PDU

(Monitored / Switched / kWh / POM)

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 user 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.

CAUYION: 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.
- 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 mount 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.

- Option accessory can support temperature and humidity detection.

Switched PDU series

- Real time to control outlets of PDU.
- Indicate outlets status with LED.
- Support power on sequence.

2. PDU Package

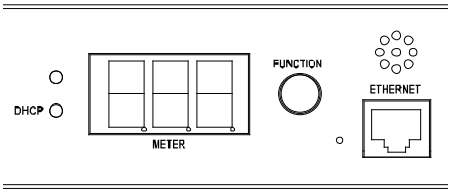
The standard PDU package contains a Power Distribution Unit with supporting hardware and software. The components of the package are:

- Power Distribution Unit.
- Rack mount Brackets.
- CD-ROM, it contains:
- User Manual.
- PDU Software.
- MIB: Management Information Base for Network.

3. Function

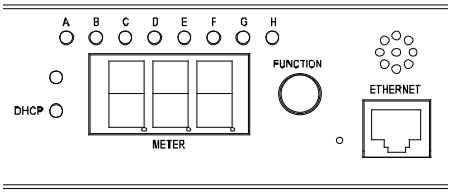
Interface

Monitored PDU



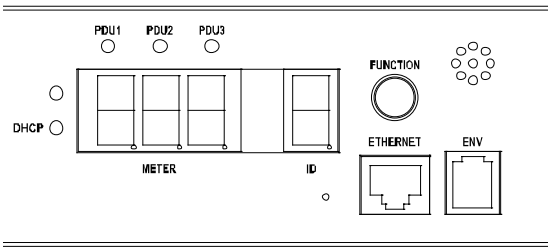
Switched PDU

(Single Circuit)



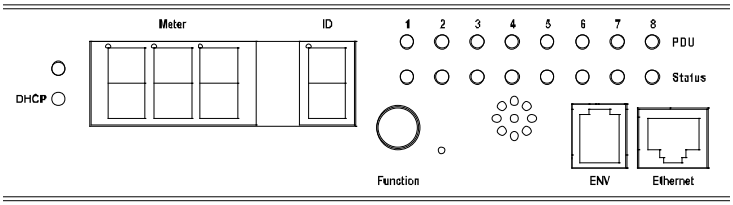
Switched PDU

(Two/Three Circuits)



POM PDU (Per Outlet Monitor)

(Switched PDU series)



Interface	Number	Protocol/Specification
RJ45	1	Ethernet connection. Support ICMP, ARP, IP, TCP, UDP, DHCP, HTTP, SNMPv1
RJ11	1	Option probe. Attached to detect temperature and humidity.
Reset Hole	1	Restart Network System
Button	1	1 beep：Current, Temp./Humidity Display 2 Beeps：IP Display. 4 Beeps：DHCP/Fixed 6 Beeps：Reset to Default
Seven Segments	3 digits	True RMS Meter Range: 0.2A ~ 20 A Precision: +/-2%+/-0.1AMP
		Press Button after 2 Beeps will display PDU IP Address
	1 Digit	0: Total Current t: Temperature h: Humidity
Green LED	8/16/24	Outlet Status: Indicate output power status.
Red LED	2/3/8	Circuit Status: Light on means that circuit load is exceeding the pre-set threshold.
Green LED	1	DHCP: Light on means that PDU gets IP address through DHCP.
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.

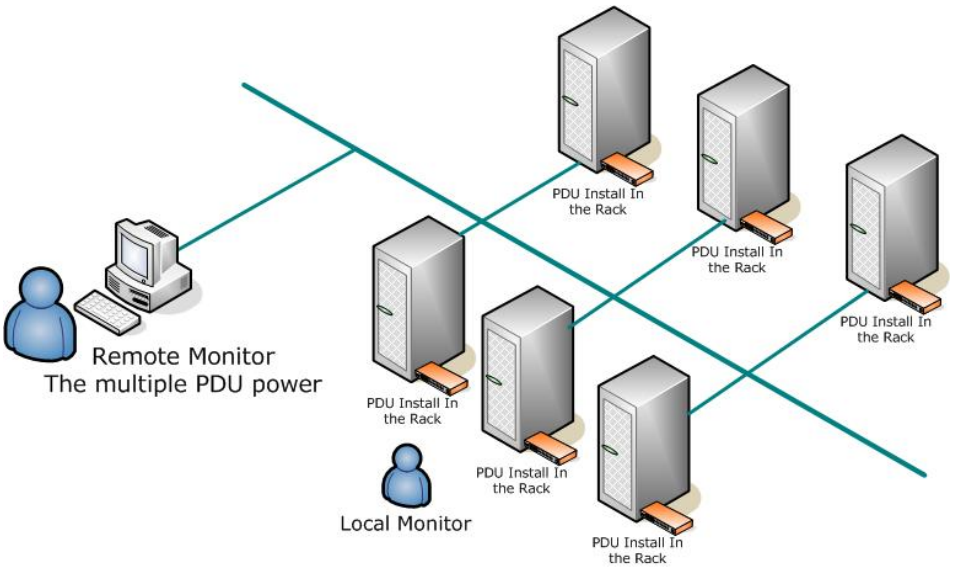
B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

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 RECOMMAND 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.

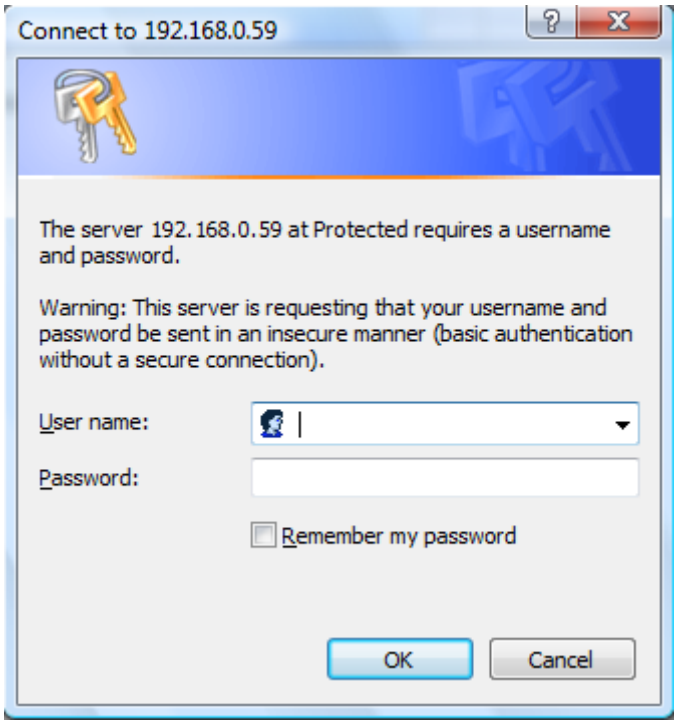
5. Web Interface

Login:

Input the PDU IP address in web browser.

Default ID is snmp.

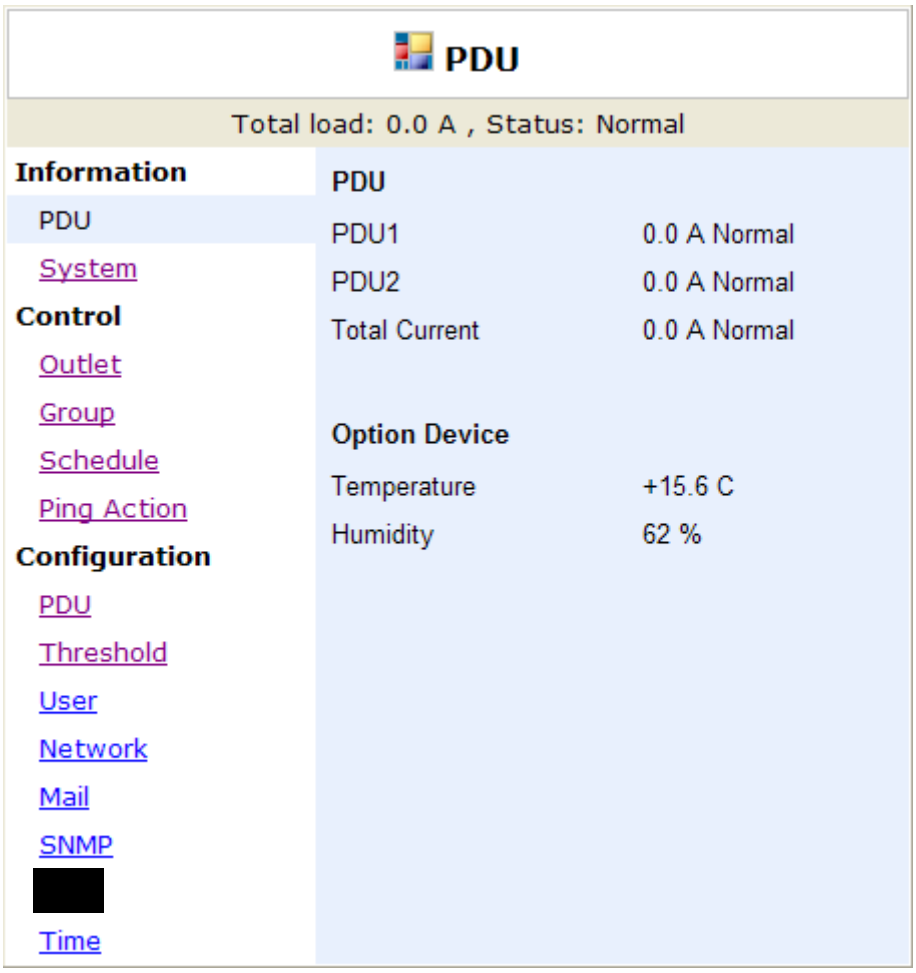
Password is 1234.



Information: PDU

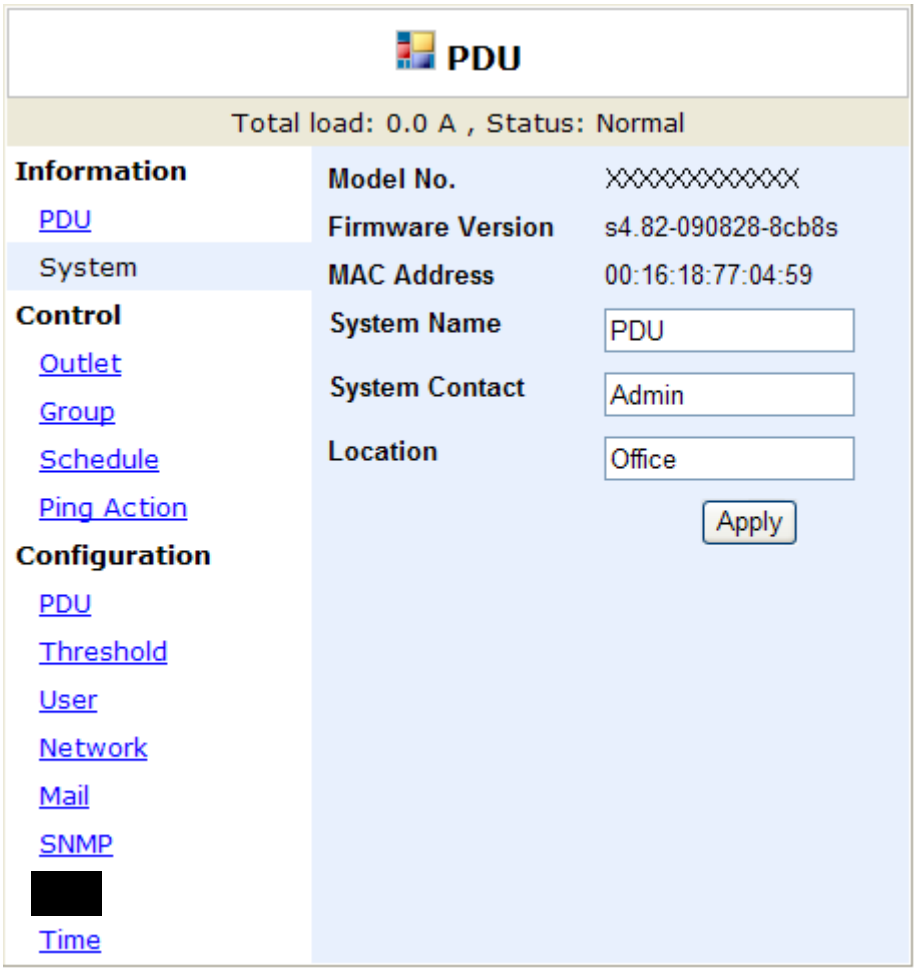
Display total PDU and each circuit power consumption. PDU has different models with 1, 2, 3 or 8 circuits

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



Information: System

Indicate PDU system information.



Information: Power (available for PDU with kWh function)

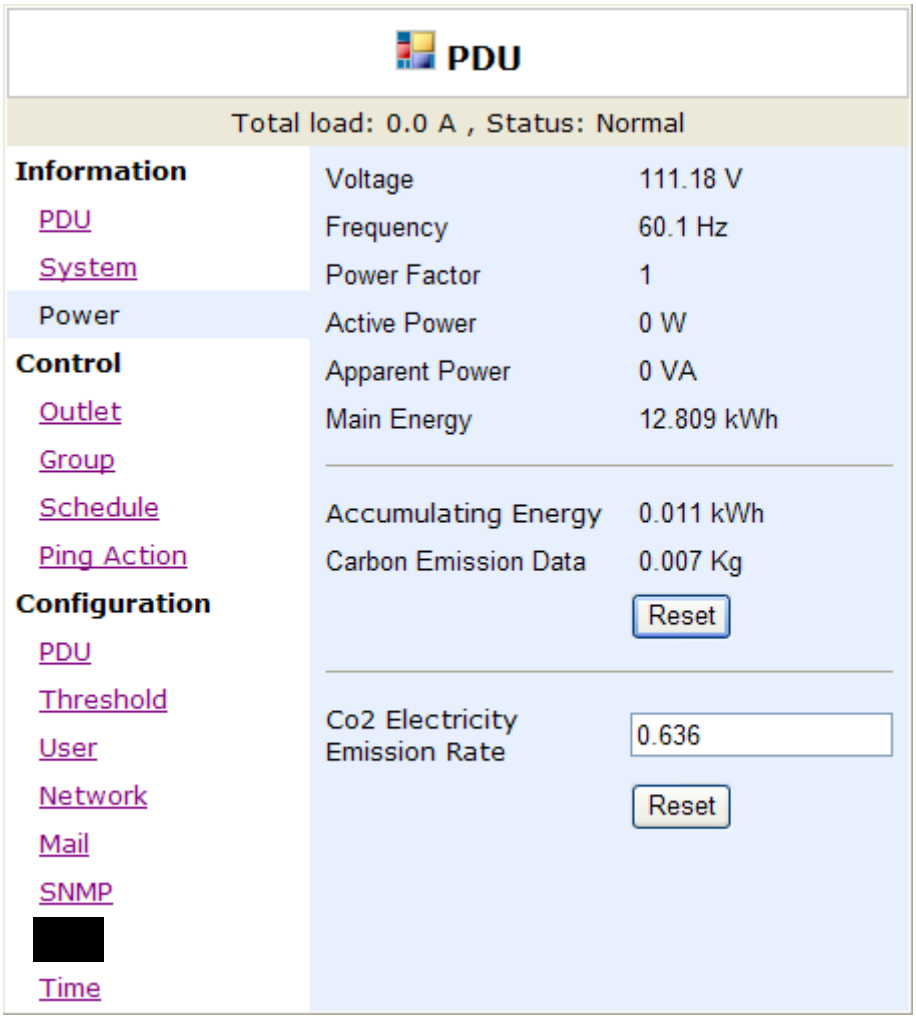
When PDU supports kWh measurement functions, web interface display "Power" page to indicate all power information, including:

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.



Control: Outlet (available for Switched PDU)

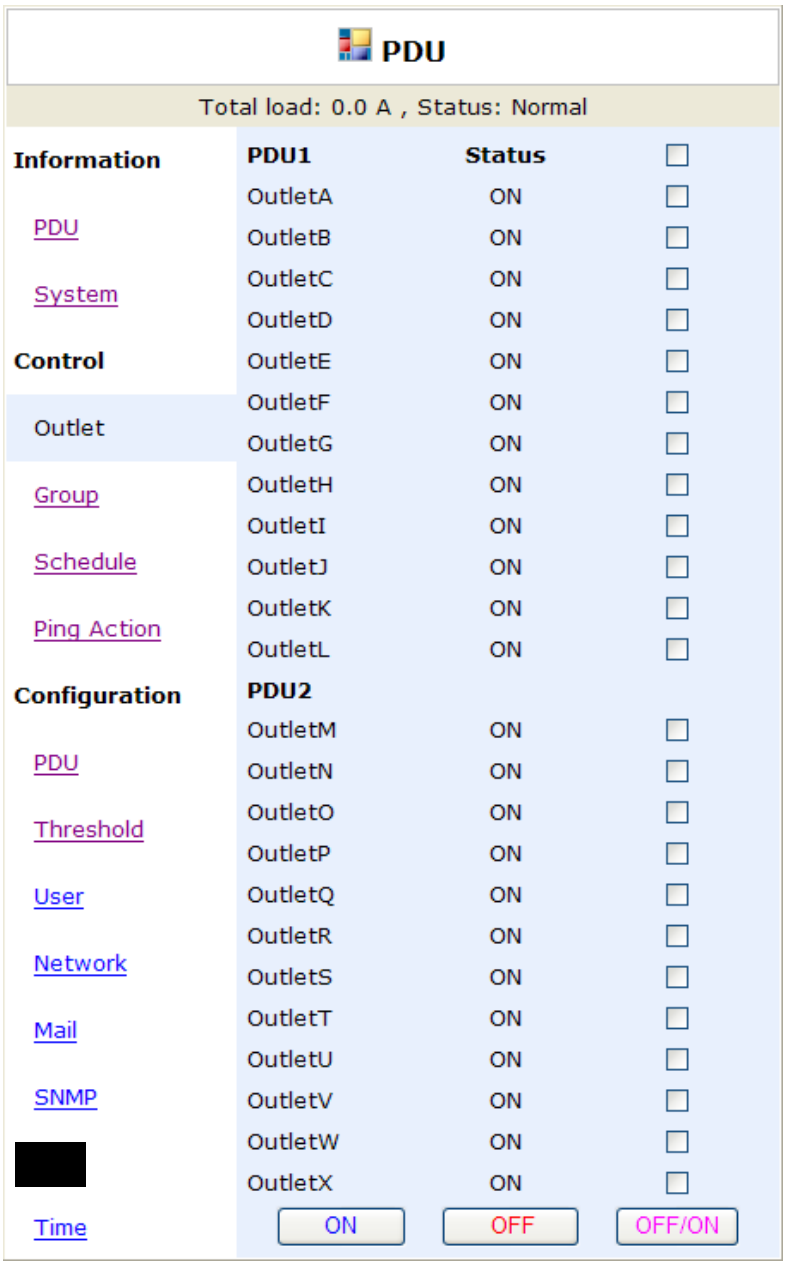
Indicate PDU outlet on/off status and control outlet. Display the number of outlet by different model.

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.



Control: Group (available for Switched PDU with multi-circuits)

Control outlet power for multiple outlets.

Setting: Enter to the setting mode.

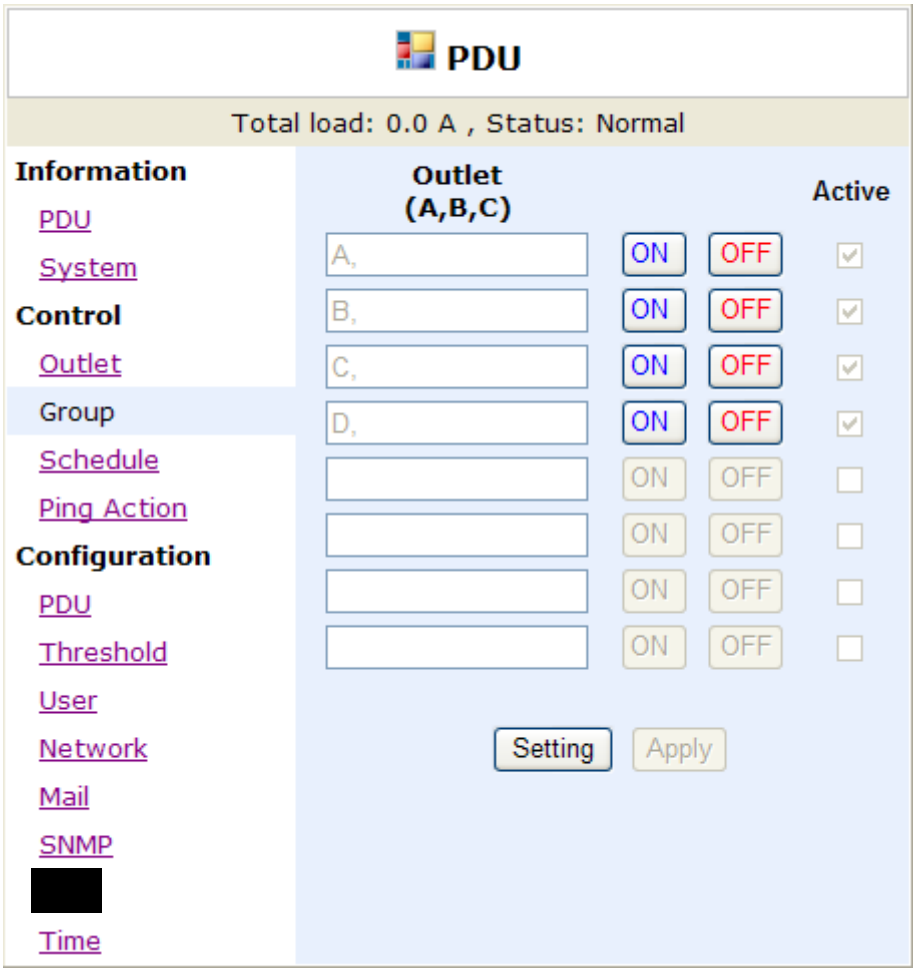
Outlet: Assign the outlet in a group.

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.



Control: Schedule (available for Switched PDU with multi-circuits)

Control the assigned outlet by pre-set schedule.

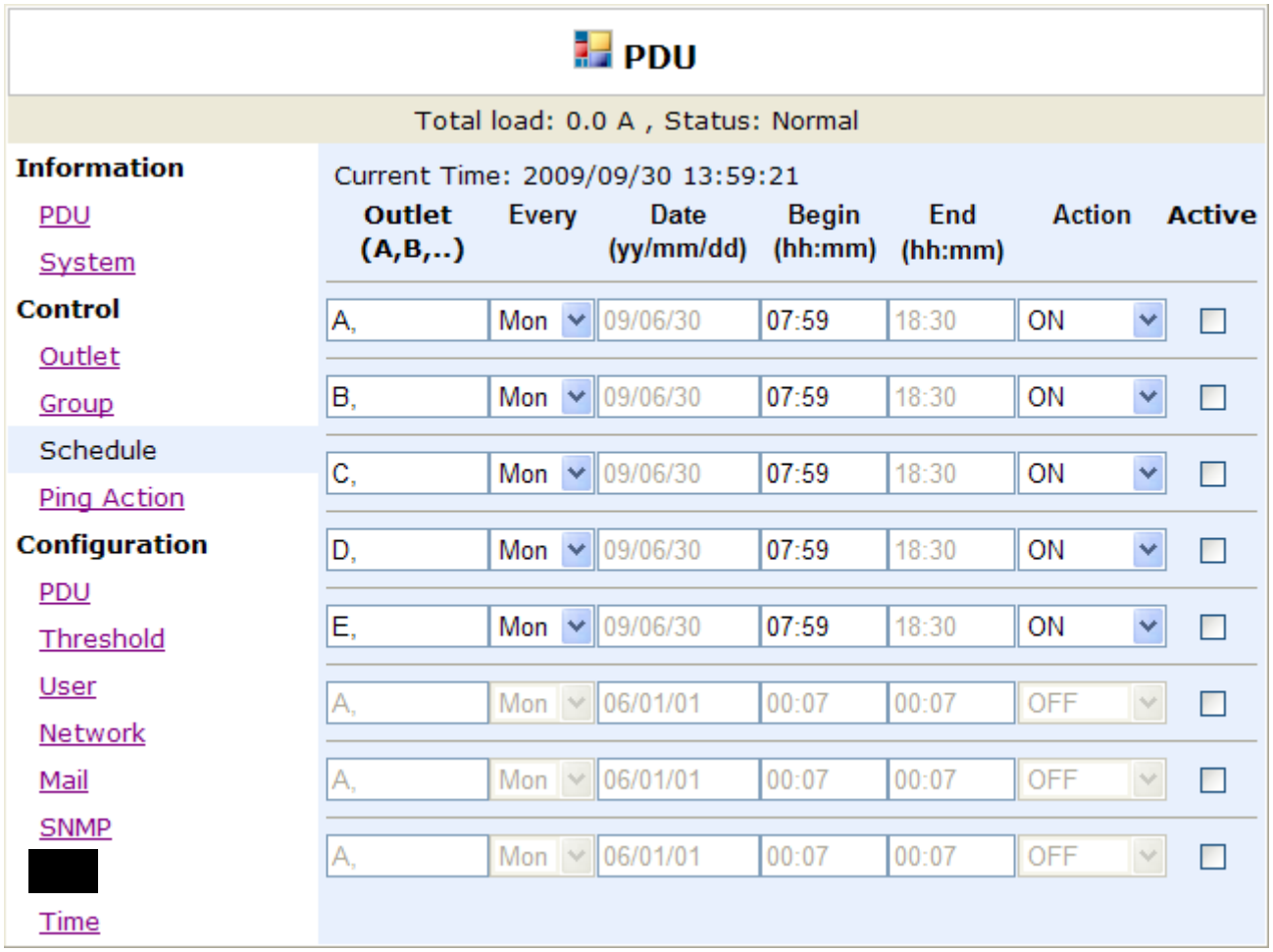
Outlet: Assign the outlet that want to be controlled in this schedule.

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.



Control: Ping Action (available for Switched PDU with multi-circuits)

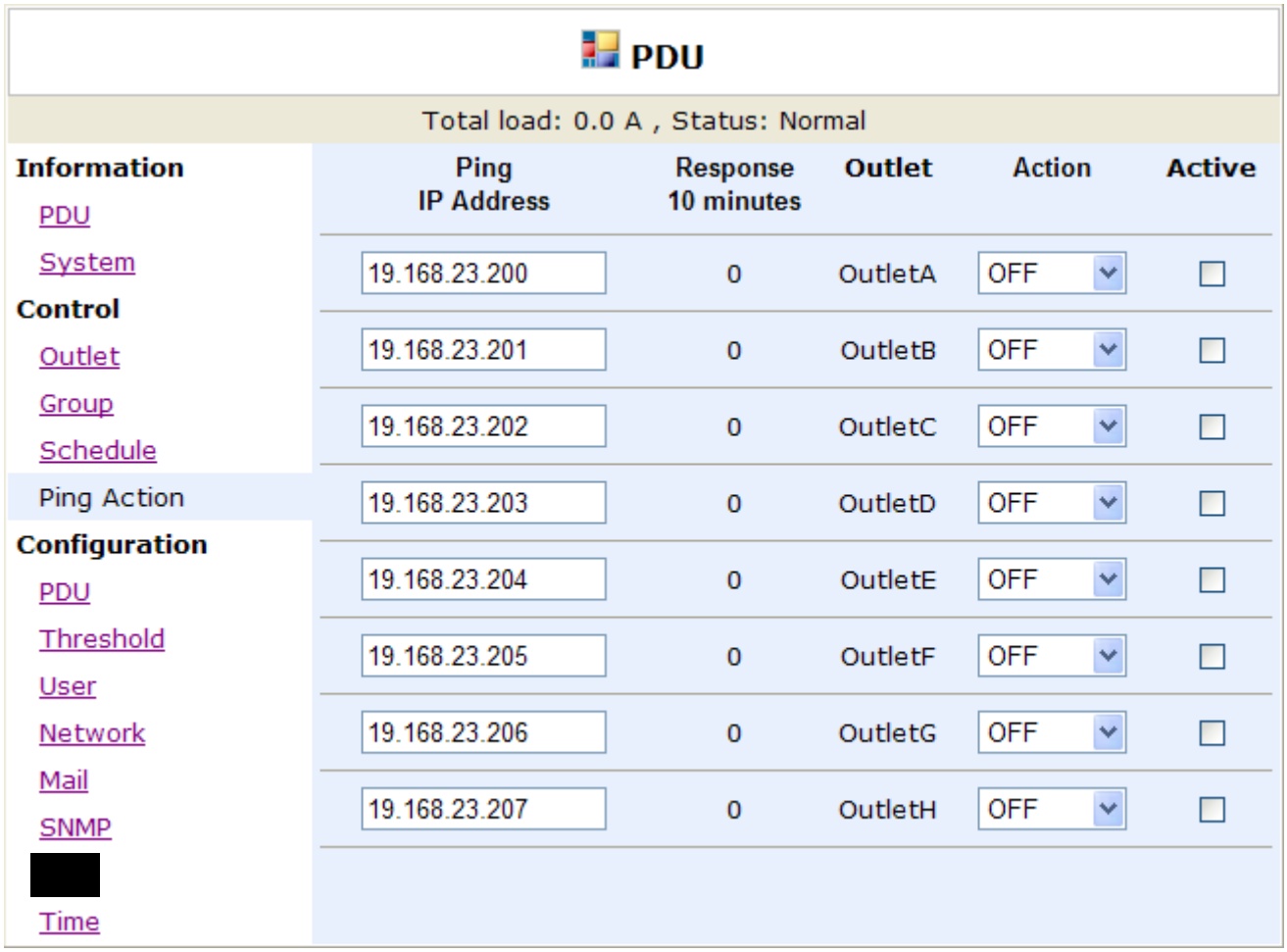
Automatically reboot the locked device by ping its IP

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.



Configuration: PDU (available for Switched PDU)

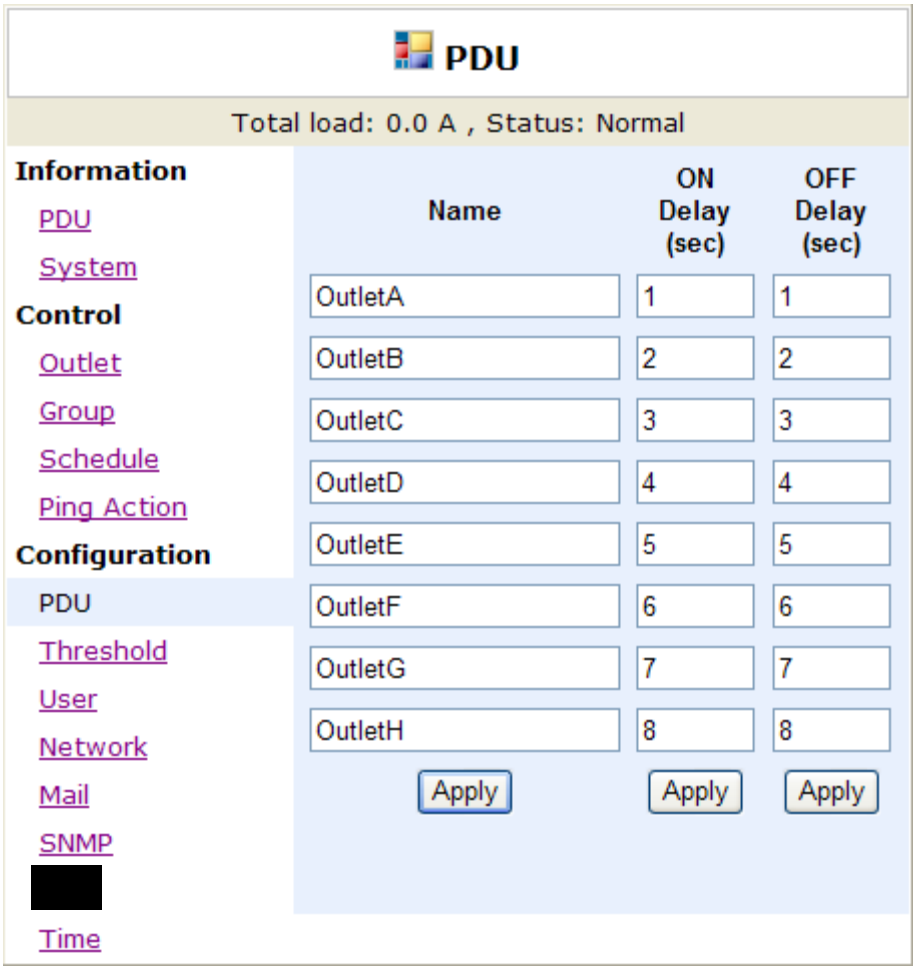
Set the outlet name and delay time.

Name: Rename the outlet.

ON: Set delay time for power on sequential.

OFF: Set delay time for power off sequential.

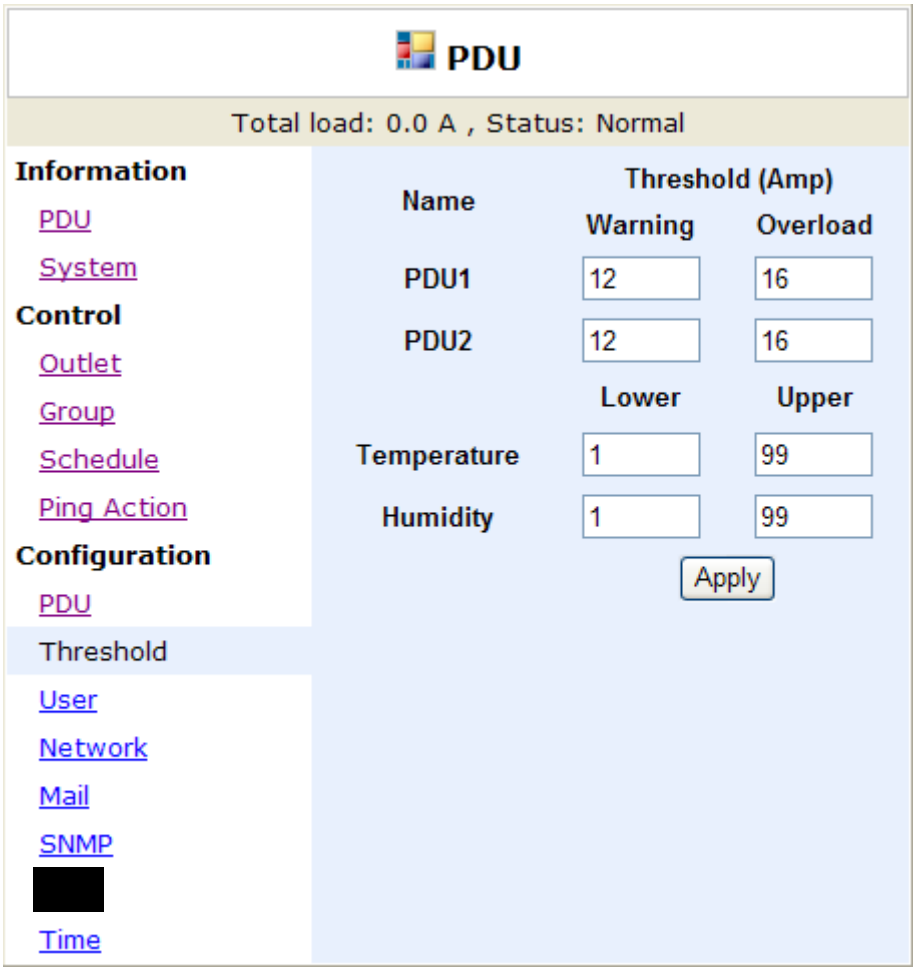
Note: The maximum delay time is 255 seconds.



Configuration: Threshold

Set the warning and overload threshold for each circuit.

Set lower and upper threshold for temperature and humidity.

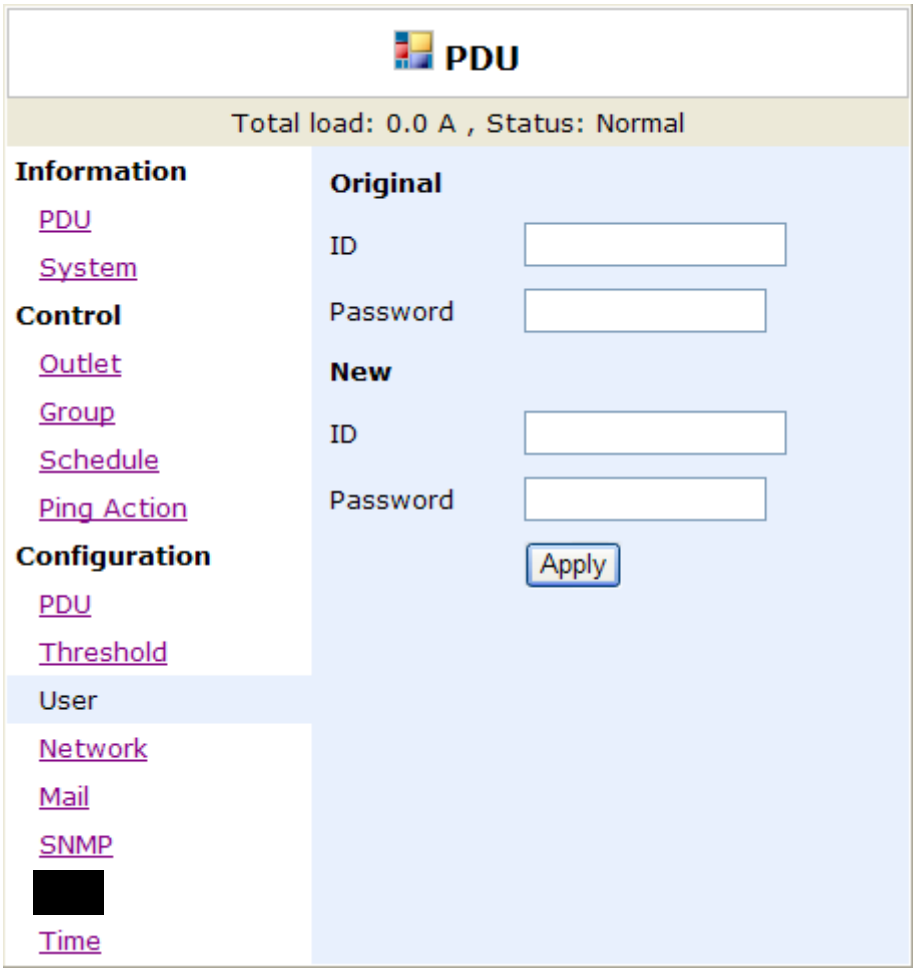


Configuration: User

Change ID and password.

Default ID is snmp and password is 1234.

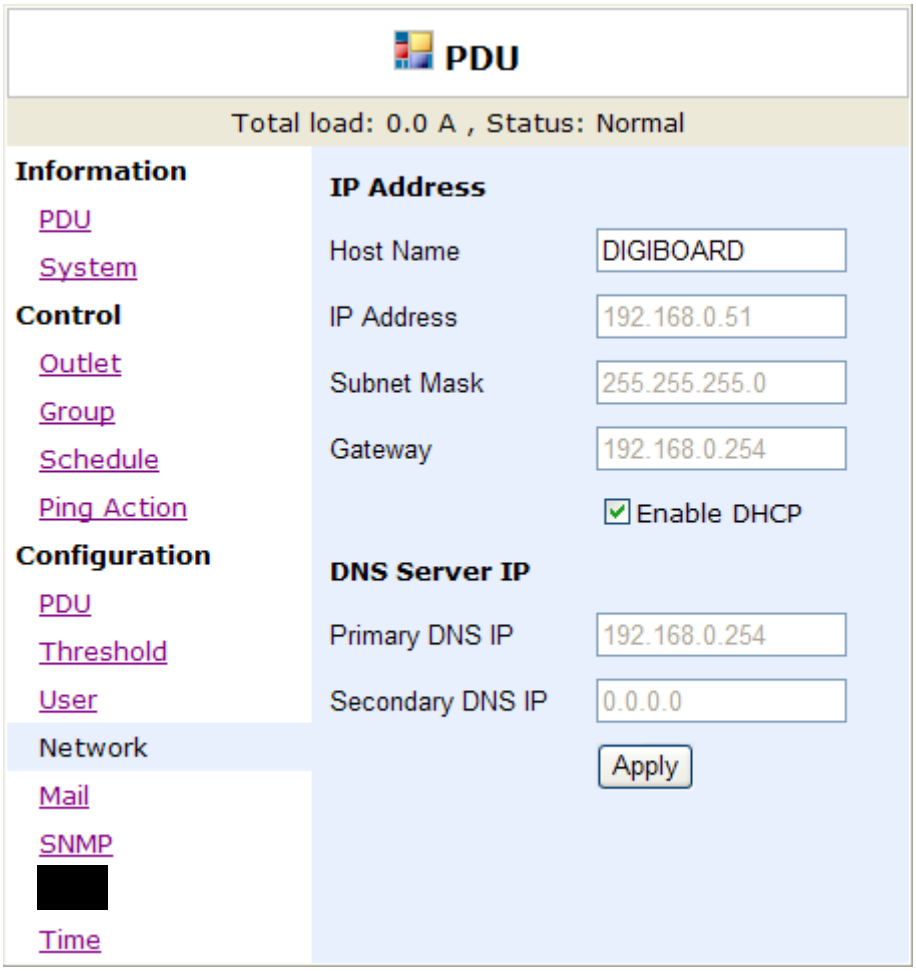
Note:
Maximum character number of ID and password is 12.
ID and password cannot use special characters.



Configuration: Network

PDU network information

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



Configuration: Mail

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

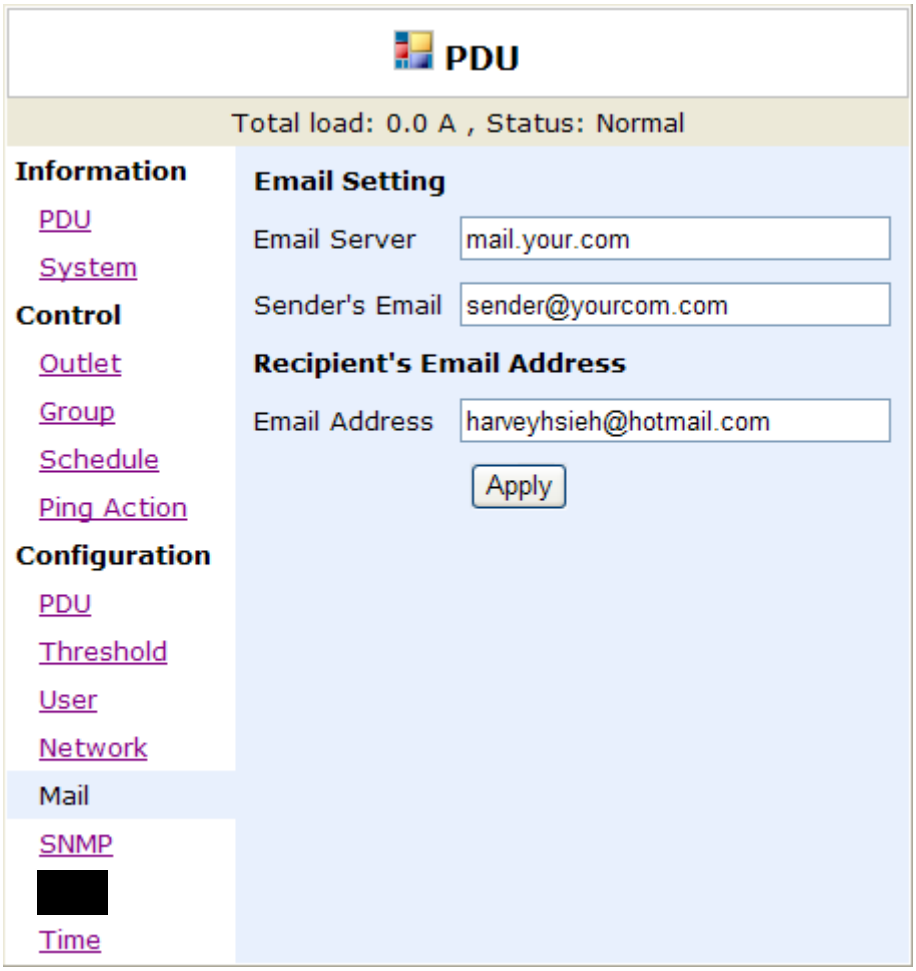
Email Server: The Email Server only support to be input domain name, not IP address.

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.

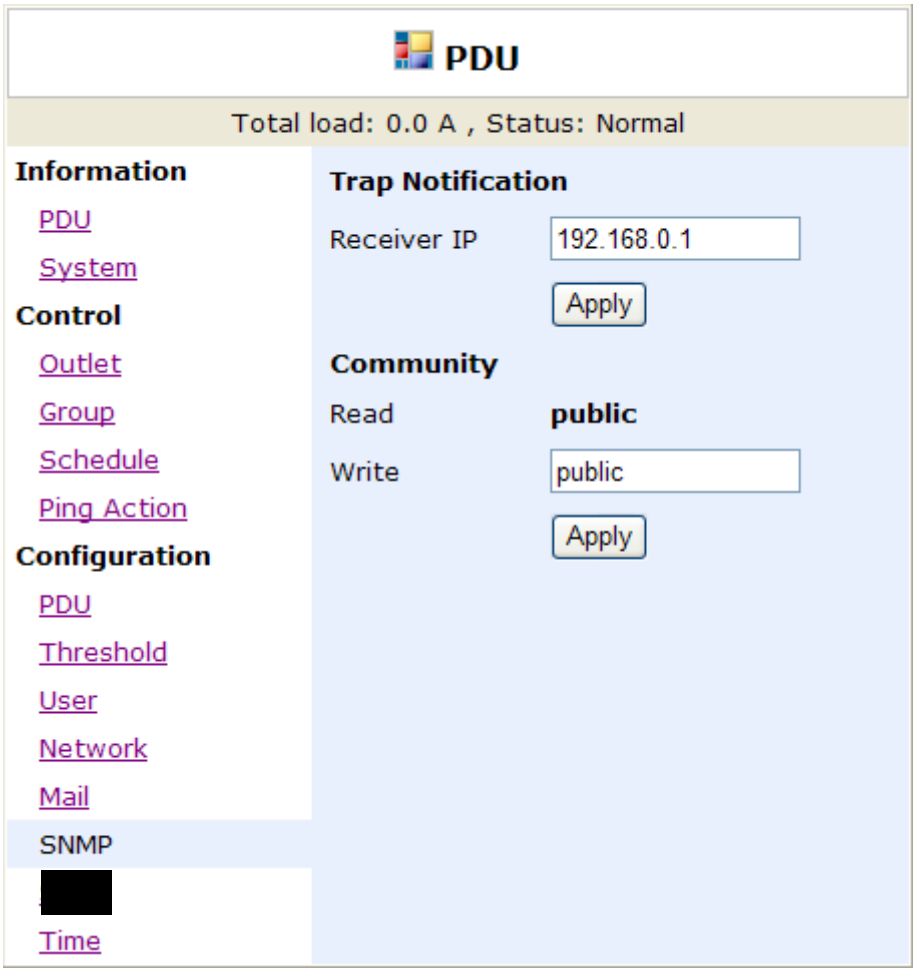


Configuration: SNMP

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.



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

Set the time for schedule control.

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

System Time: Input time manually.

