ATS

Automatic Transfer Switch

User Manual

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1. Introduction

The Automatic Transfer Switch (ATS) is a Single Phase Dual Input rack mountable Power Distribution Unit (PDU). When Input A falls below normal voltage and Input B is valid, the output is automatically transferred to Input B. The output is transferred back to Input A when Input A is valid and rises above normal. This high speed transfer rate ensures that the transfer is transparent to the sensitive equipment. The two sources are not required to be in the same phase. This is an effective solution that builds in redundancy and increases the AC power availability of connected equipment. If the dual input power is fed through two independent AC sources, then the system availability is increased and the dual input advantages are fully used.

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

The ATS 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.

Features:

- Dual input powers provide automatically redundant power protection.
- Built-in web server, manager can real time to monitoring the current consumption of the ATS.
- Built-in true RMS current meter.
- Setup easily, meter can read the IP address directly.
- Provide voltage, frequency, power factor, active power, apparent power and kWh information through web interface and SNMP.
- 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 ATS.
- Indicate input and output status with LED.
- Support to monitor temperature and humidity. (Need to purchase option accessory)

WARNING:

There is a risk of personal injury from electrical shock and hazardous energy levels. The installation of options and routine maintenance and service of the product must be performed by individuals who are knowledgeable about the procedures, precautions, and hazards associated with AC power products (trained

service technician). To reduce the risk of electrical shock and/or equipment damage when installing or servicing the ATS:

- The ATS must be disconnected from the product and unplugged from the AC electrical outlet before servicing or repairing product.
- Do not overload the output of the ATS. The total connected load should not exceed rated input power.
- Do not exceed the leakage current limit for the ATS in your system. See the “Earth Leakage Current” section later in this document for limits.

Earth Leakage Current

To reduce the risk of electrical shock due to high leakage current, a reliable grounded (earth) connection is essential before connecting ATS to AC power. Observe the following limits when connecting the product to AC power distribution devices.

For products that have attached AC power cords directly connected to the building power, the total combined leakage current should not exceed 5 percent of the rated input current for the device. For products that have detachable AC power cords, the total combined leakage current should not exceed 3.5mA.

2. ATS Package

The standard ATS package contains:

- ATS.
- Rack mount Brackets.
- CD-ROM, it contains:
  - User Manual.
  - Monitoring Software.
  - MIB: Management Information Base for Network.

3. Function

Interface

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	2	Input: Indicate input power status.
Green LED	2	Output: Indicate which input power source is active to provide output power.
Green LED	1	DHCP: Light on means that PDU gets IP address through DHCP.
Circuit Breaker	2	Overload power protection. (Only 30 Amp above is available)

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.

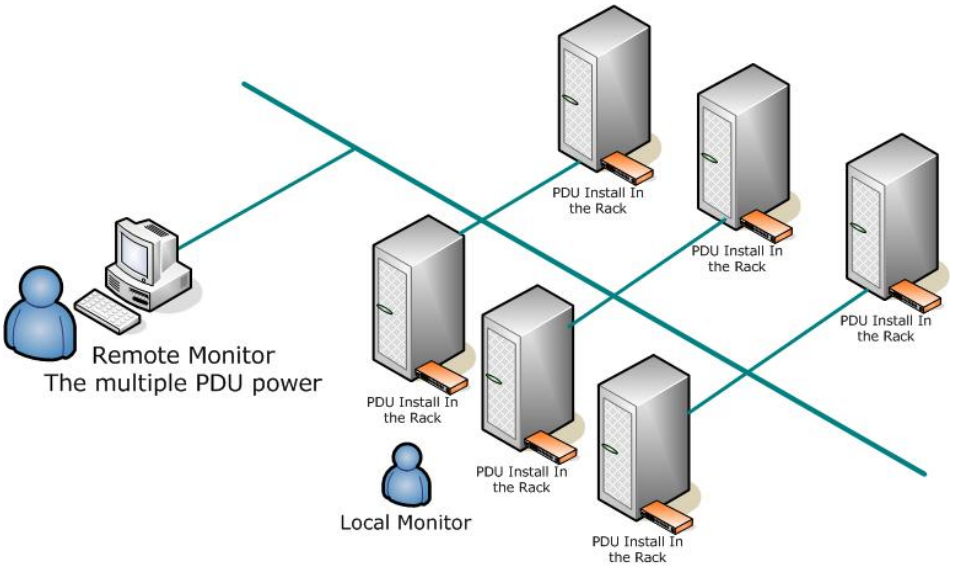
B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

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 ATS comes with brackets for mounting in a rack. To mount the ATS 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 ATS.
8. Switch on the ATS.

Note :

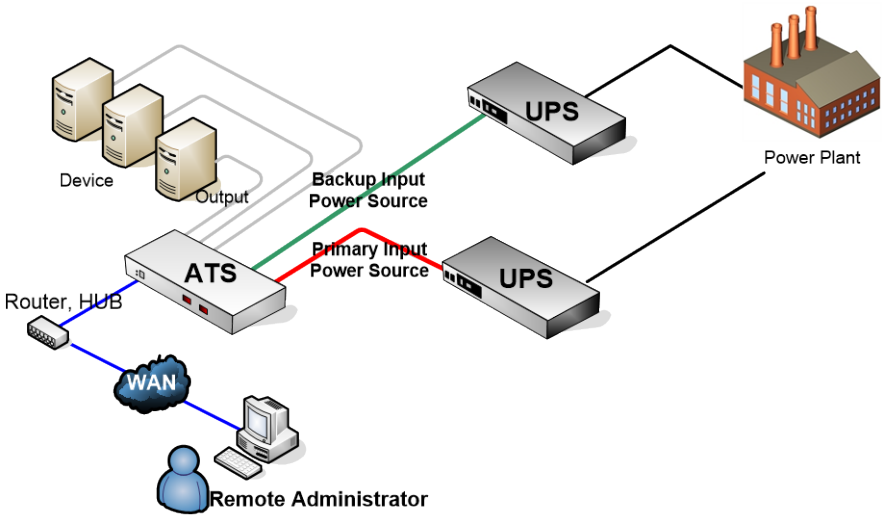
The default setting for the way to get IP address is DHCP. If ATS can not get the IP from DHCP server, its IP address will stay at 192.168.0.216

5. Configuration

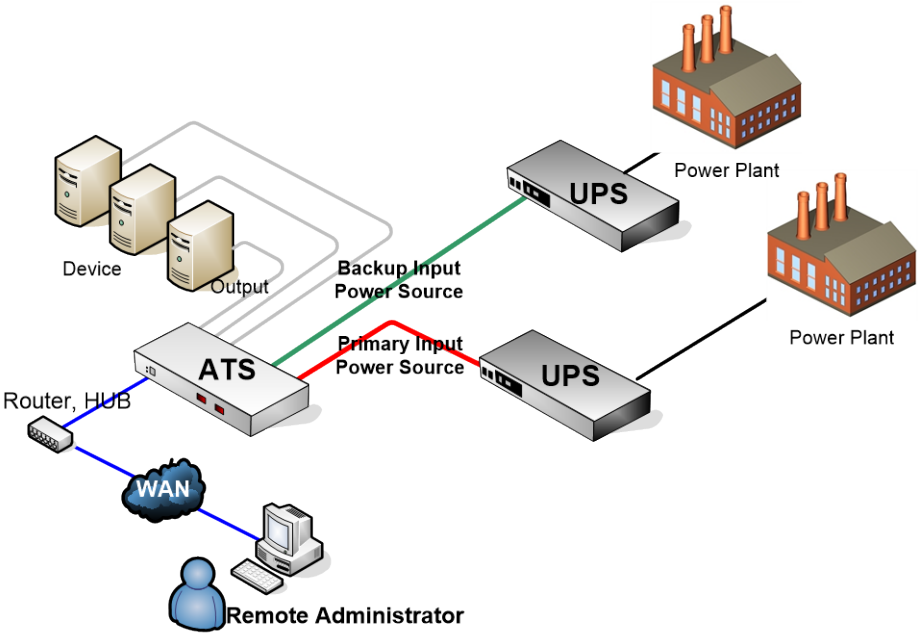
The ATS can be configured to fit several power distribution requirements.

Two supported configurations for Redundant Switch are shown below.

Minimum acceptable configuration: Redundant Switch with two UPS units connected to the same facility power source.



Best configuration: Redundant Switch with two Smart-UPS units connected to two separate AC lines, each UPS receiving power from a separate facility power source.



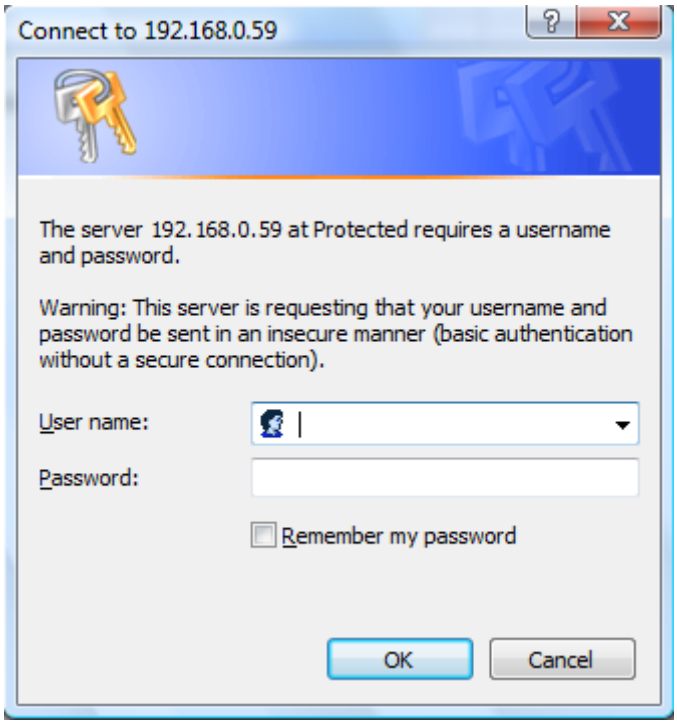
6. Web Interface

Login:

Input the ATS IP address in web browser.

Default ID is snmp.

Password is 1234.



Information: ATS

Indicate the status of ATS input power

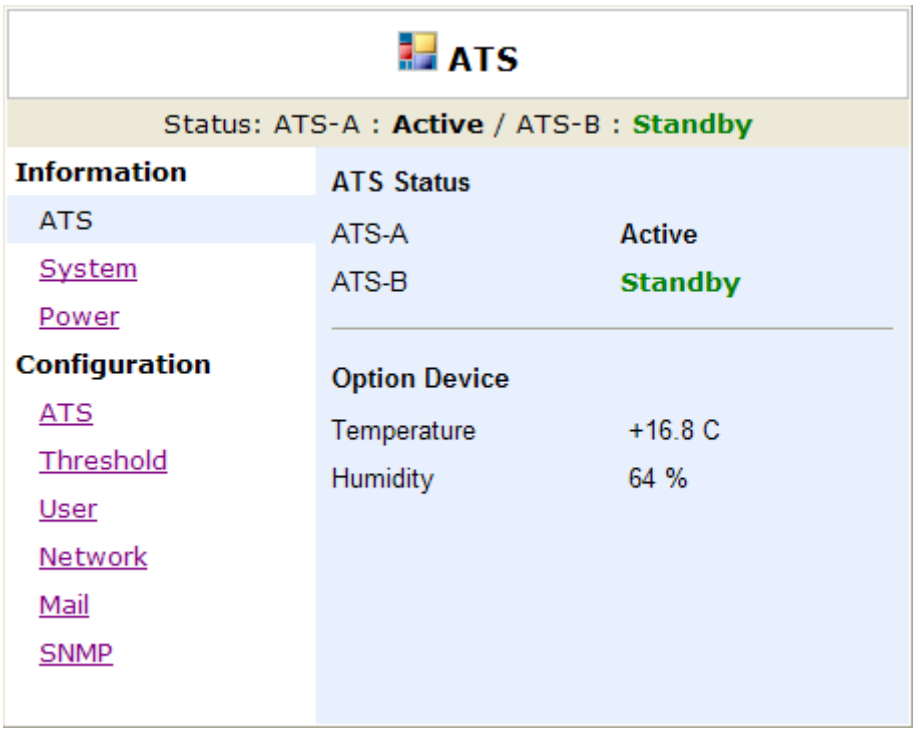
Status Description:

Active

Standby: Backup power source

n/a: No power input or power is out of range.

Indicate the temperature and humidity



Information: System

Indicate ATS system information, including:

Model No.

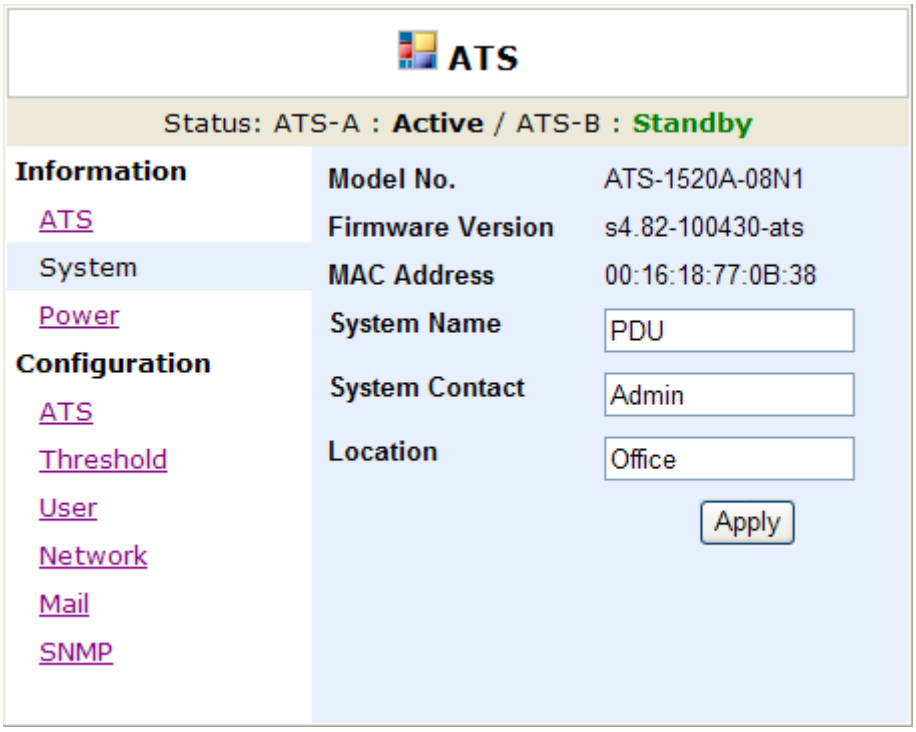
Firmware Version

MAC Address

System Name

System Contact

Location



Information: Power

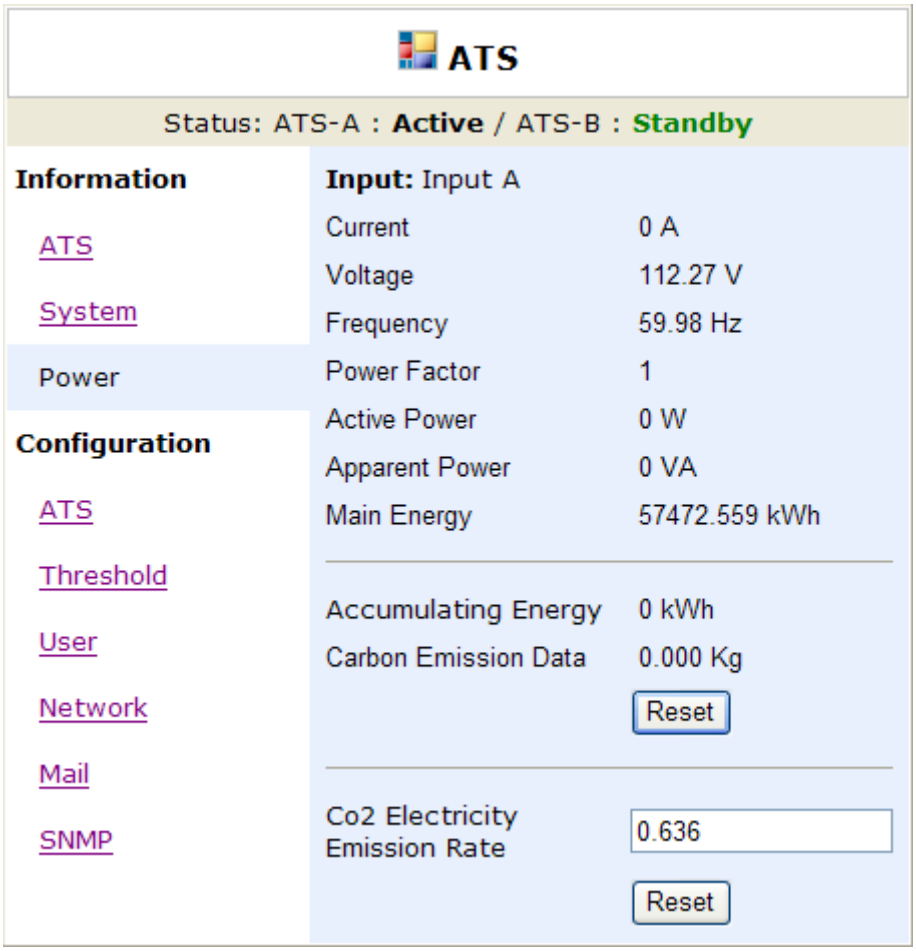
Provide ATS power information, including:

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.



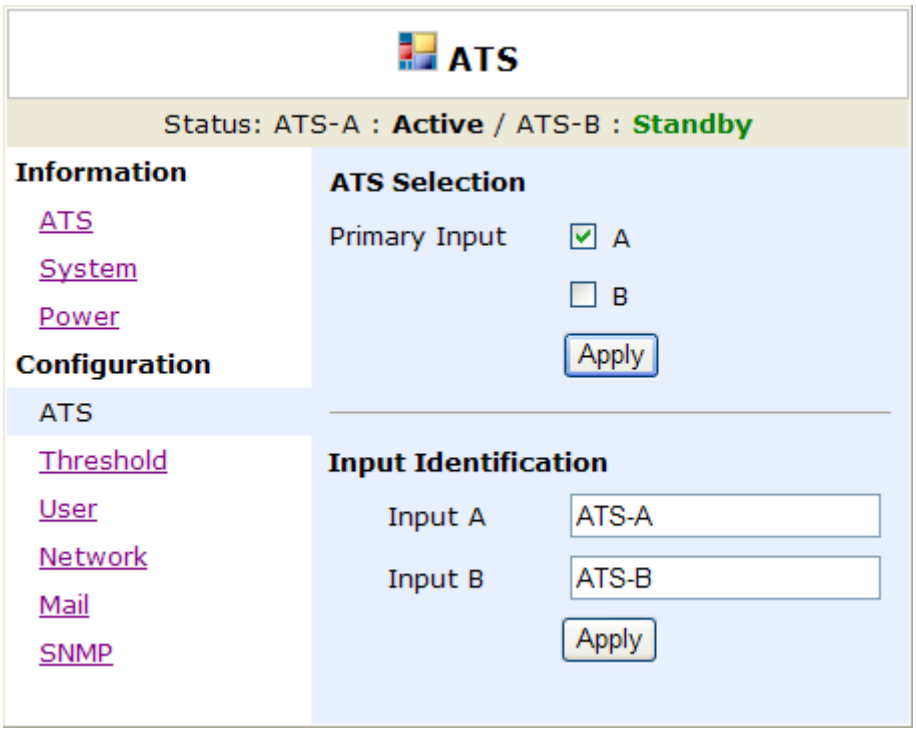
Configuration: ATS

ATS Selection

Manually select one of inputs as the primary power source.

Input Identification

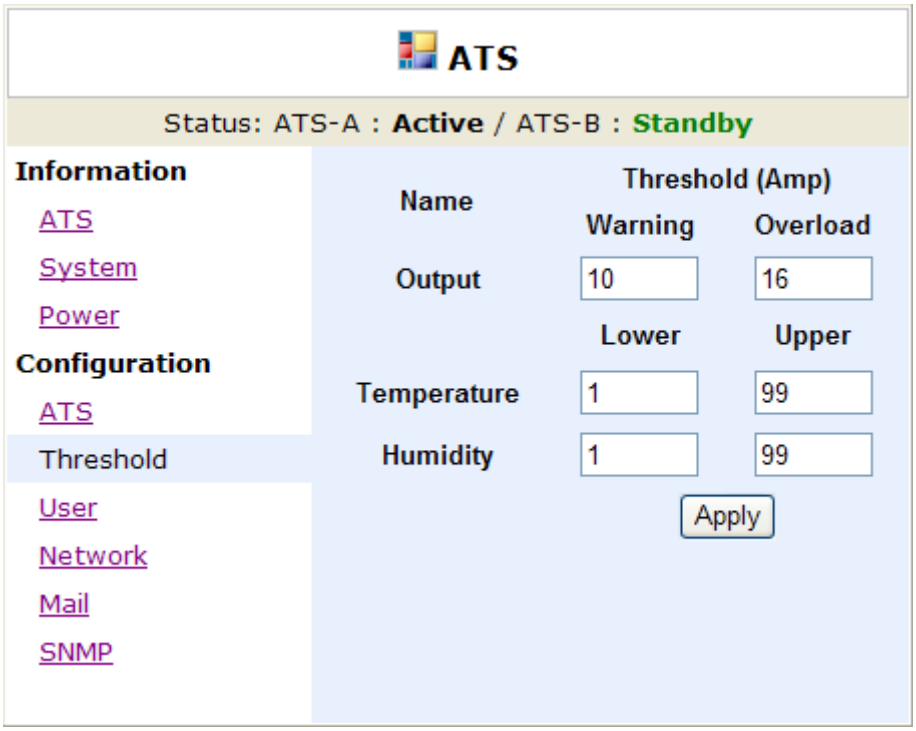
Rename input power identification.



Configuration: Threshold

Set the warning and overload threshold for each circuit.

Set lower and upper threshold for temperature and humidity.

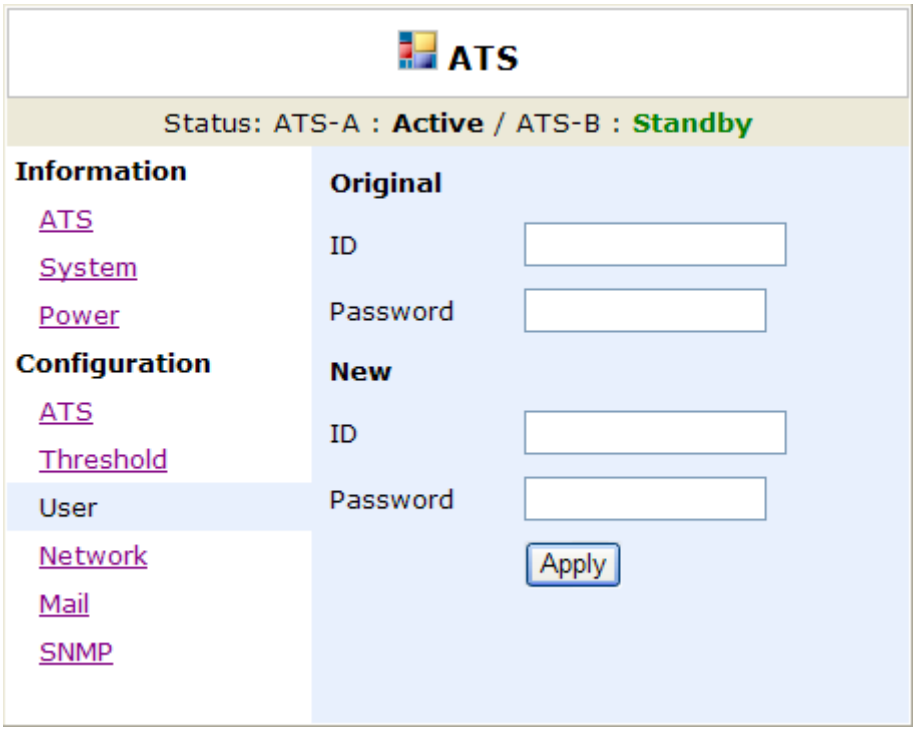


Configuration: User

Change ID and password.

Default ID is snmp and password is 1234.

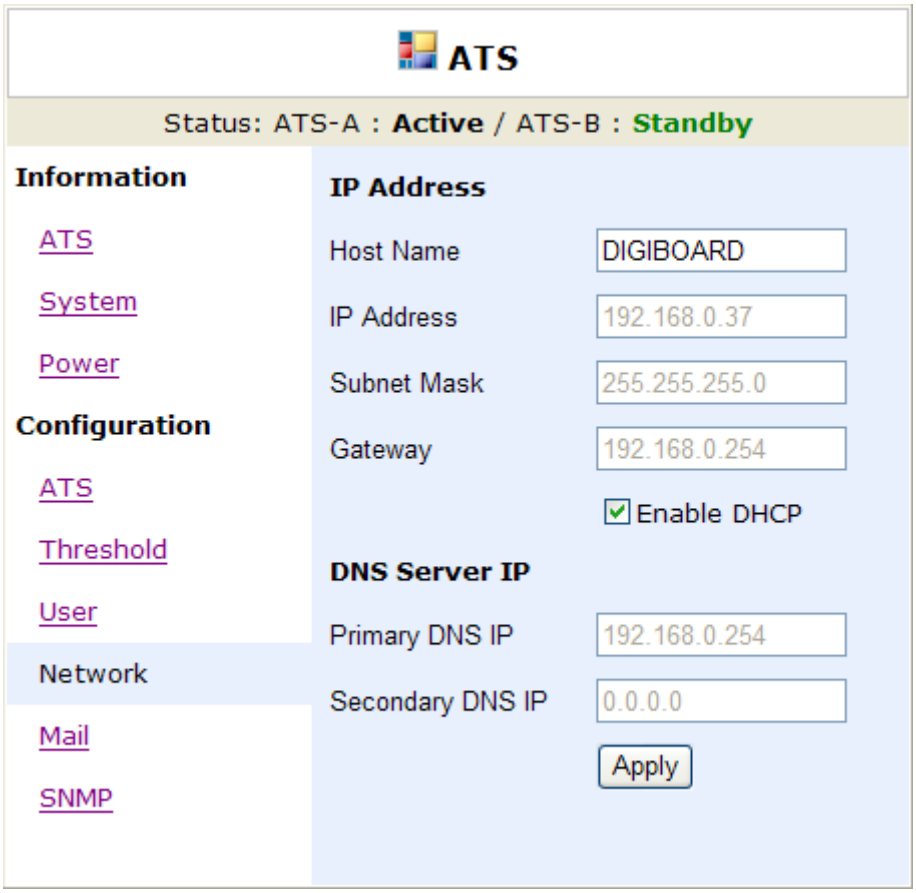
Note:
Maximum character number of ID and password is 12.
ID and password cannot use special characters.



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.

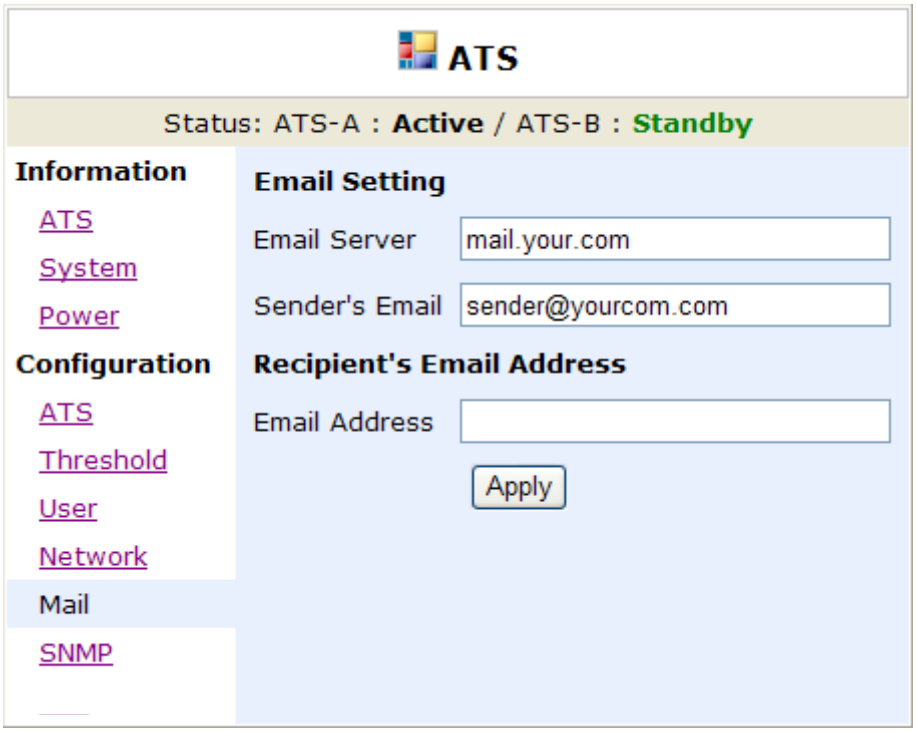
Email Server: The Email Server only support to be input domain name, not IP address.

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.