



Switched PDU

User Manual

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1. Introduction

CAUTION: This unit is intended for indoor use only. Do not install near water or expose this unit to moisture. To prevent heat buildup, do not coil the power cord when in use. Do not use extension cords. Do not attempt to make any internal changes to the power source. Do not attempt to modify any portion or component.

CAUTION: Do not use power generator as input power source of PDU.

CAUTION: High-voltage surges and spikes can damage this equipment. To protect from such power surges and spikes, this unit must have a good earth ground or good power surge protection.

CAUTION: Do not exceed the AC current rating for the selected model.

CAUTION: In order to be absolutely removed from the power supply, the power cord must be unplugged from the power source.

CAUTION: This PDU contains LETHAL VOLTAGES. All repairs and service should be performed by AUTHORIZED SERVICE PERSONNEL ONLY. There are NO USER SERVICEABLE PARTS inside the PDU. The installation of options, routine maintenance, and service of this product must be performed by individuals who are knowledgeable about the procedures, precautions, and hazards associated with AC power products.

The PDU is an Internet ready device designed and is equipped with an intelligent current-meter (True RMS) that will indicate the total power consumption of a power strip.

The PDU offers an easy set up and user-friendly communication software. This software provides the function that assistant manager to remotely monitor the multiple PDU power consumption to realize the total current power consumption and utilization for the enterprises.

Features:

- Built-in web server, manager can real time to monitoring the current consumption of the power strip.
- Build-in true RMS current meter.
- Setup easily, meter can read the IP address directly.
- SSL secure access to web.
- Provide audible alarm when the power consumption over the threshold of warning and overload.
- Send the email and traps when the power consumption exceed the trigger value of warning or overload to the PDU.
- Provide utility, it can monitor a large amount of PDU at the same time.
- Support the SNMP and provide MIB for the PDU to be monitored by NMS.
- Provide power protection by the circuit breaker.

- Real time to control outlets of PDU.
- Indicate outlets status with LED.
- Support power on sequence.
- Option accessory can support temperature and humidity detection.

2. PDU Package

The standard PDU package contains a Power Distribution Unit with supporting hardware and software. The components of the package are:

- Power Distribution Unit.
- Rack mount Brackets.
- CD-ROM, it contains:
 - User Manual.
 - PDU Software.
 - MIB: Management Information Base for Network. (PDUMIB-24N2.mib)
 - Adobe Acrobat Reader.

3. Function

Interface

One circuit



Multiple circuits



Functions	Description
Ethernet	RJ45 port for network communication port.
Audible Alarm	Warning- 1 beep in 1 second. Overload- 3 beeps in 1 second. Note: The audible alarm will keep beeping until the current gets back to normal and the current is lower than the threshold to 0.5 amps.
Function Button	<ul style="list-style-type: none"> ● Press and release to turn off the warning beeping. The overload beeping can not be cancelled. ● Press and hold the key after 1 beeping; it can let the meter to show up the current information, temperature and humidity in sequence. (available for PDU in multi-circuits) ● Press and hold the key after 2 beeping; it can let the meter to show up the IP address ● Press and hold the key after 4 beeping; it can change the way to get IP by DHCP or fixed IP. ● Press and hold the key after 6 beeping; it can reset PDU back to default setting.
Meter	3 digits to display current and IP Address.

ID	The identification of power bank or PDU.
LED Indicator	SSL (yellow): Light on means web access is protected by SSL. DHCP (Green): Light on means PDU gets IP address by DHCP. PDU (Green): Indicate each output power status. Status (Red): Indicate each circuit status. (by model)
ENV	RJ11 for ENV probe attached.
Circuit Breaker	Overload power protection.

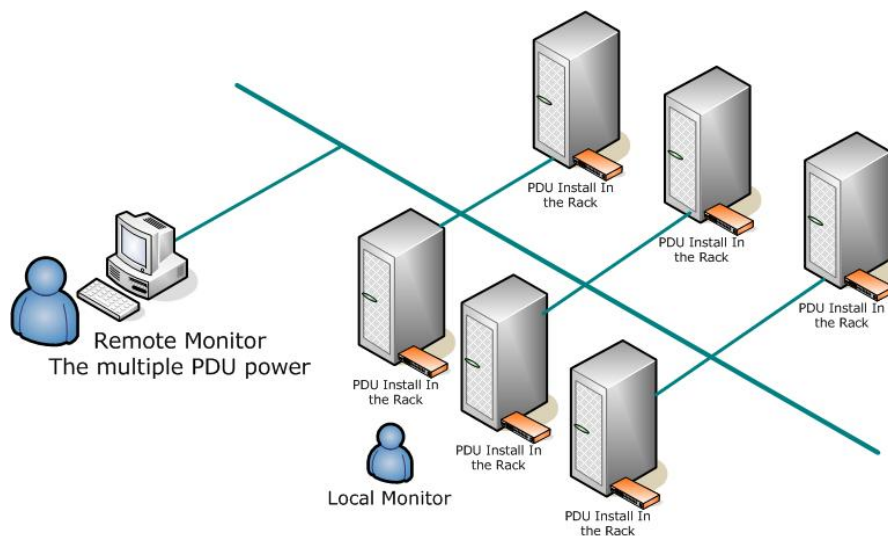
4. Installation

This section will provide a quick instruction to install the PDU.

Rack Mount Instructions

- A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature specified by the manufacturer.
- B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

Diagram



Hardware

1. Install mounting brackets.
2. The PDU comes with brackets for mounting in a rack. To mount the PDU into a rack performs the following procedure:
3. Attach the mounting brackets to the unit, using the four retaining screws provided for each of the brackets.
4. Choose a location for the brackets.
5. Align the mounting holes of brackets with the notched hole on the vertical rail and attach with the retaining screws.
6. Connect input and output power.
7. Connect Ethernet cable to the PDU.
8. Switch on the PDU.

Note 1:

The default setting for the way to get IP address is DHCP. If PDU can not get the IP from DHCP server, the IP address will stay at 192.168.0.216

Note 2:

TO SETUP THE NETWORK SYSTEM FOR PDU, STRONGLY RECOMMEND TO BUILD UP THE POWER MONITORING NETWORK SYSTEM ISOLATED WITH THE OTHERS, IN ORDER TO KEEP THE STABILITY OF GETTING POWER INFORMATION AND SYSTEM OPERATION.

5. Web Interface

Login:

Input the PDU IP address in web browser.

Default ID is snmp.


Password is 1234.



Information: PDU

Display total PDU and each outlet power consumption.

When plug the option device - ENV probe, it will display temperature and humidity information.

 PDU	
Total load: 0.0 A , Status: N	
Information	PDU
PDU	PDU1
System	PDU2
Control	Total Current
Outlet	
Group	Option Device
Schedule	Temperature
Ping Action	Humidity
Configuration	
PDU	

Information: System

Indicate PDU system information.

PDU	
Total load: 0.0 A , Status: N	
Information	Model No.
PDU	Firmware Version
System	MAC Address
Control	System Name
Outlet	System Contact
Group	Location
Schedule	
Ping Action	
Configuration	
PDU	

Information: Power (available for multi-circuits PDU or with kWh function)

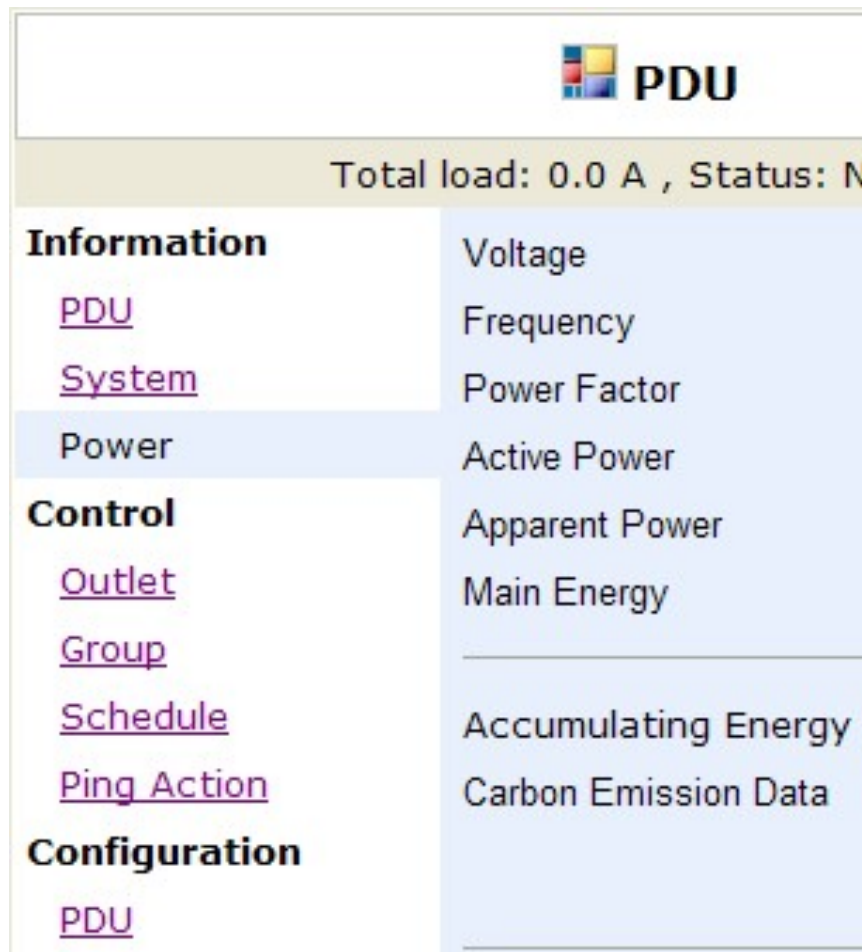
When PDU supports kWh measurement functions, web interface display "Power" page to indicate all power information, including:

Voltage, Frequency, Power Factor, Active Power, Apparent Power and Main Energy.

Accumulated Energy: Subtotal for energy. User can reset to 0 and restart calculating.

Carbon Emission Data: Reference data.

CO2 Electricity Emission Rate: Users can check this parameter through their power plant.



PDU	
Total load: 0.0 A , Status: N	
Information	Voltage
PDU	Frequency
System	Power Factor
Power	Active Power
Control	Apparent Power
Outlet	Main Energy
Group	
Schedule	Accumulating Energy
Ping Action	Carbon Emission Data
Configuration	
PDU	

Control: Outlet

Indicate PDU outlet on/off status and control outlet. Display the number of outlet by different model.

Select the outlet by checking the box and then click ON or OFF button to control output power for PDU

ON: Press the icon to turn on the assigned outlets.

OFF: Press the icon to turn off the assigned outlets.

OFF/ON: Press the icon to reboot the assigned outlets.

 PDU			
Total load: 0.0 A , Status: N			
Information	PDU1	Status	
PDU System Control Outlet Group Schedule Ping Action Configuration PDU Threshold	OutletA	ON	
	OutletB	ON	
	OutletC	ON	
	OutletD	ON	
	OutletE	ON	
	OutletF	ON	
	OutletG	ON	
	OutletH	ON	
	OutletI	ON	
	OutletJ	ON	
	OutletK	ON	
	OutletL	ON	
	PDU2		
	OutletM	ON	
OutletN	ON		
OutletO	ON		

Control: Group (available for multi-circuits PDU or with kWh function)

Control outlet power for multiple outlets.

Setting: Enter to the setting mode.

Outlet: Assign the outlet in a group.

Note: The outlet number needs to be input by the alphabetical order.

ON: Press icon to turn on the assigned group.

OFF: press icon to turn off the assigned group.

Active: Enable it to be a controllable group.

PDU	
Total load: 0.0 A , Status: N	
Information	Outlet (A,B,C)
PDU	A, <input type="text"/>
System	B, <input type="text"/>
Control	C, <input type="text"/>
Outlet	D, <input type="text"/>
Group	<input type="text"/>
Schedule	<input type="text"/>
Ping Action	<input type="text"/>
Configuration	<input type="text"/>
PDU	<input type="text"/>
PDU	<input type="text"/>

Control: Schedule (available for multi-circuits PDU or with kWh function)

Control the assigned outlet by pre-set schedule.


Outlet: Assign the outlet that want to be controlled in this schedule.

Every: Set week's day, assigned day or every day.

Date: When select "sgl" at column of "Every", need to input the truly date here.

Action:	Begin:	End:
ON	Turn on outlet at this time	None
OFF	Turn off outlet at this time	None
OFF/ON	Turn off outlet at this time	Turn on outlet at this time
ON/OFF	Turn on outlet at this time	Turn off outlet at this time

Active: Enable the assigned schedule control.



Total load: 0.0 A , Status: Normal

	Current Time: 2009/09/30 13:59:21			
Information	Outlet (A,B,..)	Every	Date (yy/mm/dd)	Begin (hh:mm)
PDU System	A,	Mon <input type="button" value="v"/>	09/06/30	07:59
Control Outlet Group	B,	Mon <input type="button" value="v"/>	09/06/30	07:59
Schedule Ping Action	C,	Mon <input type="button" value="v"/>	09/06/30	07:59
Configuration PDU	D,	Mon <input type="button" value="v"/>	09/06/30	07:59
	F	Mon <input type="button" value="v"/>	09/06/30	07:59

Control: Ping Action (available for multi-circuits PDU or with kWh function)


Automatically reboot the locked device by ping its IP

Ping IP Address: Set the device IP that want to be monitored by ping from PDU.

Response 10 minutes: PDU will ping the assigned IP address each minute one time, if the equipment has not responded, then number will be increased one time, when the continual 10 minutes have not obtained the response, the number will display 10 and PDU will carry out the assigned action automatically.

Action: Select outlet action to "OFF" or "OFF/ON"

Active: Enable this function.

			
Total load: 0.0 A , Status: Normal			
Information	Ping IP Address	Response 10 minutes	C
PDU			
System	<input type="text" value="19.168.23.200"/>	0	0
Control			
Outlet	<input type="text" value="19.168.23.201"/>	0	0
Group	<input type="text" value="19.168.23.202"/>	0	0
Schedule			
Ping Action	<input type="text" value="19.168.23.203"/>	0	0

Configuration: PDU

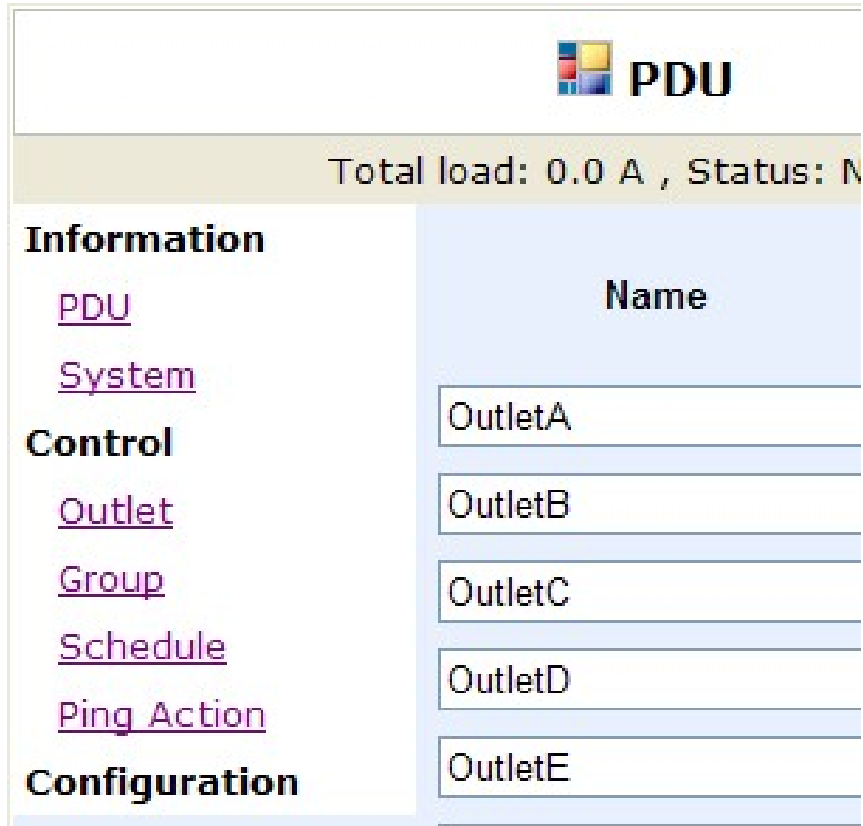
Set the outlet name and delay time.

Name: Rename the outlet.

ON: Set delay time for power on sequential.

OFF: Set delay time for power off sequential.

Note: The maximum delay time is 255 seconds.



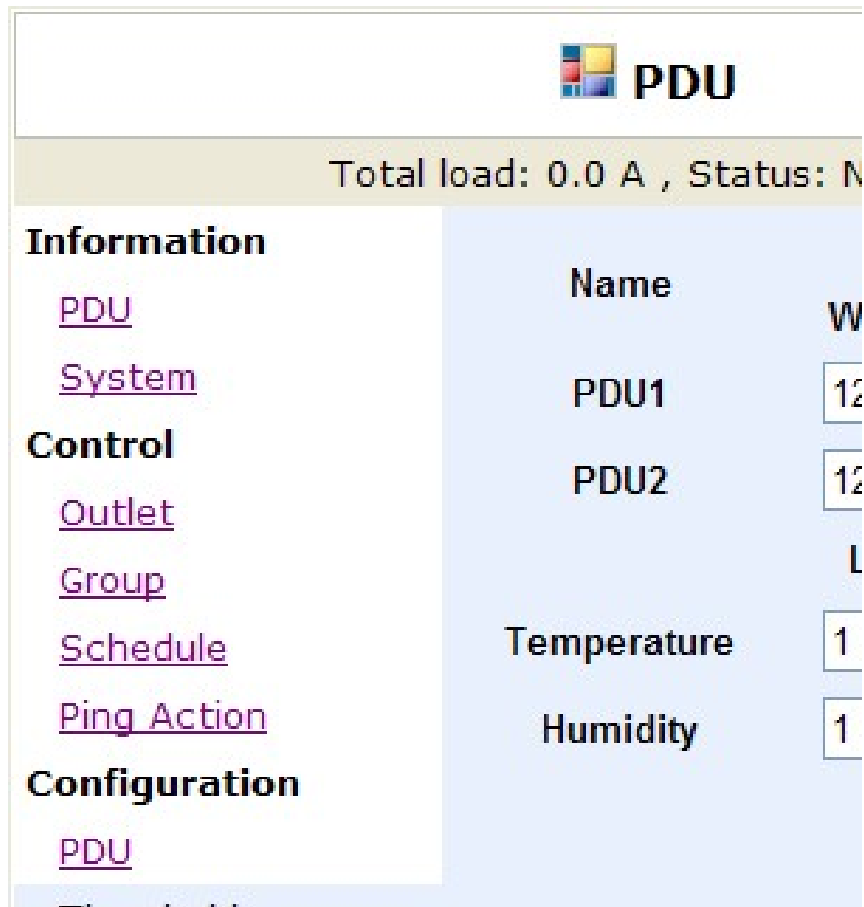
The screenshot displays the PDU configuration interface. At the top right, there is a logo consisting of a 2x2 grid of colored squares (red, yellow, blue, green) followed by the text "PDU". Below the logo, a status bar indicates "Total load: 0.0 A , Status: N". The interface is divided into two main sections. On the left is a sidebar with navigation options: "Information" (with sub-links for "PDU" and "System"), "Control" (with sub-links for "Outlet", "Group", "Schedule", and "Ping Action"), and "Configuration". On the right is a table with a header "Name" and five rows, each containing an outlet name: "OutletA", "OutletB", "OutletC", "OutletD", and "OutletE".

PDU	
Total load: 0.0 A , Status: N	
Information	Name
PDU	OutletA
System	OutletB
Control	OutletC
Outlet	OutletD
Group	OutletE
Schedule	
Ping Action	
Configuration	

Configuration: Threshold

Set the warning and overload threshold for each circuit.

Set lower and upper threshold for temperature and humidity.



The screenshot displays the PDU configuration interface. At the top right, there is a logo with the text "PDU". Below the logo, a status bar indicates "Total load: 0.0 A , Status: N". The interface is divided into two main sections: a left sidebar and a right main content area.

Information

- [PDU](#)
- [System](#)

Control

- [Outlet](#)
- [Group](#)
- [Schedule](#)
- [Ping Action](#)

Configuration

- [PDU](#)

The main content area contains a table with the following data:

Name	W
PDU1	12
PDU2	12
Temperature	1
Humidity	1

Configuration: User


Change ID and password.

Default ID is snmp and password is 1234.

Note:

Maximum character number of ID and password is 12.

ID and password cannot use special characters.



The screenshot displays the PDU configuration interface. At the top right, there is a logo with a colorful square icon followed by the text "PDU". Below the logo, a status bar shows "Total load: 0.0 A , Status: N". The main content area is divided into two columns. The left column contains a navigation menu with sections: "Information" (with links for "PDU" and "System"), "Control" (with links for "Outlet", "Group", "Schedule", and "Ping Action"), and "Configuration" (with a link for "PDU"). The right column is titled "Original" and "New" and contains input fields for "ID" and "Password" under each heading. An "Apply" button is located at the bottom right of the right column.

Configuration: Network

PDU network information

Enable DHCP: Change the way to get IP address for PDU.



The screenshot displays the configuration page for a PDU. At the top right, there is a logo with a colorful square icon and the text "PDU". Below the logo, a status bar shows "Total load: 0.0 A , Status: N". The main content is divided into two columns. The left column contains a navigation menu with sections: "Information" (with links for PDU and System), "Control" (with links for Outlet, Group, Schedule, and Ping Action), and "Configuration" (with a link for PDU). The right column is titled "IP Address" and contains fields for Host Name, IP Address, Subnet Mask, Gateway, and DNS Server IP (with a sub-section for Primary DNS IP). Each field has a small icon to its right, likely representing a help or edit function.

Configuration: Mail

When event occurs, PDU can send out email message to pre-defined account.

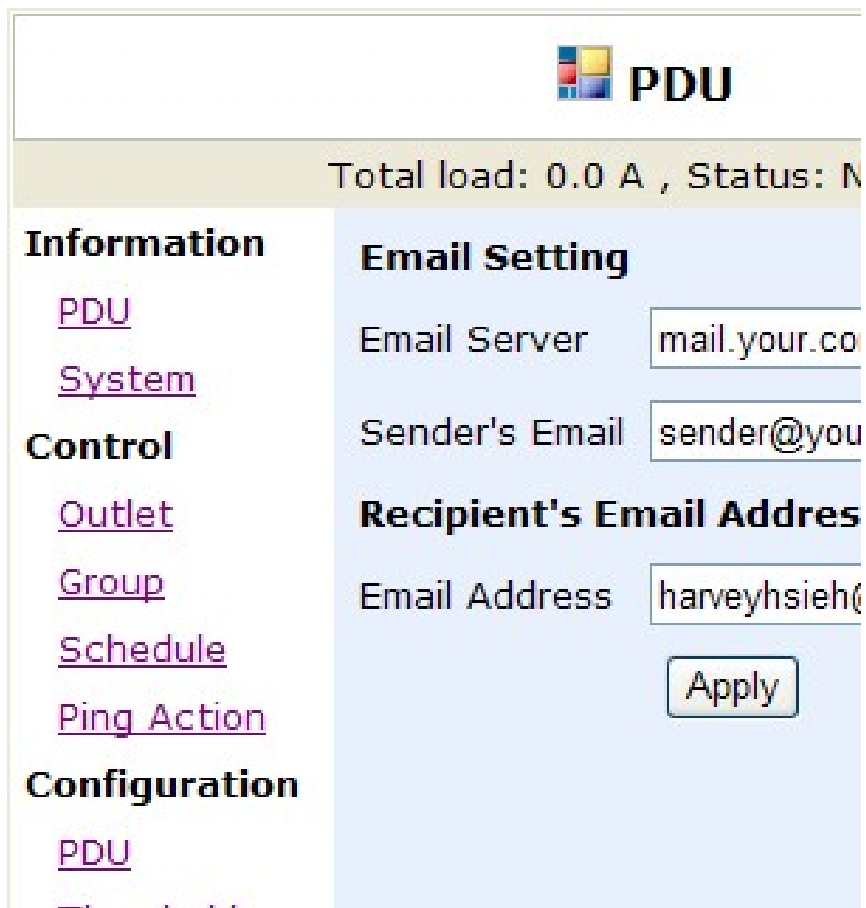
Email Server: The Email Server only support to be input domain name, not IP address.

Sender's Email: Input the sender email address.

Email Address: Input the recipient email address.

The message in the email:
Indicate OutletA~H-XXXXXXXX status in order
X=0 : means the power off.
X=1 : means the power on.

Note: Make sure DNS server can resolve the Email Server's domain name.



The screenshot displays the PDU configuration interface. At the top, there is a logo for 'PDU' and a status bar showing 'Total load: 0.0 A , Status: N'. The interface is divided into two main sections: 'Information' and 'Email Setting'. The 'Information' section on the left contains links for 'PDU', 'System', 'Control', 'Outlet', 'Group', 'Schedule', 'Ping Action', and 'Configuration'. The 'Email Setting' section on the right includes fields for 'Email Server' (mail.your.co), 'Sender's Email' (sender@you), and 'Recipient's Email Address' (harveyhsieh@). An 'Apply' button is located at the bottom of the 'Email Setting' section.

Configuration: SNMP

When event occurs, PDU can send out trap message to pre-defined IP address.

Trap Notification: Set receiver IP for trap.

Community: Set SNMP community.

Read Community is public and fixed.

Default Write Community is "public" and can be modified by user.



The screenshot displays the configuration page for a PDU. At the top right is the PDU logo. Below it, a status bar shows "Total load: 0.0 A , Status: N". The main content is divided into two columns. The left column contains a navigation menu with sections: "Information" (with links for PDU and System), "Control" (with links for Outlet, Group, Schedule, and Ping Action), and "Configuration" (with a link for PDU). The right column is titled "Trap Notification" and "Community". Under "Trap Notification", there is a "Receiver IP" field with the value "192." and an "Apply" button. Under "Community", there are "Read" and "Write" fields. The "Read" field is set to "publ" and the "Write" field is set to "publi". Both fields have "Apply" buttons next to them.

Configuration: SSL

Enable SSL for web communication.

User must input the correct ID and password to enable SSL function. The ID and password must be the same with the setting in "User".



Configuration: Time (available for multi-circuits PDU or with kWh function)

Set the time for schedule control.

Internet Time Setting: Get time from the assigned network time server.

System Time: Input time manually.

 PDU	
Total load: 0.0 A , Status: Not	
Information PDU System	Internet Time Setting
Control Outlet Group Schedule Ping Action	Time Between Updates <input type="text" value="10 m"/> Primary Time Server <input type="text" value="pool"/> Secondary Time Server <input type="text" value="asia"/> Time Zone <input type="text" value="GMT"/> <input type="button" value="App"/>
Configuration PDU	System Time 2009/09/30 1 System Time (yyyy/mm/dd hh:mm:ss) <input type="text" value="2009"/>