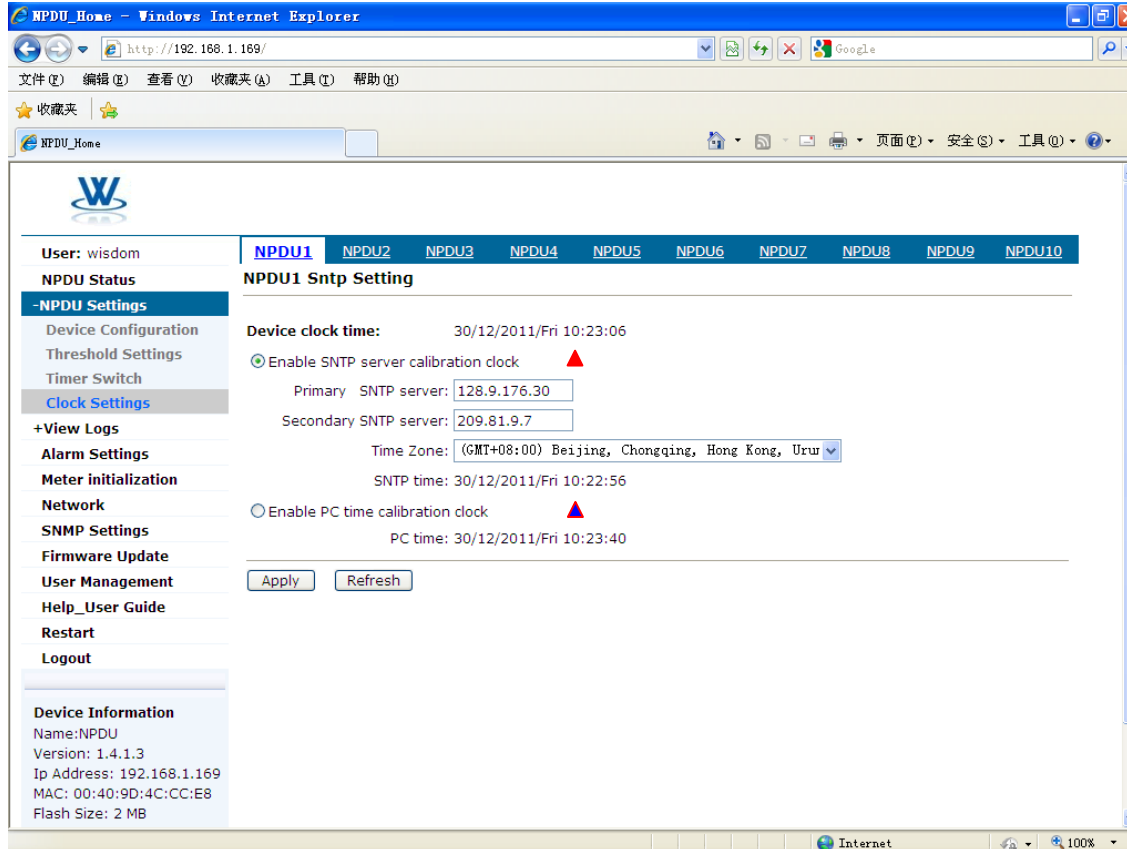
- Name: NPDU
- Version: 1.4.1.3
- Ip Address: 192.168.1.169
- MAC: 00:40:9D:4C:CC:E8
- Flash Size: 2 MB
- Cpu Usage: 6%
- Uptime: 1 h 26 mins 9 secs
- Update time: 21-12-2011

At the bottom of the page, there is an "Apply" button and a section titled "The power voltage and power factor of this NPDU" with the following information:

- Total Power : 0.00KW
- Power Factor : 0.00
- Total Voltage : 223 V

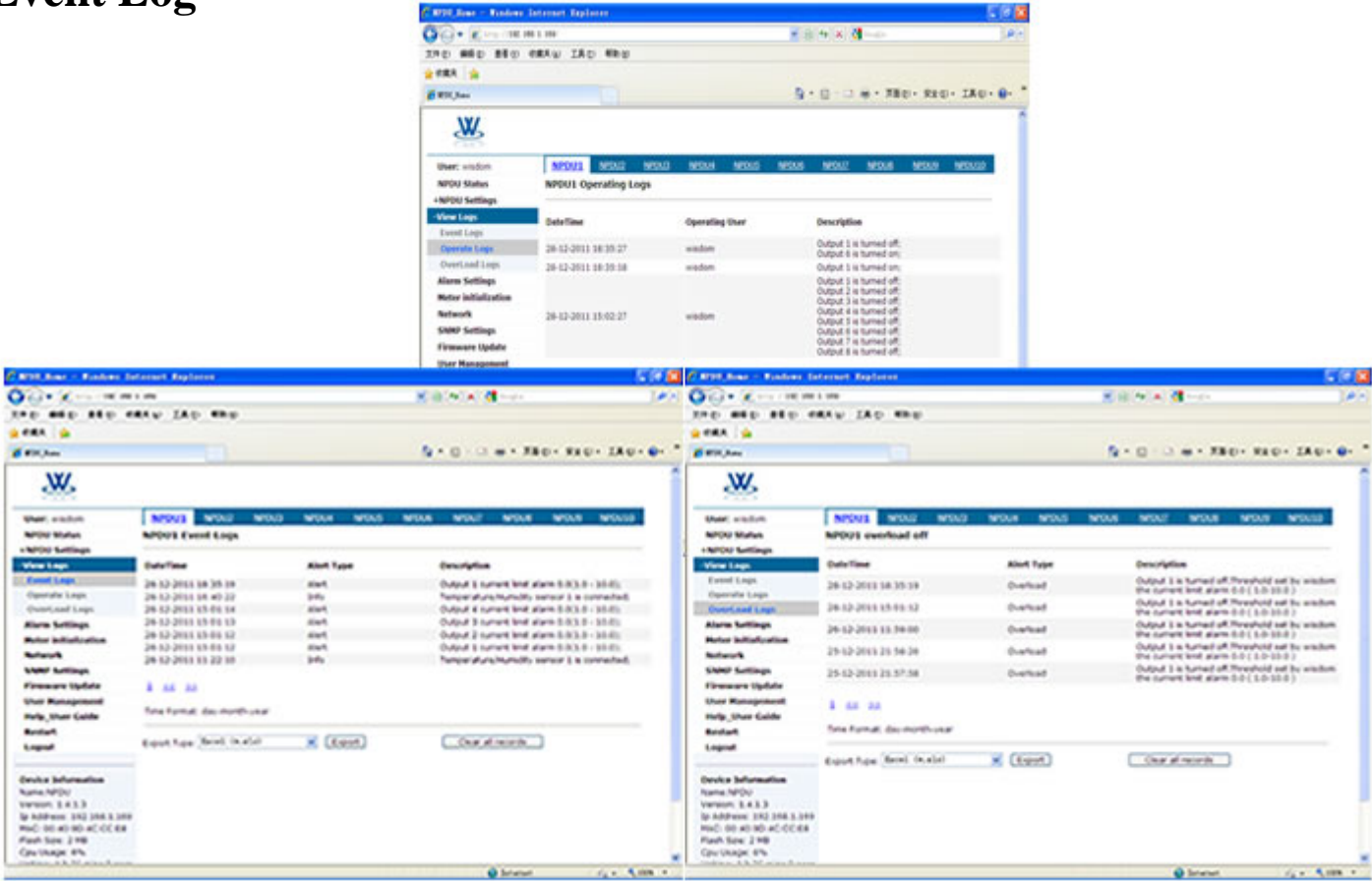
There are also links for "View Energy" and "View sensor".

# Network Time-sync



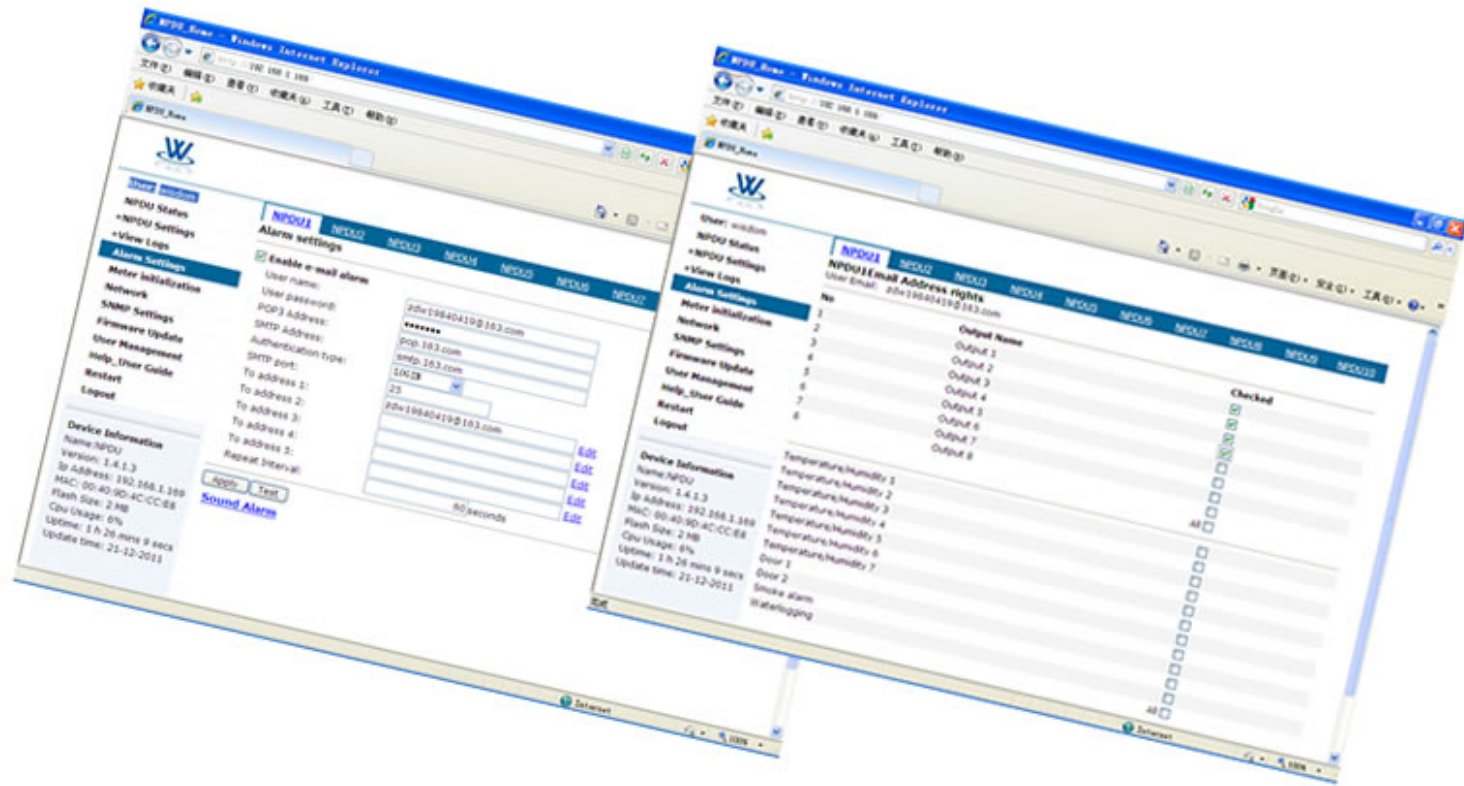
- ▲ Click it to set the NPDU time according to SNTP server
- ▲ Click it to set the NPDU time according to PC

# Event Log



It can record and output the alarm log, operation log and overload auto switch off log

# Automatic Email Alarm and Permission Assignment



The administrator can define the alarm email permission assignment. It can send the alarm of different outlet to different user. For example, send the alarm email of outlet 3 to address 1 only.

# Total and Outlet Energy (kWh)

The screenshot shows a web browser window titled "NPDU\_Home - Windows Internet Explorer" with the address bar displaying "http://192.168.1.169/". The page content includes a navigation menu with tabs for NPDUs 1 through 10, and a sidebar with various configuration sections.

**User:** wisdom

**NPDU Status:** The energy of NPDU1 status

Clean	No.	Output Name	Energy (kw-h)
<input checked="" type="checkbox"/>	1	Output 1	0.00
<input checked="" type="checkbox"/>	2	Output 2	0.00
<input type="checkbox"/>	3	Output 3	0.00
<input type="checkbox"/>	4	Output 4	0.00
<input type="checkbox"/>	5	Output 5	0.00
<input type="checkbox"/>	6	Output 6	0.00
<input type="checkbox"/>	7	Output 7	0.00
<input type="checkbox"/>	8	Output 8	0.00

**Energy meter initialization**

<input type="checkbox"/>	Energy Meter 1	0.0 KWH
<input type="checkbox"/>	Energy Meter 2	0.0 KWH
<input type="checkbox"/>	Energy Meter 3	0.0 KWH
<input type="checkbox"/>	Energy Meter 4	0.0 KWH
<input type="checkbox"/>	Energy Meter 5	0.0 KWH
<input type="checkbox"/>	Energy Meter 6	0.0 KWH

**Device Information**

- Name: NPDU
- Version: 1.4.1.3
- Ip Address: 192.168.1.169
- MAC: 00:40:9D:4C:CC:E8
- Flash Size: 2 MB
- Cpu Usage: 6%
- Uptime: 1 h 26 mins 9 secs
- Update time: 21-12-2011

# Overload Auto Switch off

The screenshot shows the NPDU Home web interface in Internet Explorer. The browser address bar shows <http://192.168.1.169/>. The page title is "NPDU Home". The user is logged in as "wisdom". The main content area displays the "Current threshold setting for NPDU1" table. The table has columns for "NO.", "Output Name", "Low limit", "Curent(Amps)", "High limit", and "Threshold switch". The "Threshold switch" column contains checkboxes for each output. A red box highlights this column. The "Threshold switch" for Output 1 is checked, while others are unchecked. Below the table is an "Apply" button and the text "No sensor connected".

NO.	Output Name	Low limit	Curent(Amps)	High limit	Threshold switch
1	Output 1	1.0	0.0	10.0	<input checked="" type="checkbox"/>
2	Output 2	1.0	0.0	10.0	<input type="checkbox"/>
3	Output 3	1.0	0.0	10.0	<input type="checkbox"/>
4	Output 4	1.0	0.0	10.0	<input type="checkbox"/>
5	Output 5	0.0	0.0	10.0	<input type="checkbox"/>
6	Output 6	0.0	0.0	10.0	<input type="checkbox"/>
7	Output 7	0.0	0.0	10.0	<input type="checkbox"/>
8	Output 8	0.0	0.0	10.0	<input type="checkbox"/>
Total Current:		0.0	0.0	16.0	

The user can set a threshold value and when overload occurs, the outlet will automatically switch off to protect the device. This information will be recorded in event log.