CyberPower®

YOUR ULTIMATE ALLY IN POWER

# POWER DISTRIBUTION UNITS

INTELLIGENT PDU/ATS

PDU31XXX / PDU41XXX / PDU71XXX / PDU81XXX
PDU34XXX / PDU44XXX / PDU74XXX / PDU84XXX

# USER MANUAL

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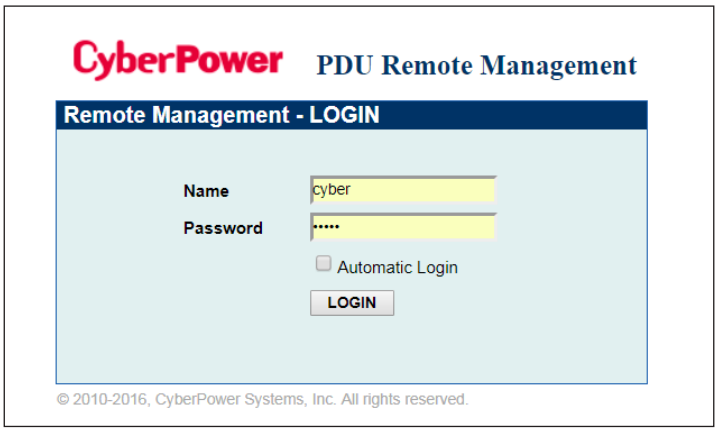
## WEB INTERFACE

### Introduction

CyberPower's Intelligent Power Distribution Unit (PDU) and Automatic Transfer Switch (ATS) Web Interface gives users all the features they need to configure, manage, and monitor the Intelligent PDU/ATS Series via a Web browser. With this easy-to-navigate interface, users can perform real-time monitoring of each outlet, control individual outlet, set power alerts, and complete many other tasks in an intuitive manner.

### How to Log In




1. Open a Web browser.
2. Enter the IP address of the CyberPower PDU/ATS in the Browser Address Bar, and then press **ENTER**.
   **Note:** To look up the IP address, please refer to the LCD screen of the PDU/ATS.
3. Enter the information for the User Name and Password fields.

   There are two types of user accounts.

| Account Type | Default User Name | Default Password | Authorization |
|---|---|---|---|
| Administrator | cyber | cyber | View, access, and control all settings. |
| Viewer | device | cyber | View all settings. |

4. Click **LOGIN** to open the Summary Tab.

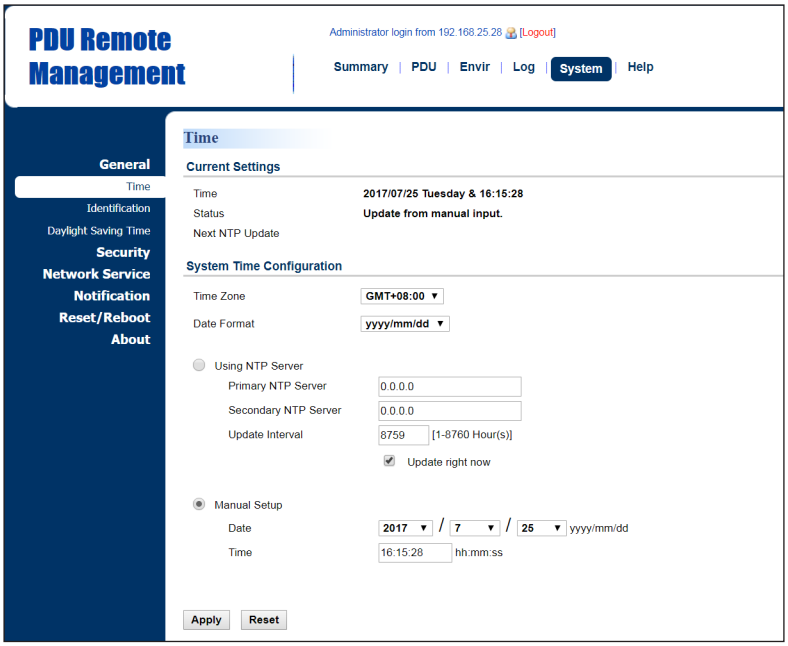
## General Settings

These are the basic settings for the PDU/ATS.

1. Date and Time Settings

   The date and time can be set manually or synchronized with a Network Time Protocol (NTP) server.

   All time-related configurations are based on this setting. See System Tab > General > Time.

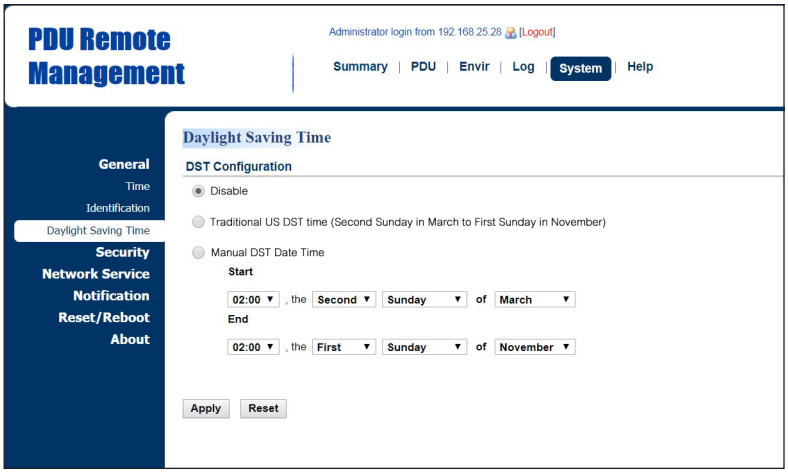



System Tab > General > Time

| Item | Definition |
|---|---|
| **Current Settings** | |
| Time | The current date and time. |
| Status | Show whether the date and time setting is updated by manual setup or by the NTP (Network Time Protocol) server. |
| Next NTP Update | Synchronize with Update Interval. |
| **System Time Configuration** | |
| Time Zone | The options for time zone selection. |
| Date Format | The options for date format selection. |
| Using NTP Server | **Primary NTP Server:** Users enter the IP address/domain name of the NTP server and choose local time zone based on their location.<br>**Secondary NTP Server:** Users enter the IP address/domain name of the NTP server and choose local time zone based on their location.<br>**Update Interval:** The frequency for updating the date and time from the NTP server. Select the **Update right now** option to update immediately. |
| Manual Setup | **Date:** Enter the date in the designated format.<br>**Time:** Enter the time in the designated format. |

2. Daylight Saving Time

Users adjust the daylight saving time according to their location. See System Tab > General > Daylight Saving Time.

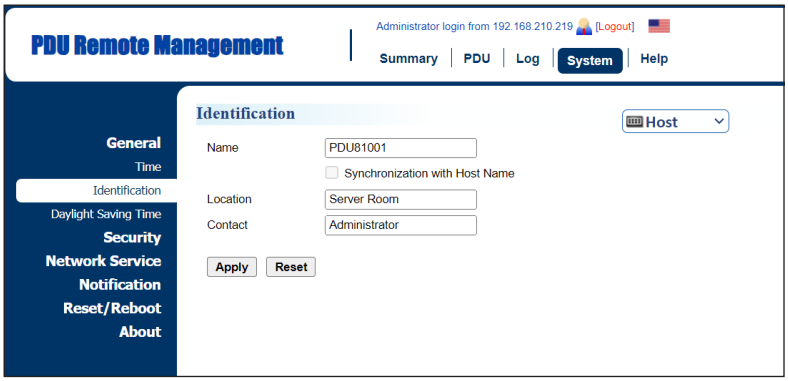



System Tab > General > Daylight Saving Time

| Item | Definition |
|---|---|
| **DST Configuration** | |
| Disable | Disable the DST function. |
| Traditional US DST | Start from the second Sunday in March to the first Sunday in November. |
| Manual DST Date | Select the start/end time using the dropdown menu. |

3. Device Identification

Users assign the device's name, location, and the person to contact about issues.
See System Tab > General > Identification.

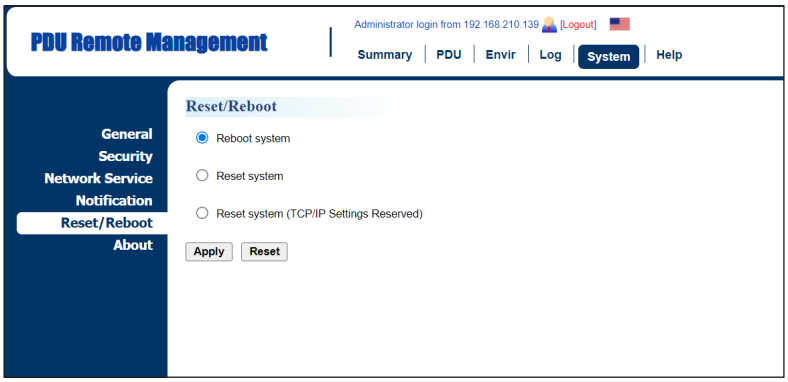



System Tab > General > Identification

| Item | Definition |
|---|---|
| HOST/GUEST# | Select the role of the PDU/ATS (HOST or GUEST#) if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. |
| Synchronization with Host Name | Allow the host name to be synchronized with the identification name so both fields automatically contain the same value.<br>**Note:** When enabling this feature, the identification name can only contain numbers (0-9), letters (a-z, A-Z), hyphens and decimal points. The identification name should not start with a hyphen or a decimal point. |
| Name | The name entered by the user to identify the PDU/ATS. |
| Location | The PDU/ATS location entered by the user. |
| Contact | The person to be contacted about issues. Entered by the user. |

4. Device Reset/Reboot

   Users can reboot the PDU/ATS or reset all the settings to defaults. See System Tab > Reset/Reboot.




System Tab > Reset/Reboot

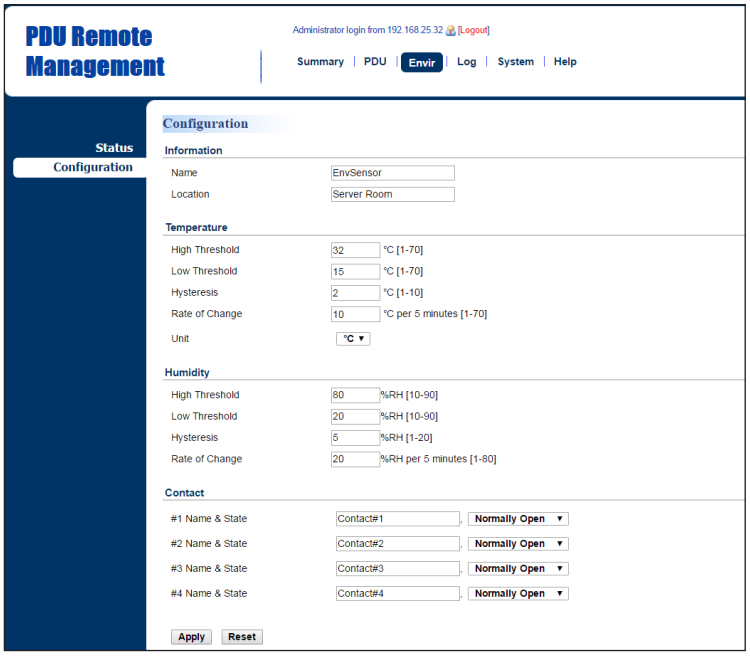
| Item | Definition |
|---|---|
| Reboot System | Restart the System without turning off and restarting the PDU/ATS outlets. |
| Reset System | Reset the System to default setting and restart it. This action does not turn off or restart the PDU/ATS outlets. |
| Reset System (TCP/IP Settings Reserved) | Reset the System to default setting but reserving TCP/IP settings, and restart it. This action does not turn off or restart the PDU/ATS outlets. |

5. Environmental Monitoring

PDU/ATS with CyberPower ENVIROSENSOR can provide remote monitoring of temperature and humidity in a server closet and/or data center. You can set temperature and humidity thresholds for an event action warning. See Envir Tab > Status & Envir Tab > Configuration. Note that the Envir Tab only appears when an ENVIROSENSOR is connected to the PDU/ATS.


Envir Tab > Status

| Item | Definition |
|---|---|
| Information | Display the name and location of the ENVIROSENSOR. |
| **Temperature** | |
| Current Value | The real-time reading of temperature. |
| Maximum | The highest temperature recorded and the time of occurrence. |
| Minimum | The lowest temperature recorded and the time of occurrence. Click **Reset** to reset the highest and lowest value to zero. |
| **Humidity** | |
| Current Value | The real-time reading of humidity. |
| Maximum | The highest humidity recorded and the time of occurrence. |
| Minimum | The lowest humidity recorded and the time of occurrence. Click **Reset** to reset the highest and lowest value to zero. |
| Contact | Display the current status of each input dry contact relay. |



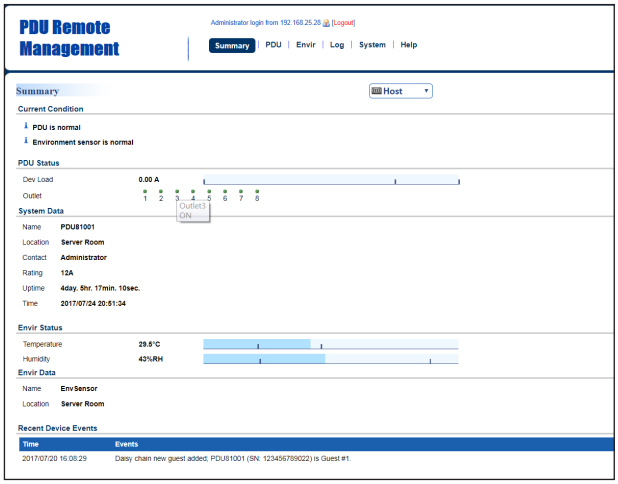

Envir Tab > Configuration

| Item | Definition |
|---|---|
| **Information** | |
| Name | The name entered by user to identify the ENVIROSENSOR. |
| Location | The location of the ENVIROSENSOR, entered by the user. |
| **Temperature** | |
| High Threshold | Set the highest temperature value for a high temperature warning. |
| Low Threshold | Set the lowest temperature value for a low temperature warning. |
| Hysteresis | The point where the environmental state changes from abnormal to normal and users receive a clearing event notification. The function of Hysteresis is to avoid receiving multiple event notifications.<br>For high threshold, the point is the threshold minus the Hysteresis value; for low threshold, the point is the threshold plus the Hysteresis value.<br>For example: The high threshold is 32°C, and hysteresis is 2°C. The temperature rises to 33°C, you will get a warning. Then it goes down to 31°C and up to 33°C repeatedly. No clearing events and warnings will occur while the temperature readings are within the Hysteresis. You will not get a clearing event until it drops to 30°C. |
| Rate of Change | Defines the abnormal change of temperature per 5 minutes.<br>For example: The current temperature is 23°C, and rate of change is 10°C. If it goes up to 33°C or down to 13°C within 5 minutes, you will get a warning. |
| Unit | Select the unit of temperature. |
| **Humidity** | |
| High Threshold | Set the highest humidity value for a high humidity warning. |
| Low Threshold | Set the lowest humidity value for a low humidity warning. |
| Hysteresis | Same as Hysteresis under temperature. |
| Rate of Change | Same as Hysteresis under temperature. |
| Contact | Enter the name of each input dry contact relay and use the dropdown menu to define the normal status of each one. |

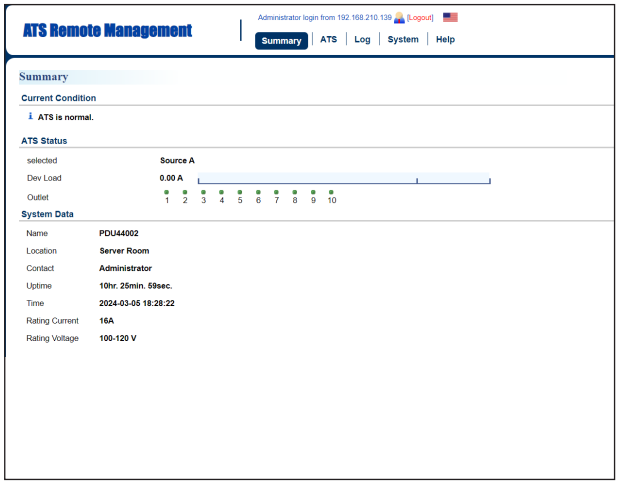
## Advanced Power Management

### Remote Monitoring

Users can see real-time readings of PDU/ATS vitals such as device load, power consumption, and outlet status for an overview of current PDU/ATS status. See Summary Tab, PDU/ATS Tab > Status, and PDU/ATS Tab > Status > Outlet.

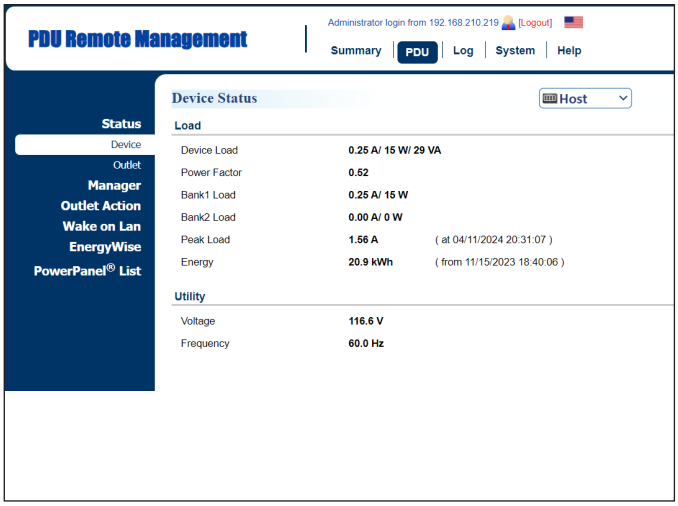



PDU Summary Tab

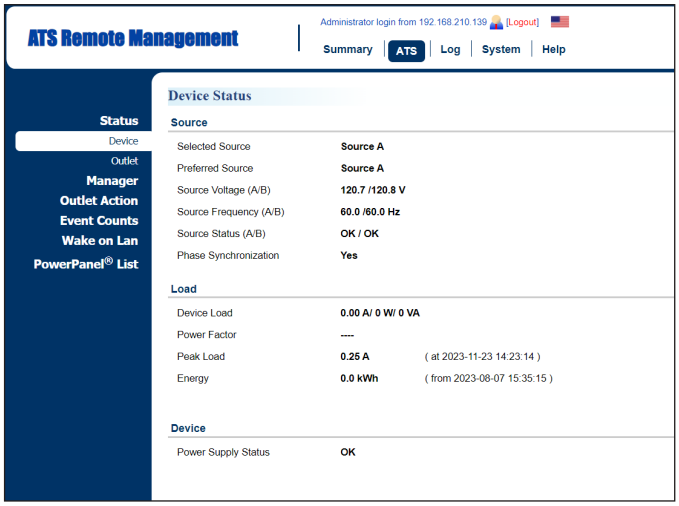



ATS Summary Tab

| Item | Definition |
|---|---|
| HOST/GUEST# | Select the role of PDU/ATS (HOST or GUEST#) if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. |
| Current Condition | Operating condition of the PDU/ATS and ENVIROSENSOR. |
| **PDU/ATS Status** | |
| Dev Load | Total load current of all connected devices, measured in Amps. |
| Outlet | The on/off status of each outlet. The green light icon indicates that the outlet is on and providing power. This light will go off when the outlet turns off.<br>Outlet Tooltip Function: move the cursor to an individual outlet, Outlet name and its ON/OFF status will be shown. |
| **System Data** | **For configuration, see System Tab > General > Identification** |
| Name | The name of the PDU/ATS. |
| Location | The location of the PDU/ATS. |
| Contact | The person accountable for the maintenance of the PDU/ATS. |
| Rating | UL current rating of the PDU/ATS, measured in Amps. |
| Uptime | The amount of time the system has been working for since it was last restarted. |
| Time | System time of the PDU/ATS. For configuration, see System Tab > General > Time. |
| **Envir Status** | |
| Temperature | Display temperature reading when the ENVIROSENSOR is connected to the PDU/ATS. |
| Humidity | Display humidity reading when the ENVIROSENSOR is connected to the PDU/ATS. |
| **Envir Data** | **For configuration, see Envir Tab > Configuration** |
| Name | The name of the ENVIROSENSOR. |
| Location | The location of the ENVIROSENSOR. |
| Recent Device Events | A list of the five most recent device events. All events are related to configuration changes. |

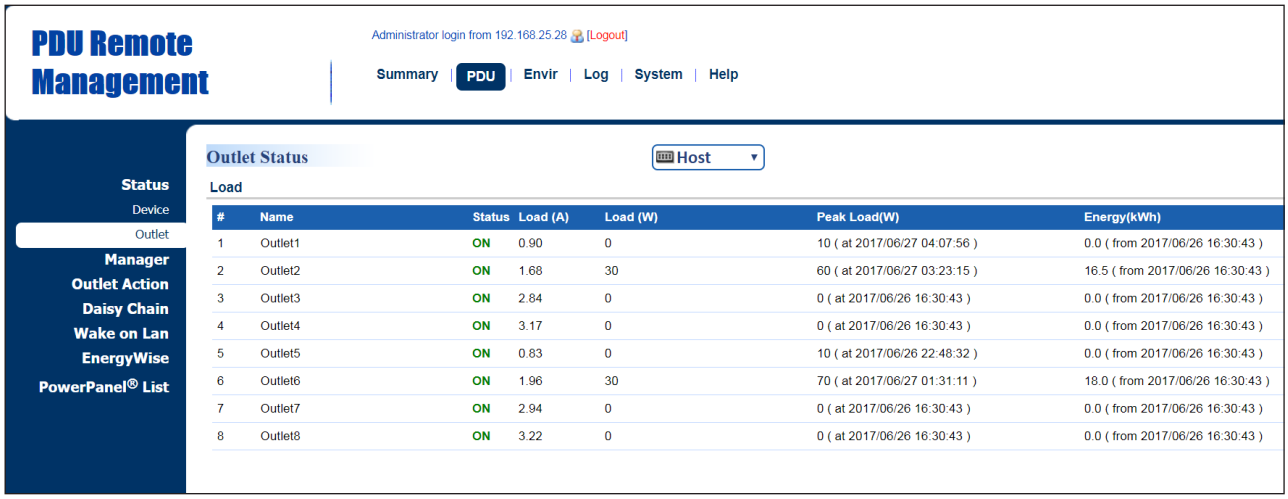



PDU Tab > Status > Device




ATS Tab > Status > Device

| Item | Definition |
|---|---|
| HOST/GUEST# | Select the role of PDU/ATS (HOST or GUEST#) if PDU/ATS units are daisy chained.<br>Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. |
| **Source Status (For ATS Series Only)** | |
| Selected Source | Source currently supplying power to load. |
| Preferred Source | Source the ATS will switch over to when both sources are acceptable. |
| Source Voltage | Input voltage of the source. |
| Source Frequency | Frequency of the source. |
| Source Status | Status that indicates if the source is OK. |
| Phase Synchronization | Status that indicates if source A and B are in phase. |
| **Load** | |
| Device Load | Load current of the connected device(s), measured in Amps.<br>Load power of the connected device(s), measured in Kilowatts and Kilovolt-Amps. |
| Bank Load<br>only available in select models | Load current of the bank, measured in Amps. |
| Power Factor | Power factor of the connected device(s). |
| Peak Load | Maximum load current recorded and the time of occurrence.<br>Users can reset the value to zero at Power Restore in PDU/ATS Tab > Manager > Device |
| Energy | Total energy consumed by the connected device(s) from the reset date, measured in kWh. Users can reset the value to zero at Power Restore in PDU/ATS Tab > Manager > Device |
| **Utility** | |
| Voltage | Voltage of the utility power. |
| Frequency | Frequency of the utility power. |



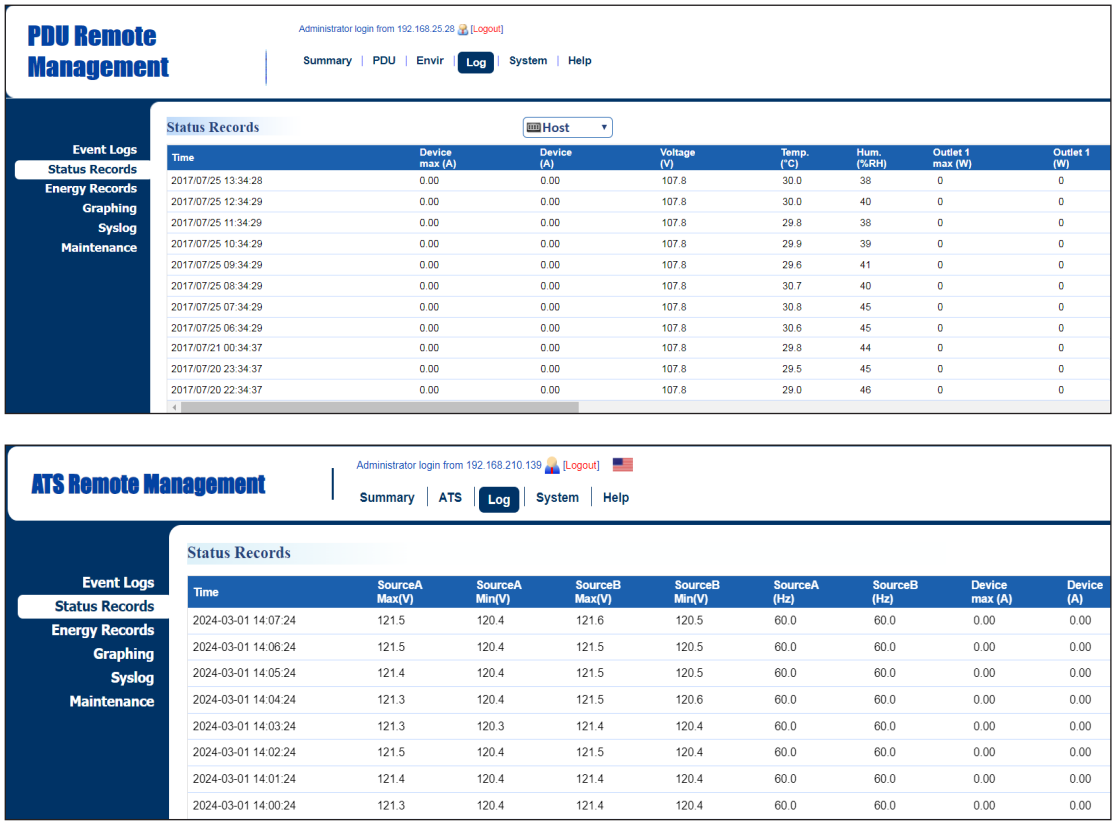

PDU/ATS Tab > Status > Outlet

The above Outlet Status Page is available for Switched Metered by Outlet Series only.

| Item | Definition |
|---|---|
| HOST/GUEST# | Select the role of PDU/ATS (HOST or GUEST#) if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. |
| Status | The on/off status of each outlet. |
| Load (A) | Load current of each outlet, measured in Amps. |
| Load (kW) | Load power of each outlet, measured in Kilowatts. |
| Peak Load (kW) | The maximum load current recorded and the time of occurrence. Users can reset the value to zero at Power Restore in PDU/ATS Tab > Manager > Outlet. |
| Energy (kWh) | Total energy consumed by connected equipment of each outlet since the last reset. The reset can be set in PDU/ATS Tab > Manager > Outlet. |

### Visible Power Consumption

With comprehensive energy measurement data, users can gain more visibility to the total power usage of a PDU/ATS or the status of source A and B of an ATS, as well as estimate the energy cost and CO2 emissions. The energy-trend report also helps users analyze their power utilization and to review the history of power conditions.
See Log Tab > Status Records, Log Tab > Graphing, Log Tab > Energy Records, and Log Tab > Maintenance.

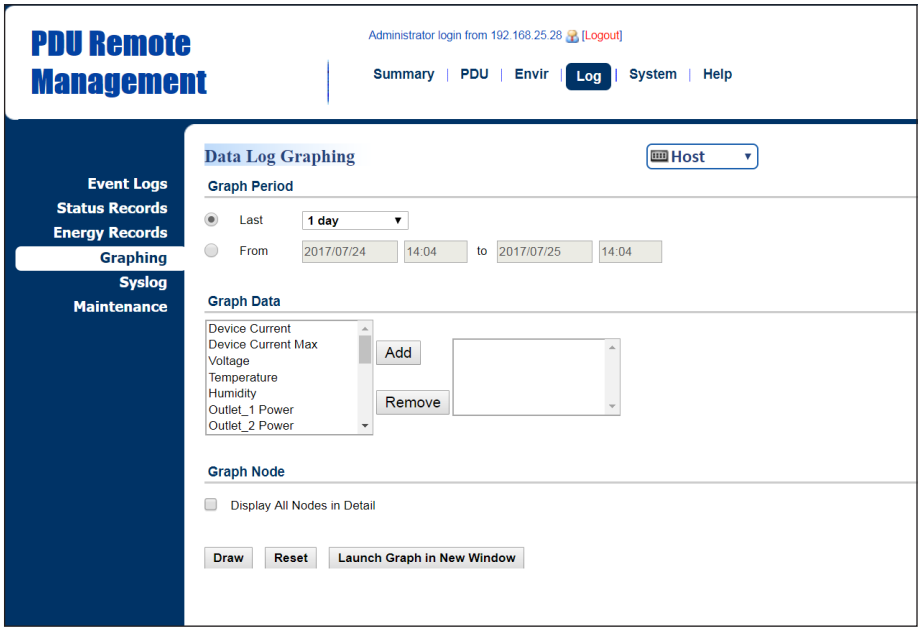



Log Tab > Status Records

| Item | Definition |
|---|---|
| HOST/GUEST# | Select the role of PDU/ATS (HOST or GUEST#) if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. |
| Source A/B Max (V)* | The maximum voltage of the Source A/B during a specific time interval, measured in Volts. This interval can be set in Log Tab > Maintenance. |
| Source A/B Min (V)* | The minimum voltage of the Source A/B during a specific time interval, measured in Volts. This interval can be set in Log Tab > Maintenance. |
| Source A/B (Hz)* | Frequency of the Source A/B. |
| Device Max (A) | The maximum load current of the connected device(s) or bank during a specific time interval, measured in Amps. This interval can be set in Log Tab > Maintenance. |
| Device (A) | Load current of the connected device(s) or bank, measured in Amps. |
| Dev. (W) | Watt of the connected devices(s) or bank, measured in Watts. |
| Voltage (V) | Voltage of the utility power. |
| ENV# Temp. (°C) | Temperature reading when the SNEV001# is connected to the PDU/ATS. |
| ENV# Hum. (%RH) | Humidity reading when the SNEV001# is connected to the PDU/ATS. |
| Temp. (°C) | Temperature reading when the ENVIROSENSOR is connected to the PDU/ATS. |
| Hum. (%RH) | Humidity reading when the ENVIROSENSOR is connected to the PDU/ATS. |
| Outlet # Max (kW)** | The maximum load power of a specific outlet during a specific time interval, measured in Kilowatts. This interval can be set in Log Tab > Maintenance. |
| Outlet # (kW)** | Load power of a specific outlet, measured in Kilowatts. |

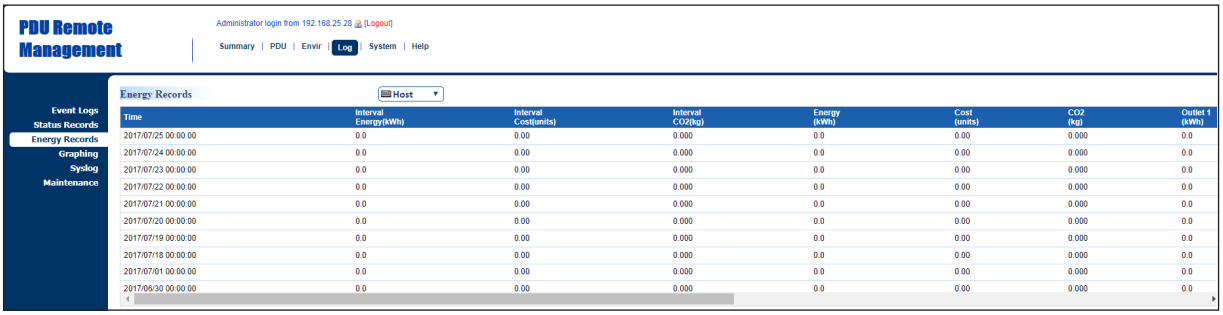
* For ATS Series only

**For Switched Metered by Outlet Series and Metered by Outlet Series only.



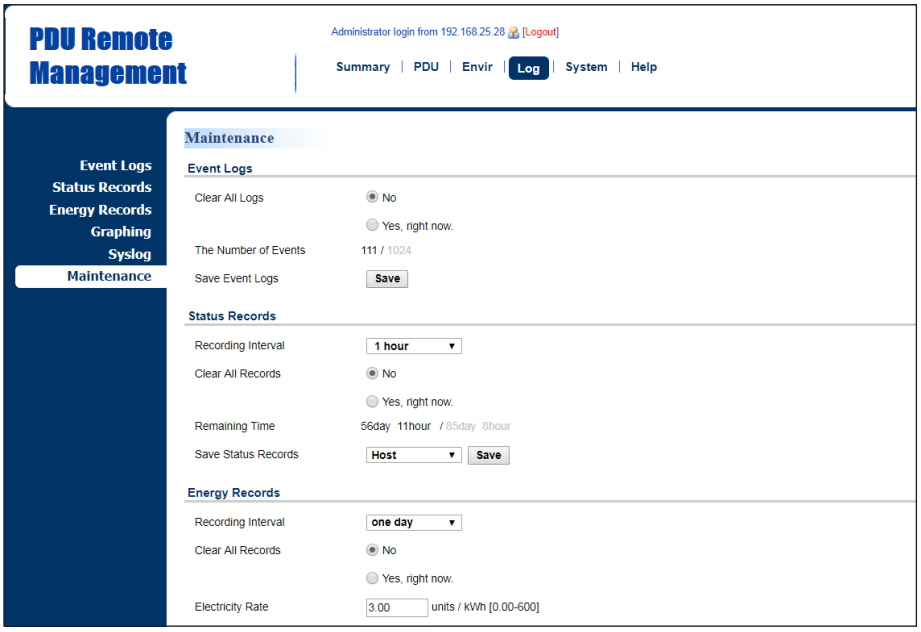

Log Tab > Graphing

| Item | Definition |
|---|---|
| HOST/GUEST# | Select the role of PDU/ATS (HOST or GUEST#) if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. |
| Graph Period | The time period is used to create a retroactive graph of the status records. A large time period will require more time to render the graph. |
| Graph Data | The data used to create a graph of the status records. Up to five data points can be selected. A large number of data selected will require more time to render the graph. |
| Graph Node | Select the Display All Nodes in Detail option to display the selected data points along the graph. When the cursor is moved to an individual data point, information about that point will be shown.<br>If this option is not selected, the graph will show only the line (without the points), so less time is needed to render. |
| Draw | A graph of the status records will be created. |
| Reset | Reset the Graph Period to default (1 day). |
| Launch Graph in New Window | A detailed view of the graph opens in a new browser window. |




Log Tab > Energy Records

| Item | Definition |
|---|---|
| HOST/GUEST# | Select the role of PDU/ATS (HOST or GUEST#) if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. |
| Interval Energy (kWh) | Energy consumed by connected device(s) during a specific time interval, measured in kWh. This interval can be set in Log Tab > Maintenance. |
| Interval Cost (units) | Cost of the energy consumed by the connected device(s) during a specific time interval, equal to Electricity Rate multiplied by Interval Energy. The interval and electricity rate can be set in Log Tab > Maintenance. |
| Interval CO2 (kg) | Equivalent CO2 emission of the connected device(s) during a specific time interval, equal to CO2 Emissions multiplied by Interval Energy. The interval and CO2 emissions can be set in Log Tab > Maintenance. |
| Energy (kWh) | Accumulated Interval Energy since the last reset. The reset can be set in Log Tab > Maintenance. |
| Cost (units) | Accumulated Interval Cost since the last reset. The reset can be set in Log Tab > Maintenance. |
| CO2 (kg) | Accumulated Interval CO2 since the last reset. The reset can be set in Log Tab > Maintenance. |
| Outlet # (kWh)<br>For Switched Metered by Outlet Series and Metered by Outlet Series only | Accumulated Interval Energy of a specific outlet since the last reset. The reset can be set in Log Tab > Maintenance. |

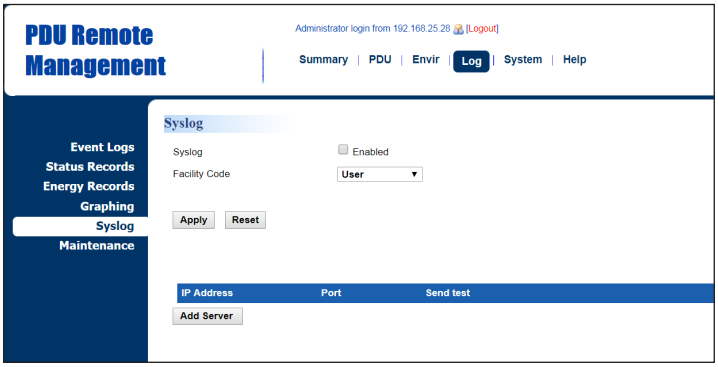



Log Tab > Maintenance

| Item | Definition |
|---|---|
| **Event Logs** | |
| Clear All Logs | Clear the existing event logs. |
| The Number of Events | The number of the existing event logs and the maximum number of the event logs that can be recorded. Once the maximum number is reached, new events overwrite oldest events in memory. |
| Save Event Logs | Save the existing event logs as a text file. |
| **Status Records** | |
| Recording Interval | The frequency to record the status data.<br>A smaller interval will provide more recordings, but the recordings are overwritten in a shorter period of time. A larger interval will provide fewer recordings, but the recordings are overwritten in a longer period of time. |
| Clear All Records | Clear the existing status records. |
| Remaining Time | The time that records have been kept. A smaller recording interval leads to less remaining time while a larger recording interval leads to more remaining time.<br>Once the maximum number is reached, new status records overwrite oldest status records in memory. |
| Save Status Records | Save the status records as a text file. |
| **Energy Records** | |
| Recording Interval | The frequency to record the energy data. |
| Clear All Records | Clear the existing energy records. |
| Electricity Rate | The cost (units) of energy per unit of energy consumed (kWh).<br>Unit is a monetary value. |
| CO2 Emissions | The equivalent CO2 emission (kg) per unit of energy consumed (kWh). |
| Save Energy Records | Save the existing energy records as a text file. |

### Event Logging

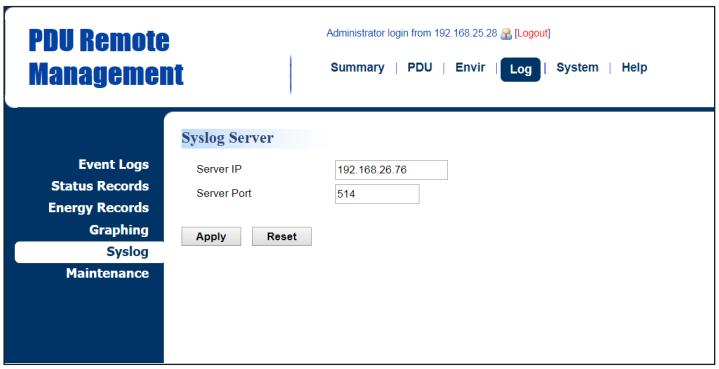
Users can view all the events, including log in/out records and configuration changes. The timestamp is recorded in a 24-hour format. See Log Tab > Syslog and Log Tab > Event Logs. For event logs, Users can clear the existing event logs in Log Tab > Maintenance.




Log Tab > Syslog

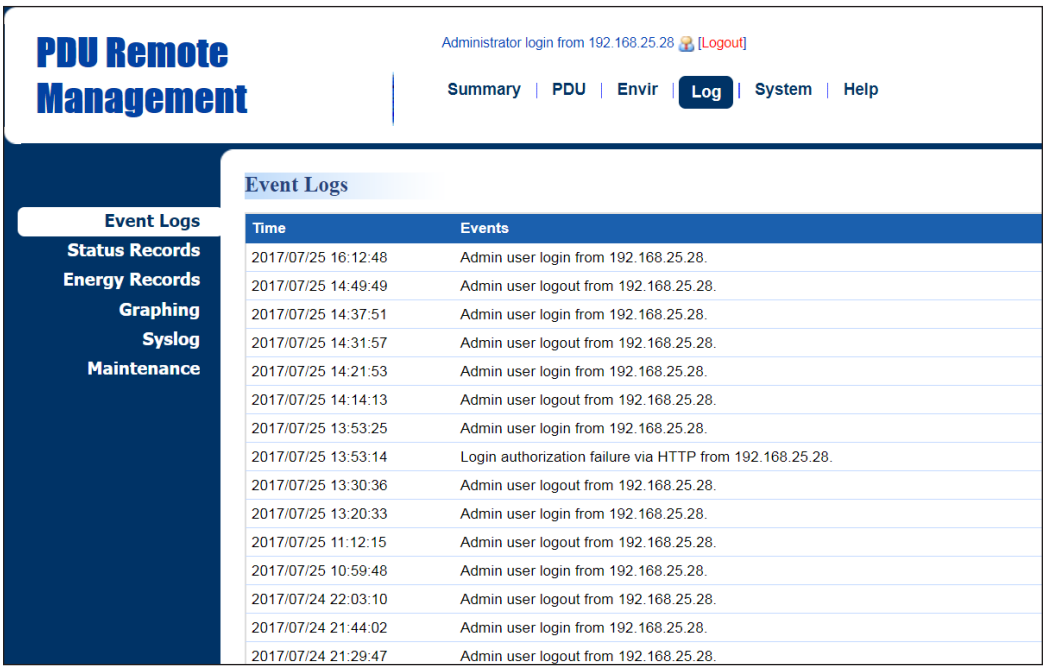
| Item | Definition |
|---|---|
| Syslog | Check this box to enable Syslog function. |
| Facility Code | Classify syslog message |

Click **Add Server** to enter Syslog Server Page.




Syslog Server Page

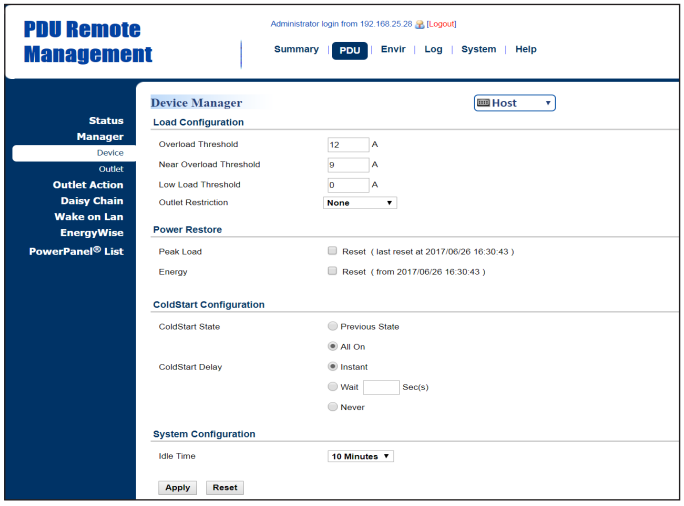
| Item | Definition |
|---|---|
| Server IP | The IP address of Syslog server. |
| Server Port | The port number that Syslog server uses to communicate. |




Logs Tab > Event Logs

### Power Protection

The configurable load threshold can be set to prevent an overload condition. ColdStart and system configurations are also offered for different user needs. See PDU/ATS Tab > Device Manager.

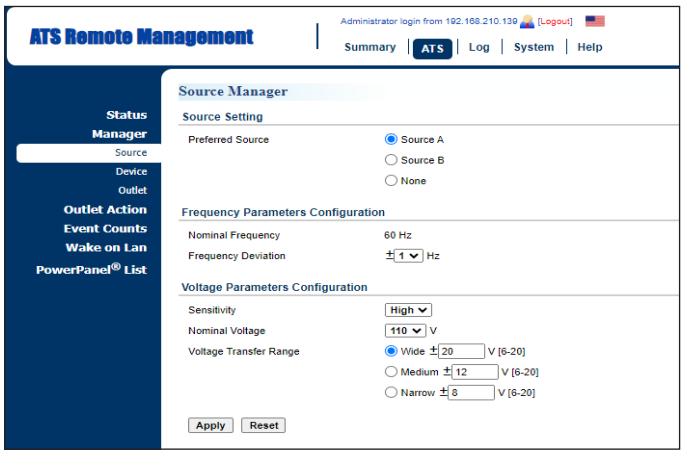



PDU/ATS Tab > Manager > Device

| Item | Definition |
|---|---|
| HOST/GUEST# | Select the role of PDU/ATS (HOST or GUEST#) if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. |
| **Load Configuration** | |
| Overload Threshold | Set the value for the total current on the PDU/ATS that will signal an overload warning. Must be higher than Near Overload Threshold and equal to or lower than the PDU/ATS Rating in the Summary Tab. |
| Near Overload | Clear the existing status records. |
| Threshold | Set the value for the total current on the PDU/ATS that will signal a near overload warning. Must be between Overload Threshold and Low Load Threshold. |
| Outlet Restriction<br>For some models, the Outlet Restriction only shows in the Bank Manager Page. | When load current exceeds the corresponding threshold, no outlets will be allowed to turn on.<br>**None:** Users can turn on an outlet even if the device is in Near Overload or Overload state.<br>**On Near Overload:** Users cannot turn on an outlet when the device is in Near Overload or Overload state.<br>**On Overload:** Users cannot turn on an outlet when the device is in Overload state. |
| **Power Restore** | |
| Peak Load | Reset the peak load to zero. |
| Energy | Reset the energy to zero. |
| **ColdStart Configuration** | |
| ColdStart State | **Previous State:** Outlets will return to the same state (on or off) they were in prior to the PDU/ATS turning off. The ColdStart Delay setting will apply when the PDU/ATS resumes power.<br>**All On:** All outlets will turn on when power is restored to the PDU/ATS. |
| ColdStart Delay | **Instant:** Outlets will be turned on immediately when power is restored to the PDU/ATS.<br>**Wait:** Outlets will be turned on according to each outlet(s) Power On Delay after ColdStart Delay Wait when power is restored to the PDU/ATS.<br>**Never:** Outlets will never turned on when power is restored to the PDU/ATS. |
| **System Configuration** | |
| Idle Time | The PDU/ATS LCD screen will turn off automatically after it remains idle for the selected period of time. |

### Source Configuration

Users can select the preferred source as the primary input. When the primary input fails, the ATS will switch to the secondary one to ensure continuous operation. Frequency Parameters and Voltage Parameters configurations are also offered for user needs. See ATS Tab > Source Manager. (For ATS Series only.)



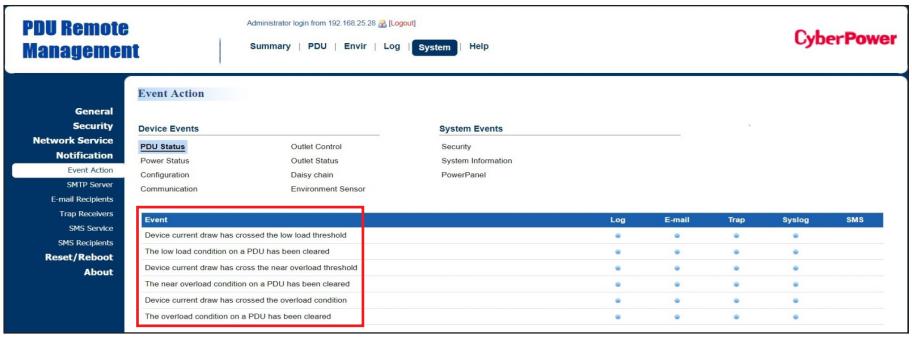

ATS Tab > Manager > Source

| Item | Definition |
|---|---|
| HOST/GUEST# | Select the role of PDU/ATS (HOST or GUEST#) if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. |
| **Source** | |
| Preferred Source | Source the ATS will switch over to when both sources are acceptable. |
| **Frequency** | |
| Frequency Deviation | The range of acceptable frequency fluctuation. |
| **Voltage** | |
| Sensitivity | **High sensitivity:** the ATS will switch over to the alternate source in response to small voltage changes.<br>**Medium sensitivity:** the ATS will switch over to the alternate source in response to medium voltage changes.<br>**Low sensitivity:** the ATS will switch over to the alternate source in response to large voltage changes. |
| Nominal Voltage | Nominal source voltage setting for the device. |
| Voltage Transfer Range | The acceptable voltage range of source. When the source voltage is out of the voltage transfer range, the ATS will switch over to the alternate source.<br>Options include Wide, Medium, and Narrow. The Wide value must be greater than the Medium value, and The Medium value must be greater than the Narrow value. |

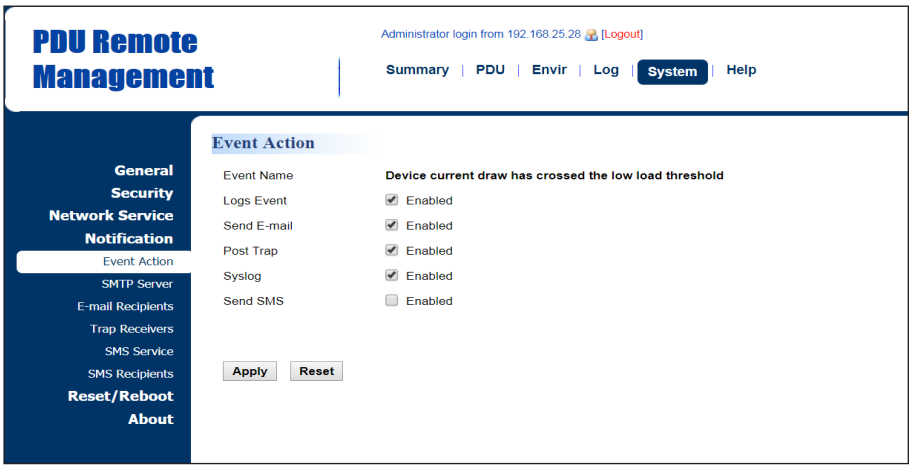
### Event Action Notification

Users decide the event actions for which they receive notifications. When a certain event happens, an automatic notification will be sent to users so that they can make timely decisions to prevent potential problems.
See System Tab > Notification. Click the Event field to enter the Event Action Page.

The Event Action Page enables users to modify the notification method.




System Tab > Notification > Event Action



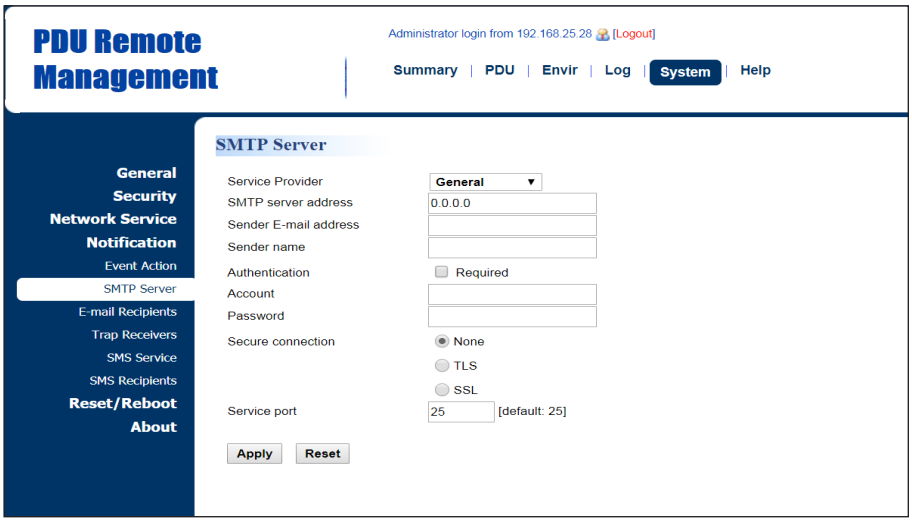

Event Action Page

| Item | Definition |
|---|---|
| Logs Event | Record the device event in the Event Logs. |
| Send E-mail | Send an e-mail to a specific user. An available SMTP server is necessary. |
| Post Trap | Send a SNMP trap to a specific IP address. |
| Syslog | Record the device event in Syslog server. |
| Send SMS | Send a short message to a specific mobile phone number. An available Short Message Service (SMS) provider is needed. |

## Event Action Recipient Settings

1. E-mail Notification

   Set the proper SMTP server settings so that users can receive an e-mail when a specific event occurs. See System Tab > Notification > SMTP Server.




System Tab > Notification > SMTP Server

| Item | Definition |
|---|---|
| SMTP Server Address | The IP or host Name of SMTP server used to notify users by e-mail. |
| Sender E-mail Address | The From field shown in the e-mail message. |
| Sender Name | The name of the sender. |
| Authentication | Select this option if the SMTP server requires Authentication. |
| User Name | Account used for Authentication. |
| Password | Password used for Authentication. |
| Secure Connection | Enable/Disable TLS or SSL to encrypt the SMTP connection. |
| Service Port | The port number that the PDU uses to communicate with SMTP server. |

Users can set up to five e-mail recipients in designated e-mail address format.

See System > Notification > E-mail Recipients.


System > Notification > E-mail Recipients

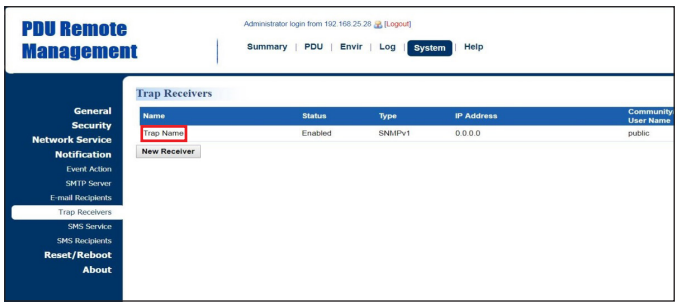
| Item | Definition |
|---|---|
| E-mail | Click the e-mail address of the recipient to enter the Configure E-mail Recipient Page. Users can modify the e-mail address, change its status, check test result, and delete an existing recipient. |
| TEST | Click this button to check if the SMTP setting and the e-mail recipients are set correctly. |
| New Recipient | Click this button to enter the Add New E-mail Recipient Page. Users can add a new recipient. |


Configure E-mail Recipient Page


Add New E-mail Recipient Page

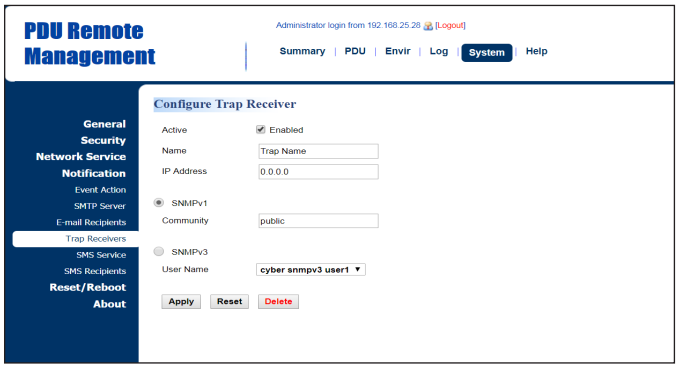
2. SNMP Trap Notification

Set up to 10 SNMP trap receivers to be notified when an event occurs. See System > Notification > Trap Receivers.



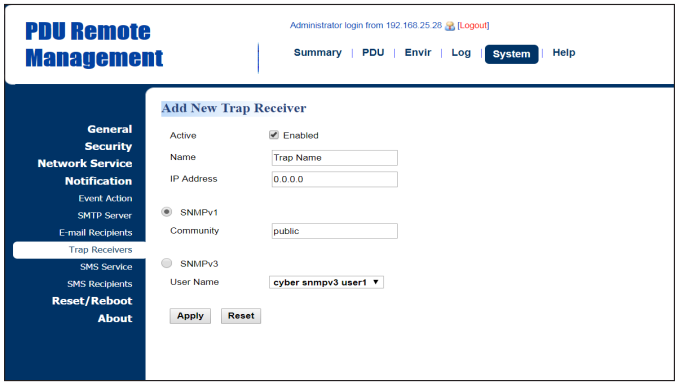

System > Notification > Trap Receivers

| Item | Definition |
|---|---|
| Name | Click on the trap name to enter the Configure Trap Receiver Page. Users can modify or delete an existing receiver. |
| TEST | Click this button to check if the trap can be sent. |
| New Receiver | Click this button to enter the Add New Trap Receiver Page. Users can add a new recipient. |




Configure Trap Receiver Page

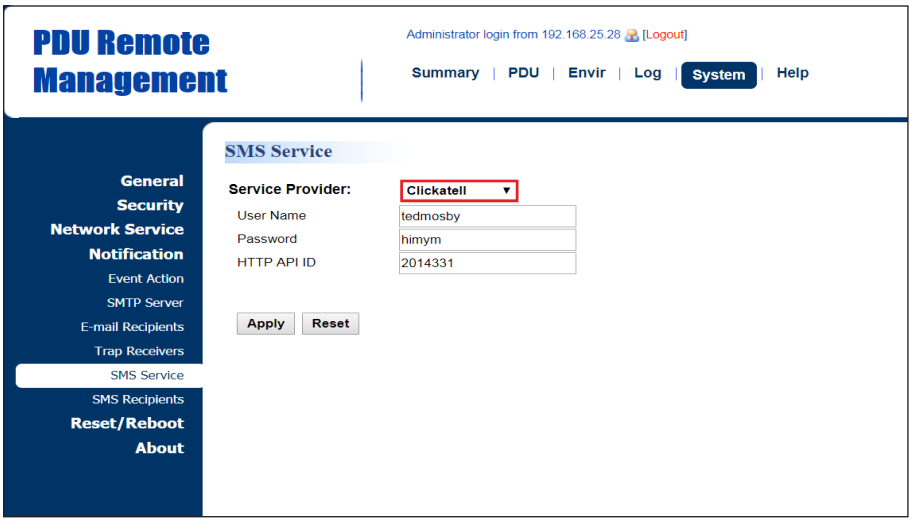
| Item | Definition |
|---|---|
| Name | The name of trap receiver. |
| IP Address | The IP address of the trap receiver. |
| SNMPv1 | If choosing the SNMPv1 option as the trap type for a trap receiver, select the corresponding community. See System Tab > Network Service > SNMPv1 Service. |
| SNMPv3 | If choosing the SNMPv3 option as the trap type for a trap receiver, select the corresponding user name. See System Tab > Network Service > SNMPv3 Service. |




Add New Trap Receiver Page

3. SMS Notification

Short Message Service (SMS) is used by mobile communication systems to send a short message to a specific mobile phone number. Standardized communication protocols allow the exchange of short text messages between mobile devices. The system provides four methods for users to choose how they want to send a message.
See System > Notification > SMS Service.




System > Notification > SMS Service

**Clickatell method:**

Clickatell is one of the supported SMS service providers. Go to the Clickatell website to sign up and get an API ID.

| Item | Definition |
|---|---|
| User name | The account username created on Clickatell website. |
| User password | The user password created on Clickatell website. |
| HTTP API ID | The API ID acquired on Clickatell website. |

**Using HTTP GET:**

Use the example where Clickatell is the SMS provider.

The basic form of URL using the HTTP GET method is:

http://api.clickatell.com/http/sendmsg?user=tedmosby&password=himym&api_id=2014331&to=E_PHONE_NUMBER&text=E_PHONE_MESSAGE


System > Notification > SMS Service

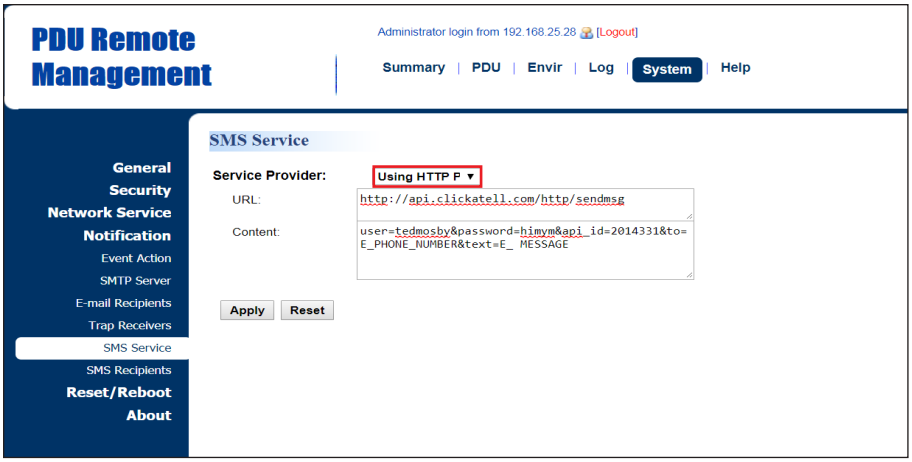
| Query String in the URL | Definition |
|---|---|
| user=tedmosby | Replace “tedmosby” with the user name created at the Clickatell website. |
| password=himym | Replace “himym” with the password created at the Clickatell website. |
| api_id=2014331 | Replace “2014331” with the API ID acquired at the Clickatell website. |
| to=E_PHONE_NUMBER | Do not replace this information. It refers to the receiver phone number entered in System Tab > Notification > SMS Recipients. |
| text=E _MESSAGE | Do not replace this information. It refers to the event action sent by the SMS service provider. For configurations, see System Tab > Notification > Event Action. |

**Using HTTP POST:**

Use the example where Clickatell is the SMS provider.

The basic form of URL is:
http://api.clickatell.com/http/sendmsg

The basic form of body is:
user=tedmosby&password=himym&api_id=2014331&to=E_PHONE_NUMBER&text=E_ MESSAGE

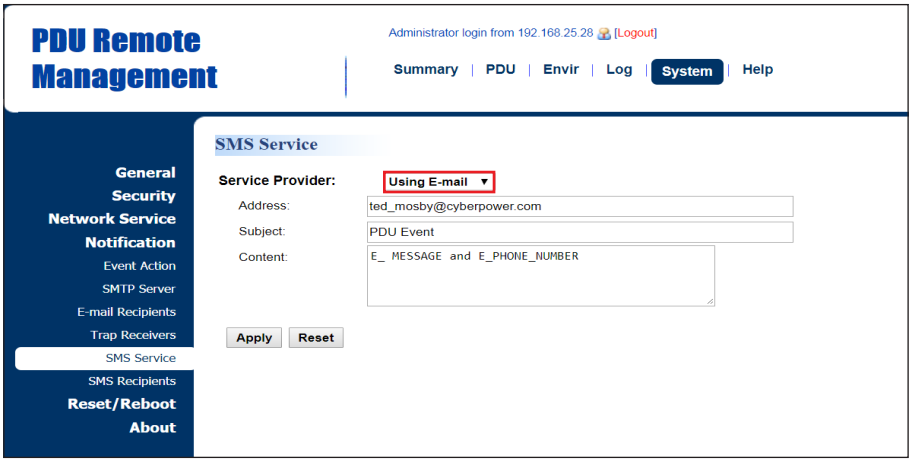



System > Notification > SMS Service

| Query String in Body | Definition |
|---|---|
| user=tedmosby | Replace “tedmosby” with the user name created at the Clickatell website. |
| password=himym | Replace “himym” with the password created at the Clickatell website. |
| api_id=2014331 | Replace “2014331” with the API ID acquired at the Clickatell website. |
| to=E_PHONE_NUMBER | Do not replace this information. It refers to the receiver phone number entered in System Tab > Notification > SMS Recipients. |
| text=E_ MESSAGE | Do not replace this information. It refers to the event action sent by SMS service provider. For configurations, see System Tab > Notification > Event Action. |

**Using E-Mail:**

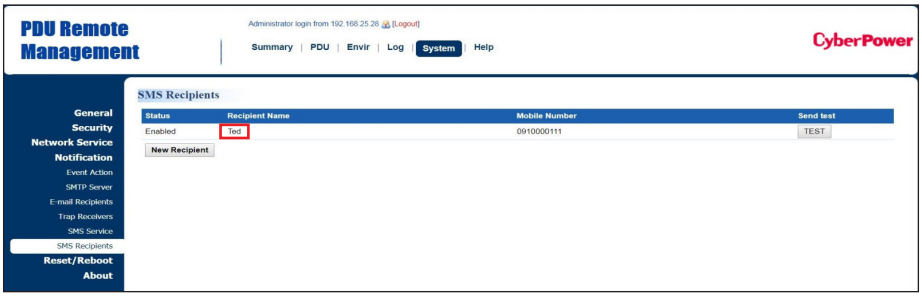
Users set the SMTP server in System Tab > Notification > SMTP Server first, and then enter the following information.




System > Notification > SMS Service

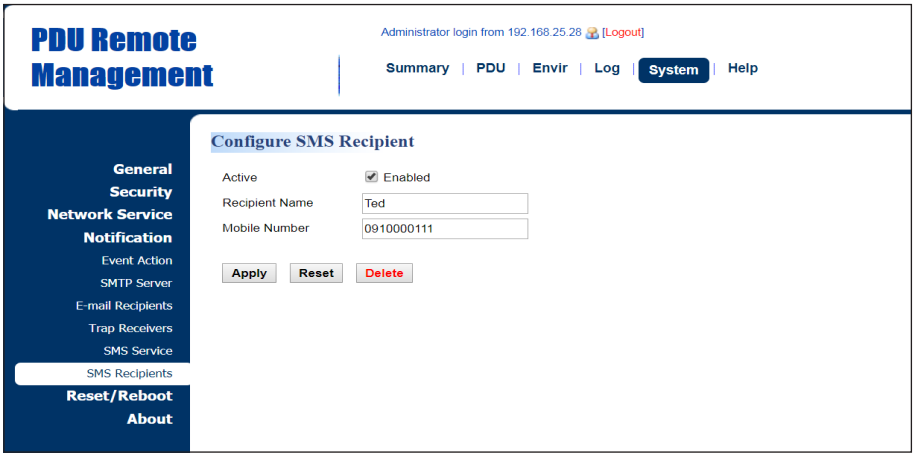
| Item | Definition |
|---|---|
| Address | Enter the e-mail of the recipient. |
| Subject | The Subject field shown in the e-mail message, entered by user. |
| **Content** | |
| E_ MESSAGE | Do not replace this information. It refers to the event action sent by SMS service provider. For configurations, see System Tab > Notification > Event Action. |
| E_PHONE_NUMBER | Do not replace this information. It refers to the receiver phone number entered in System Tab > Notification > SMS Recipients. |

Users can set up to 10 mobile phone numbers as SMS recipients who will receive a short message notification when a specific event occurs. See System Tab > Notification > SMS Recipients.

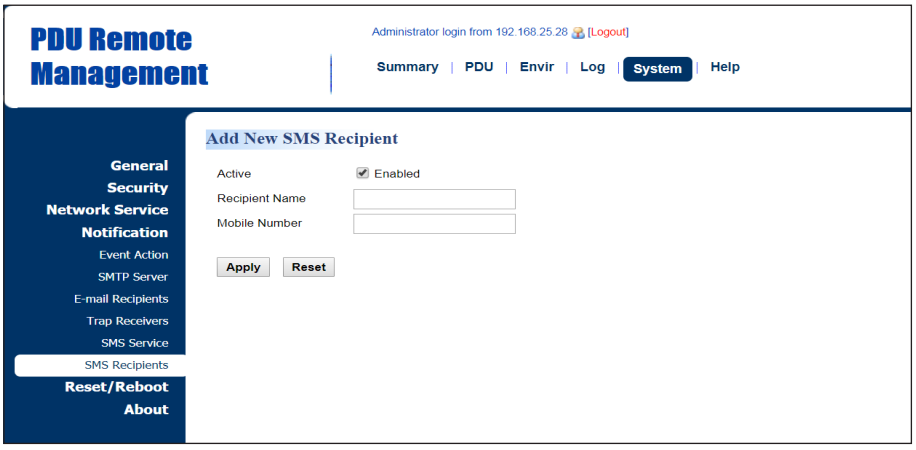



System > Notification > SMS Recipients

| Item | Definition |
|---|---|
| Recipient Name | Click the name of the recipient to open the Configure SMS Receiver Page. Users can modify or delete an existing receiver. |
| TEST | Click this button to check whether the test message is correctly sent. |
| New Recipient | Click this button to open the Add New SMS Receiver Page.<br>Users can add a new recipient. |




Configure SMS Receiver Page



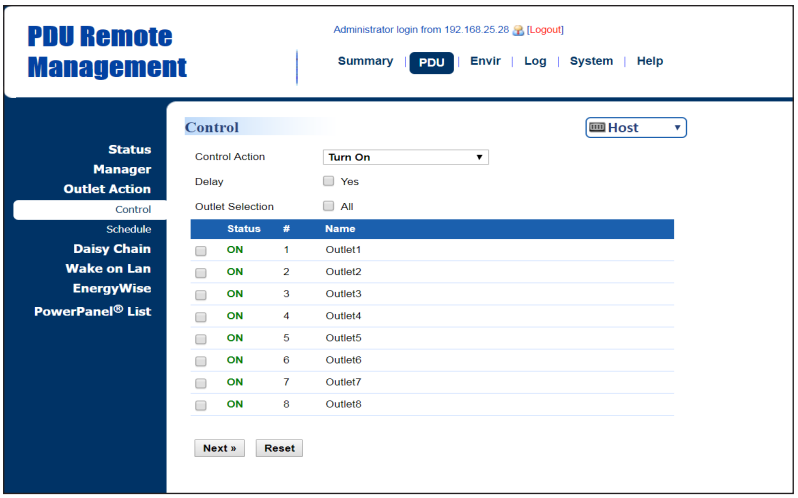

Add New SMS Receiver Page

### Outlet Management

The following provides the outlet configurations to meet different application scenarios.

### Remote Outlet On/Off/Reboot

Users can turn on, turn off, or reboot individual outlet. See PDU/ATS Tab > Outlet Action > Control. (For Switched Metered by Outlet Series and Switched Series only.)

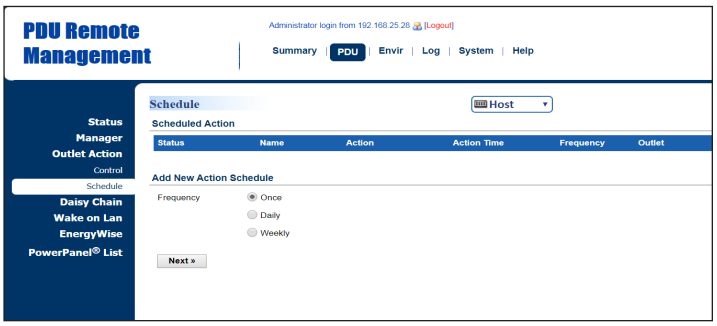



PDU/ATS Tab > Outlet Action > Control

| Item | Definition |
|---|---|
| HOST/GUEST# | Select the role of PDU/ATS (HOST or GUEST#) if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. |
| **Control Action** | |
| Turn On | Selected outlets will be immediately turned on. |
| Turn On + Delay | Selected outlets will be turned on according to each outlet's Power On Delay in PDU/ATS Tab > Manager > Outlet. |
| Turn Off | Selected outlets will be immediately turned off. |
| Turn Off + Delay | Selected outlets will be turned off according to each outlet's Power Off Delay in PDU/ATS Tab > Manager > Outlet. This action could signal a computer to shut down, if PowerPanel® Business Remote software is installed on it. |
| Reboot | Selected outlets will be immediately turned off and then be turned on again according to each outlet's Reboot Duration in PDU/ATS Tab > Manager > Outlet. |
| Reboot + Delay | Selected outlets will be turned off according to each outlet's Power Off Delay. They will be synchronized with the longest Power Off Delay and the longest Reboot Duration of the selected outlets. Then they will be turned on according to each outlet's Power On Delay in PDU/ATS Tab > Manager > Outlet. |
| Cancel Pending Command | Any pending commands of the selected outlet(s) will be cancelled. Any outlet in a pending command state will be notated with an asterisk (*). |
| Outlet Selection | Outlets selected for action. |

### Scheduled Outlet On/Off/Reboot

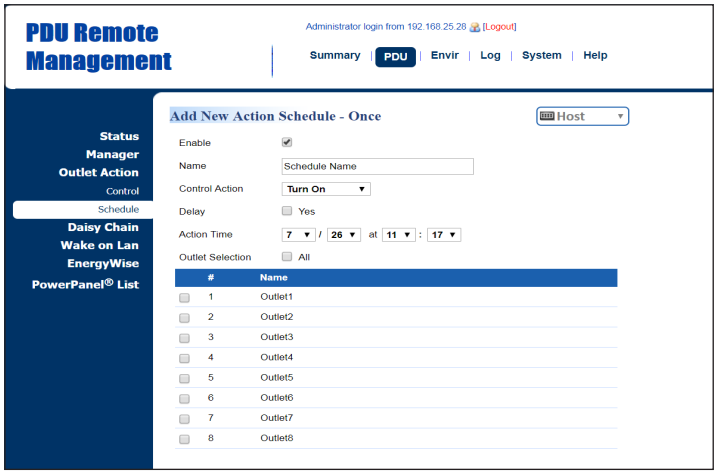
Outlet(s) can be set to automatically turn on, turn off, or reboot at scheduled times.
See PDU/ATS Tab > Outlet Action > Schedule. (For Switched Metered by Outlet Series and Switched Series only.)




PDU/ATS Tab > Outlet Action > Schedule

| Frequency | Definition |
|---|---|
| Once | Scheduled action takes place once at the configured date and time. |
| Daily | Scheduled action takes place daily at the configured time. |
| Weekly | Scheduled action takes place once a week for the configured day and time. |

Select the role of PDU/ATS (HOST or GUEST#) first if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. Select the Once, Daily or Weekly option, and then click **Next** to enter the Add New Action Schedule Page. Up to 10 scheduled settings are allowed.



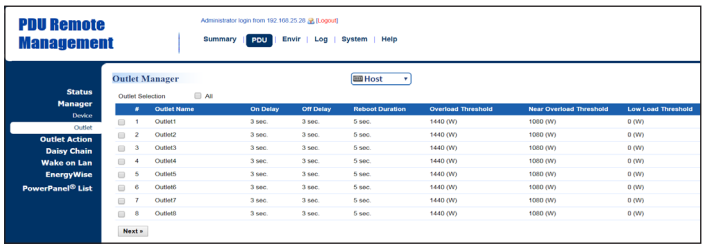

Add New Action Schedule Page

| Item | Definition |
|---|---|
| Enable | Check this box to activate the scheduled action function. |
| Name | The name entered by the user to identify the specific scheduled event. |
| Control Action | The action will be performed when the scheduled event takes place.<br>For reboot action, selected outlets will be immediately turned off and then be turned on again according to outlet's Reboot Duration in PDU/ATS Tab > Manager > Outlet. The duration is within 5 to 60 seconds. |
| Delay | Click this box to activate outlet delay function. For configurations, see PDU/ATS Tab > Manager > Outlet |
| Action Time | The time at which the scheduled event takes place. |
| Outlet Selection | Outlets selected for the scheduled event. |

### Sequencing Power On/Off/Load Configuration

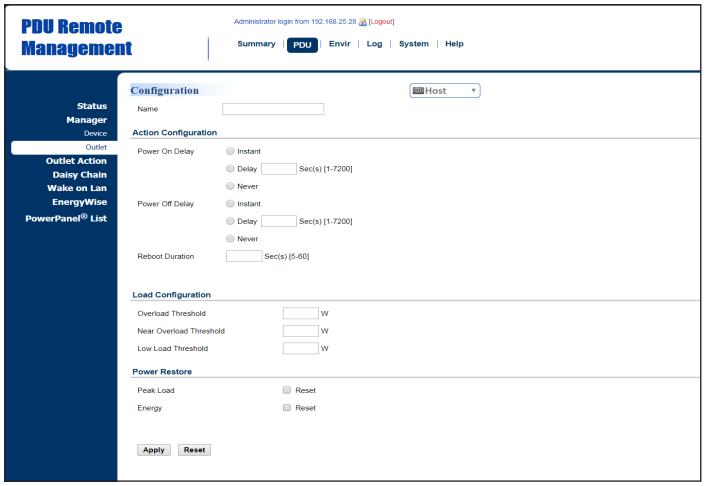
Enable users to turn on, turn off, or reboot the outlets in sequence. When powering on the connected devices, the sequential power-on method is recommended to avoid high inrush current. (For Switched Metered by Outlet Series and Switched Series only.)

The configurable load threshold can be set to prevent an overload condition. Users can set the value for amount of current placed on the selected outlet(s) that will signal an Overload threshold, Near Overload threshold, and Low Overload threshold warning. (For Switched Metered by Outlet Series and Metered by Outlet Series only.)




PDU/ATS Tab > Manager > Outlet

Select the role of PDU/ATS (HOST or GUEST#) first if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. Click the box to select one outlet or multiple outlets for power sequencing and then click **Next** to open the Outlet Configuration Page for configuration.




Outlet Configuration Page

| Item | Definition |
|---|---|
| Name | The name entered by the user to identify the selected outlet or multiple outlet configuration. |
| **Action Configuration** | **For Switched Metered by Outlet and Switch Series only.** |
| Power On/Off Delay | **Instant:** Turn on/off the outlet immediately.<br>**Delay:** Delay time before turning on/off the outlet. Valid values are within the range of 1 to 7,200 seconds.<br>**Never:** Never turn on/off the outlet. |
| Reboot Duration | The length of time the outlet will remain off during a Reboot action. Valid values are within the range of 5 to 60 seconds. |
| **Load Configuration** | **For Switched Metered by Outlet and Metered by Outlet Series only.** |
| Overload Threshold | Set the value for individual outlet that will signal an overload warning in Watts. Must be higher than Near Overload Threshold. |
| Low Overload Threshold | Set the value for individual outlet that will signal a low overload warning in Watts. Must be lower than Near Overload Threshold. |
| **Power Restore** | |
| Peak Load | Restore the peak load of each outlet to zero. |
| Energy | Restore the energy of each outlet to zero. |

### AutoPing

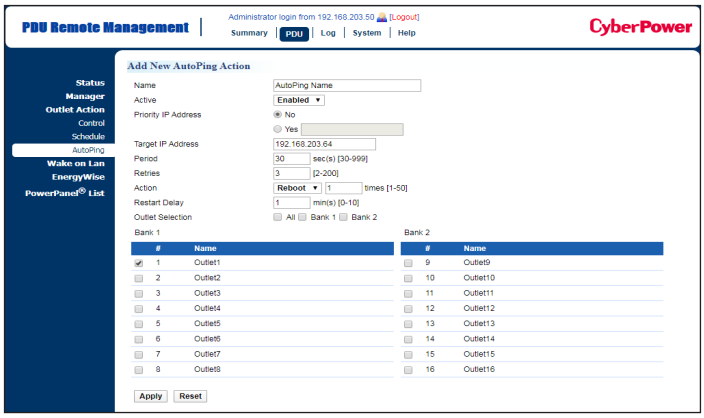
The AutoPing feature allows the PDU/ATS to detect if a target device becomes unresponsive to IP pings and automatically reboot the device. If the device gets back to normal operation after reboot, network connection could be restored at the same time.

To utilize the function, See PDU/ATS Tab > Outlet Action > AutoPing. (For Switched Metered by Outlet Series and Switched Series only.)


PDU/ATS Tab > Outlet Action > AutoPing

AutoPing configuration is shown as below. For example, the AutoPing function is enabled on Outlet 1 with 192.168.203.64 as “Target IP address”. The PDU/ATS sends IP pings to the target device every 30 seconds.

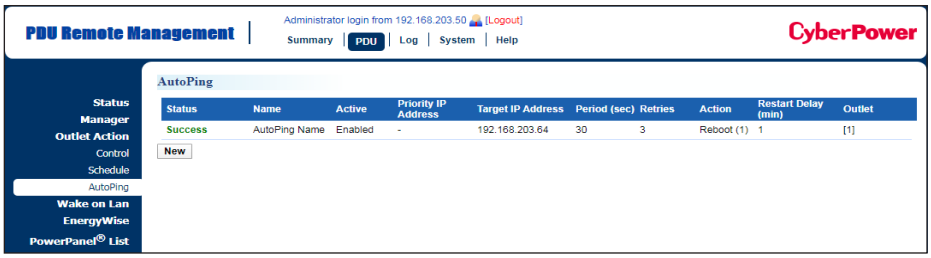
Outlet 1 reboots once only if ping tests fail three times in a row, which takes 90 seconds for the PDU/ATS to detect the failure and trigger the action. After Outlet 1 reboots, no pings are sent to the target device until one minute of “Restart Delay” is reached. Up to 10 AutoPing settings are allowed.




PDU/ATS Tab > Outlet Action > AutoPing

| Item | Definition |
|---|---|
| Active | Enable/Disable the AutoPing function. |
| Priority IP Address | When **Yes** is selected, sets the IP address of the priority to utilize the function.<br>Pings will only be sent to the target device when receiving a successful ping response from the priority. For example, the target device is connected to a router, which is set to be the priority. The PDU/ATS sends IP pings to the target device only if the router is responsive to IP pings. In this way, the PDU/ATS can verify network connection by sending IP pings to the priority first and determine if target IP ping test is performed accordingly. |
| Target IP Address | The IP address of the target device. |
| Period | The time interval between successive pings to the target device, in second. |
| Retries | The number of failed ping tests that must be consecutively detected before the action is triggered. |
| Action | The action on specific outlet if the PDU/ATS continuously receives no response from the target device. When “Reboot“ is selected, sets the maximum number of times to be triggered. |
| Restart Delay | Length of time after an action is triggered before beginning to restart ping tests. This allows a proper time for the device to get back to normal operation. During this time interval, no pings are sent to the target device. |

After confirming the AutoPing configuration and pressing the **Apply** button, find your preferred configuration and AutoPing status on AutoPing Webpage.

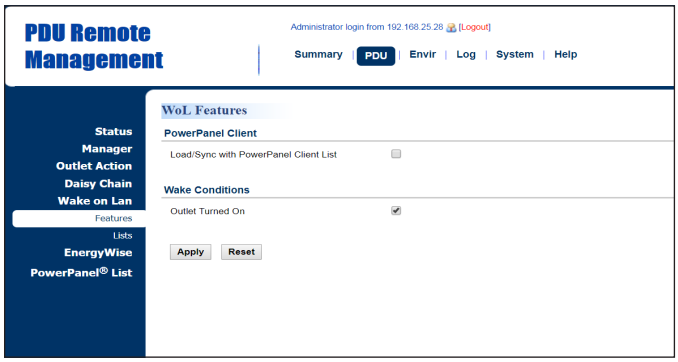



Set the IP address of the priority when **Yes** is selected. For example, the target device is connected to a router, which is set to be the priority. The PDU/ATS sends IP pings to the target device only if the router is responsive to IP pings. In this way, the PDU/ATS can verify network connection by sending IP pings to the priority first and determine if target IP ping test is performed accordingly.

### Wake on LAN (WoL)

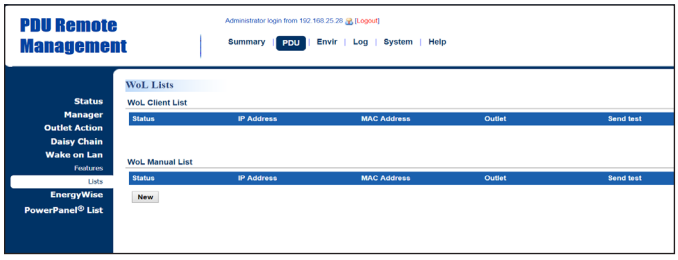
When turning on an outlet, a Wake on LAN packet can be sent to the connected computer to awaken it. It is necessary for the computer to support this function and is configured as **Enabled** in its BIOS settings.

See PDU/ATS Tab > Wake on LAN > Features and PDU/ATS Tab > Wake on LAN > Lists. (For Switched Metered by Outlet Series and Switched Series only.)



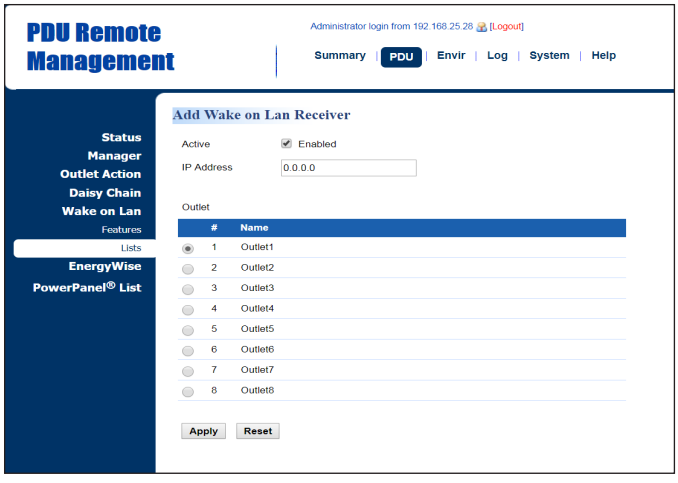

PDU/ATS Tab > Wake on LAN > Features

| Item | Definition |
|---|---|
| PowerPanel Remote | Load/Sync with PowerPanel List. To achieve synchronization, make sure the PDU/ATS has established communication with PowerPanel® Business Remote software.<br>See System Tab > Security > Authentication. |
| Wake Conditions | Enable or disable the Wake on LAN function. |




PDU/ATS Tab > Wake on LAN > Lists

| Item | Definition |
|---|---|
| WoL Remote List | If the PowerPanel Remote option in PDU/ATS Tab > Wake on LAN > Features is selected, the PowerPanel® List will be automatically added to the WoL Remote list. |
| WoL Manual List | Click **New** to enter the Add Wake on LAN Receiver Page. Users can manually add WoL receivers. |




Add Wake on LAN Receiver Window

| Item | Definition |
|---|---|
| Active | Enable/Disable the Wake on LAN function. |
| IP Address | The IP address of the computer. This IP must be within the same subnet as the PDU/ATS. Up to 50 IP addresses are supported. |
| Outlet | Select the outlet that provides power to the computer. |

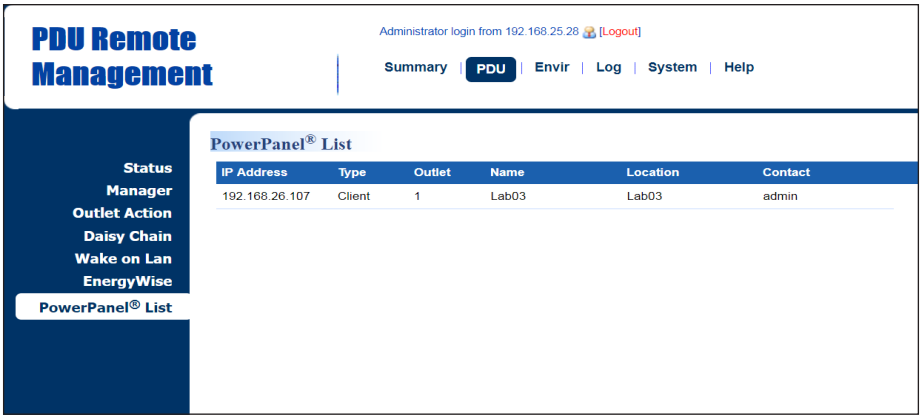
### Graceful Computer Shutdown

After the connected computer is installed with PowerPanel Business Remote or Management and establishes communication with the PDU/ATS, its IP address will be automatically displayed in the PowerPanel® List shown below. This computer can perform a safe shutdown before the outlet powering the computer turns off, thus avoiding data loss. To achieve communication between the computer and PDU/ATS, see System > General > Security.

Up to 50 computers having PPBE Remote or Management installed can be listed. A Remote or Management computer will be removed when it has been disconnected from the PDU/ATS for an hour.

See PDU/ATS Tab > PowerPanel® List. (For Switched Metered by Outlet Series and Switched Series only.)

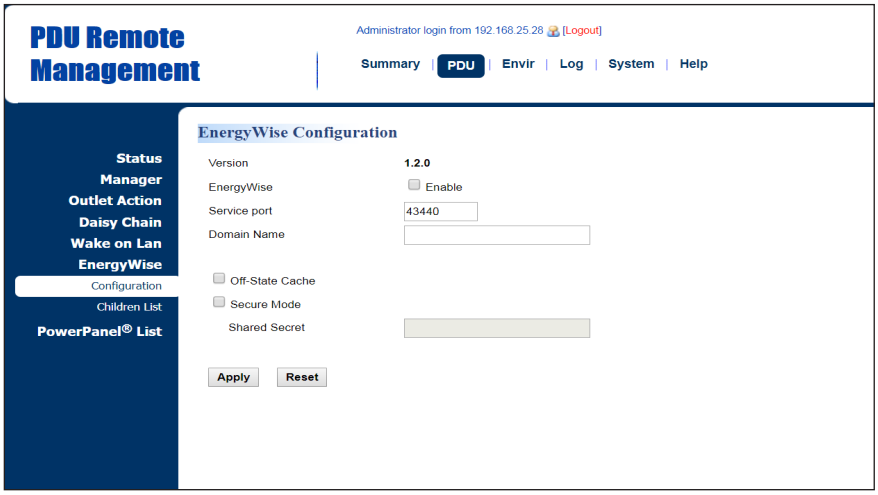
Click the IP address of a client to access configuration settings.




PDU/ATS Tab > PowerPanel® List

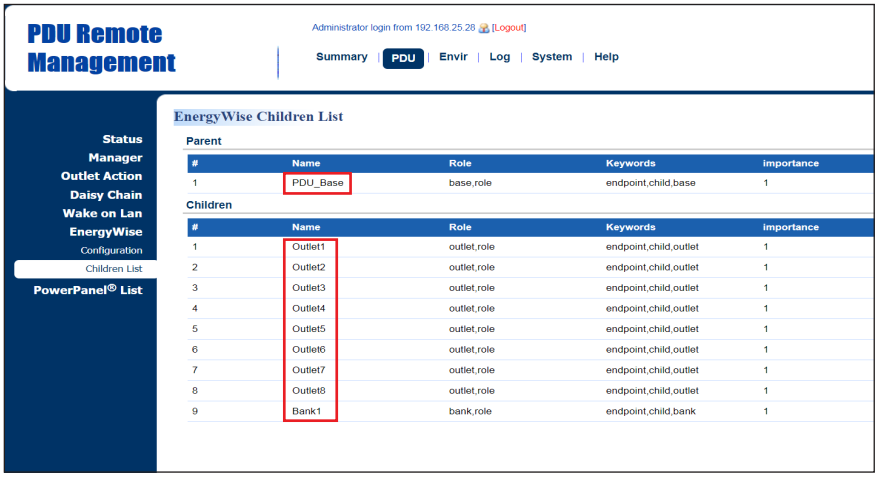
### Cisco EnergyWise

Users can manage and control all Cisco EnergyWise entities and configure settings.
See PDU /ATS Tab > EnergyWise > Configuration and PDU/ATS Tab > EnergyWise > Children List.



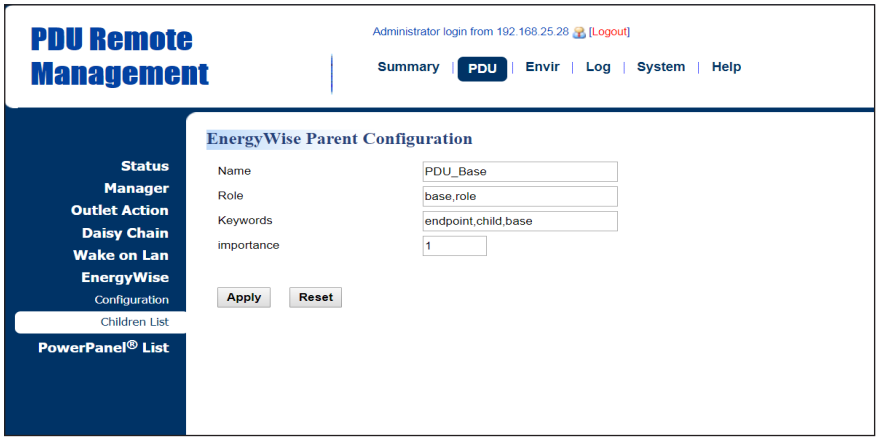

PDU/ATS Tab > EnergyWise > Configuration

| Item | Definition |
|---|---|
| Version | The version of EnergyWise supported. |
| EnergyWise | Enable/Disable EnergyWise support. |
| Service Port | The port number is used to communicate with EnergyWise.<br>This number must be the same as that of a Cisco switch that the PDU/ATS connects to. |
| Domain Name | The EnergyWise domain name.<br>This must be the same as that of a Cisco switch that the PDU/ATS connects to. |
| Off-State Cache | Enable/Disable endpoint to cache EnergyWise list in the Cisco switch after the PDU/ATS has rebooted. |
| Secure Mode | Enable EnergyWise use of a shared secret. |
| Shared Secret | The secret for the EnergyWise domain. |

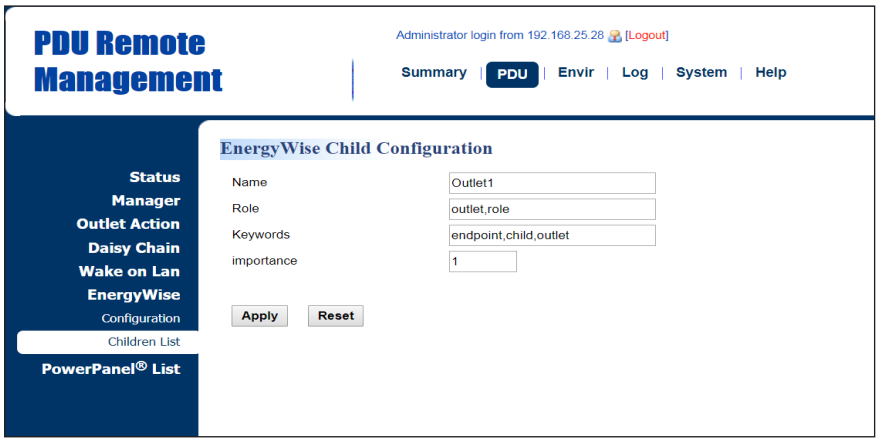



PDU/ATS Tab > EnergyWise > Children List

Click the Name field in parent and/or children list to enter the EnergyWise Parent Configuration Page and EnergyWise Child Configuration Page.




EnergyWise Parent Configuration Page




EnergyWise Child Configuration Page

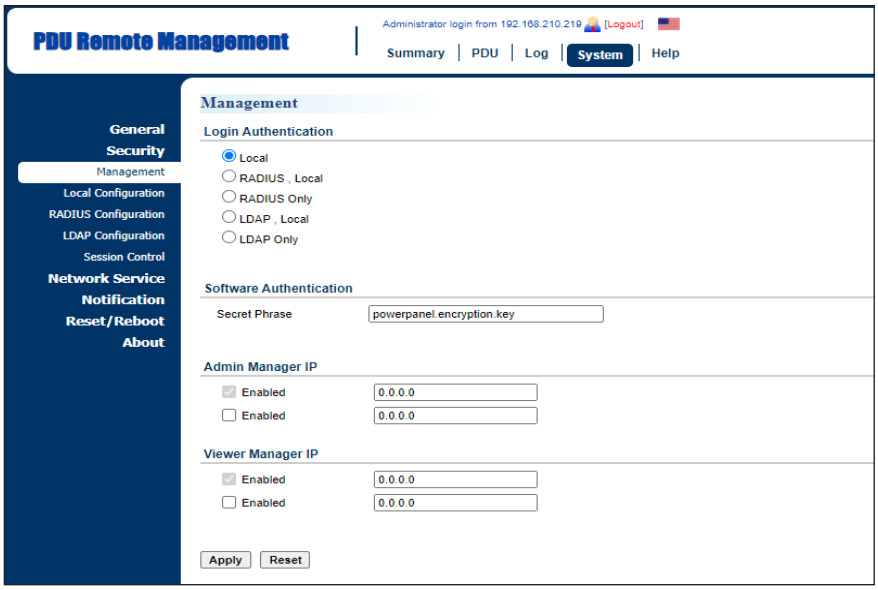
| Item | Definition |
|---|---|
| Name | The name entered by the user to identify an EnergyWise entity.<br>The maximum length is 31 characters. |
| Role | This parameter is a string entered by the user to describe the function of the entity.<br>The maximum length is 31 characters. |
| Keywords | This parameter is a string entered by the user to describe the entity.<br>The maximum length is 31 characters. |
| Importance | This parameter, entered by the user, shows the value of an entity's importance and must be between 1 and 100. |

### Security

The following provides account configurations to protect against unauthorized entry.

### Login Authentication

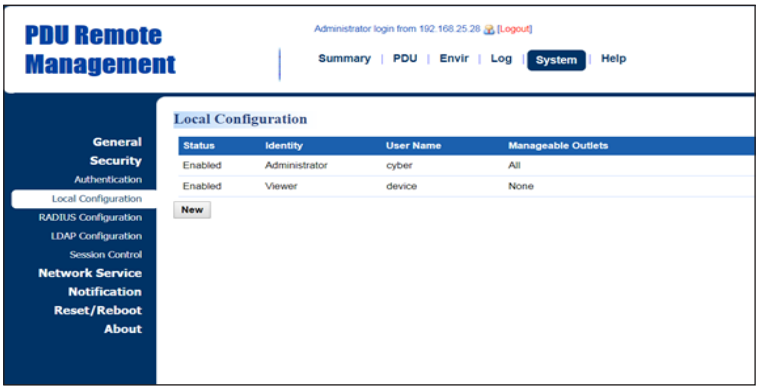
There are five options for login authentication. Only one user can log in to the web interface at a time.




System Tab > Security > Management

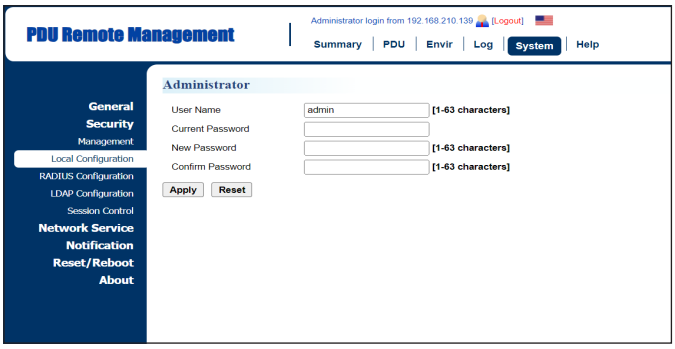
| Item | Definition |
|---|---|
| **Login Authentication** | |
| Local | Log in with user name and password configured in Local Account.<br>See System Tab > Security > Local Configuration. |
| RADIUS, Local | Log in with user name and password to authenticate with RADIUS server first. If the RADIUS server fails to respond, then the user name and password configured in Local Configuration can be used.<br>See System Tab > Security > RADIUS Configuration. |
| RADIUS Only | Log in with user name and password to authenticate with RADIUS server only.<br>See System Tab > Security > RADIUS Configuration. |
| LDAP, Local | Log in with user name and password to authenticate with LDAP server first. If the LDAP server fails to respond, then the user name and password configured in Local Configuration can be used.<br>See System Tab > Security > LDAP configuration. |
| LDAP Only | Log in with user name and password to authenticate with LDAP server only.<br>See System Tab > Security > LDAP configuration. |
| **Software Authentication** | |
| Secret Phrase | The authentication phrase is used to communicate with PowerPanel® Business software. This phrase should be the same Secret Phrase as the field on PowerPanel® Business software interface. |
| **Manager IP** | |
| Admin Manager IP (optional) | Set the Admin IP which is allowed to access. If you want access from any IP address, you can set one of them as 0.0.0.0 or 255.255.255.255.<br>**Note:** You can also set a range of IP addresses to access, for example, 192.168.16.1/24. |
| Viewer Manager IP (optional) | Set the Viewer IP which is allowed to access. If you want access from any IP address, you can set one of them as 0.0.0.0 or 255.255.255.255.<br>**Note:** You can also set a range of IP addresses to access, for example, 192.168.16.1/24. |

1. Using Local Configuration for Authentication

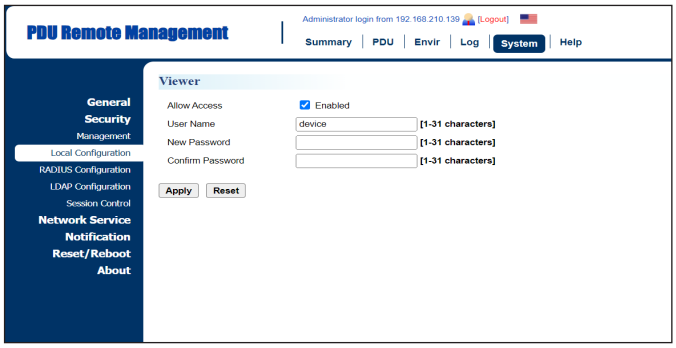



System Tab > Security > Local Configuration

There are two types of account: administrator and viewer. Click the User Name field to enter Administrator Page or Viewer Page. Users can also click **New** to enter Add Outlet User Page to create an outlet account.

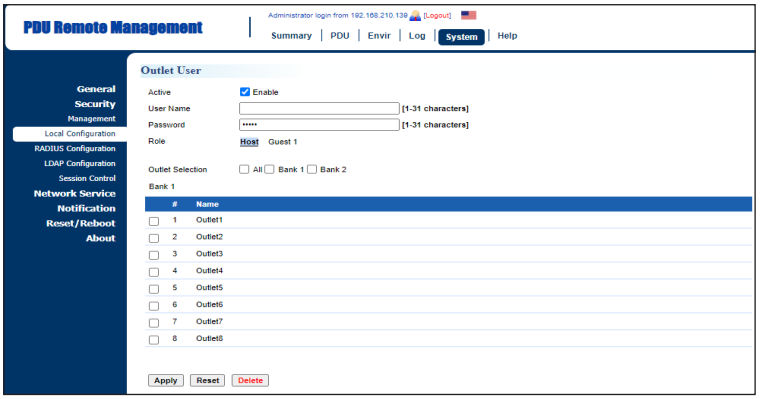



Administrator Page




Viewer Page

| Item | Definition |
|---|---|
| Administrator | The administrator can access all functions, including Enable/Disable the Viewer account. For login configuration, users can only create one administrator account. |
| User Name | Enter the new user name. |
| Current Password | Enter the current password for authentication. |
| New Password | Enter the new password. |
| Confirm Password | Enter the new password again to confirm it. |
| Viewer | The viewer can view the settings but cannot control or change any settings. |
| Allow Access | Check this box to enable view account. |

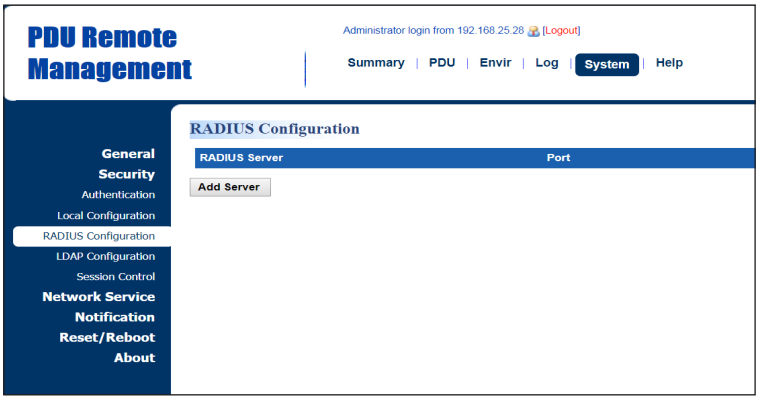



Add Outlet User Page

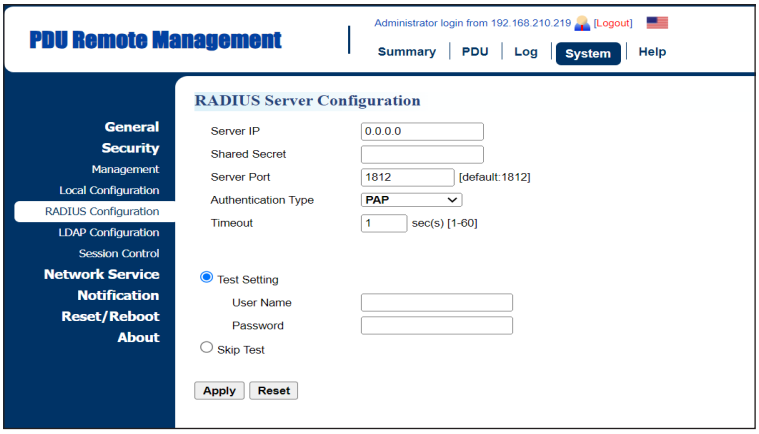
Users can create an outlet account that is allowed to control assigned outlet(s).

| Item | Definition |
|---|---|
| Active | Enable or disable the user account. |
| User Name | Set a name for the user account. |
| Password | Set the user password. |
| Role | Select the role of the PDU/ATS (HOST or GUEST#) if PDU/ATS units are daisy chained. Up to three GUEST PDU/ATS units can connect to one HOST PDU/ATS. |
| Outlets Selection | Outlets that the user can control. |

2. Using RADIUS Configuration for Authentication
   Click **Add Server** to enter RADIUS Server Configuration Page to create a server.




System Tab > Security > RADIUS Configuration

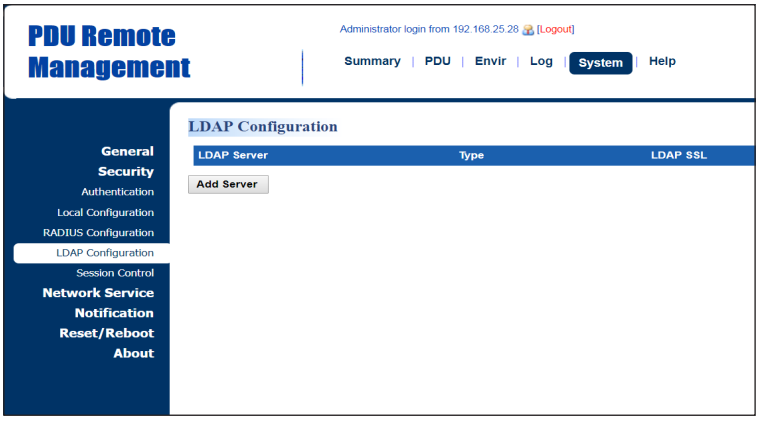



RADIUS Server Configuration Page

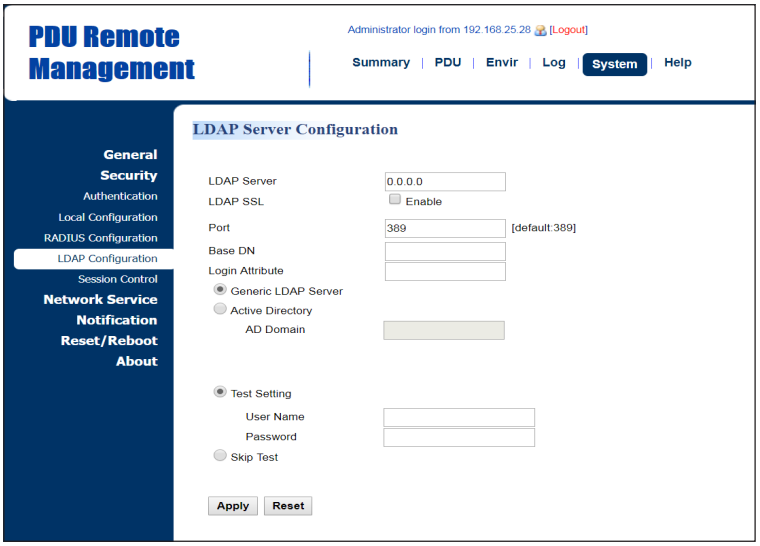
| Item | Definition |
|---|---|
| Server IP | The IP address of RADIUS server. |
| Shared Secret | The shared secret of RADIUS server. |
| Server Port | The UDP port used by the RADIUS server. |
| Authentication Type | The authentication protocol type for RADIUS Server.<br>Password Authentication Protocol (PAP)<br>Challenge-Handshake Authentication Protocol (CHAP) |
| Timeout | The time of waiting to login RADIUS server |
| Test Setting | Use user name and password to authenticate with RADIUS server, and save information of RADIUS server if authentication succeeds. |
| Skip Test | Save information of the RADIUS server without test. |

3. Using LDAP Configuration for Authentication

   Click **Add Server** to enter LDAP Server Configuration Page to create a server.




System Tab > Security > LDAP configuration




LDAP Server Configuration Page

| Item | Definition |
|---|---|
| **LDAP Server** | |
| LDAP Server | The IP address of LDAP server. |
| LDAP SSL | To communicate with LDAP server by LDAPS. |
| Port | The TCP port used by the LDAP(S) server. |
| Base DN | The base DN of LDAP server. |
| Login Attribute | The login attribute of LDAP user entry. (ex: cn or uid) |
| **LDAP Authentication** | |
| Authentication Mode | Identifies the method to use for authentication.<br>**Anonymous:** Bind Request using Simple Authentication with a zero-length Bind DN and a zero-length password.<br>**Accredited User:** Bind Request using Simple Authentication with a Bind DN and Bind Password.<br>**By Logon User:** Bind Request using Simple Authentication with a User Base DN and login Password. |
| **LDAP Authorization** | |
| Authorization Mode | Identifies the method to use for authorization.<br>**By User Attribute:** Determine access level by User Attribute and User Attribute Value.<br>**By Group:** Determine access level by group witch search DN information such as the following Group Base DN, Group Attribute and Group Attribute Value. |
| **LDAP Server Type** | |
| Generic LDAP Server | The type of LDAP server. |
| Active Directory | Select LDAP server type as Windows AD |
| AD Domain | The AD Domain of the Active Directory server. |
| **LDAP Test** | |
| Test Setting | Use user name and password to authenticate with LDAP server, and save information of LDAP server if authentication succeeds. |
| Skip Test | Save LDAP(S) server settings without testing. |

### Timeout Setting

Configure the idle login sessions. See System > Security > Session Control.


System > Security > Session Control

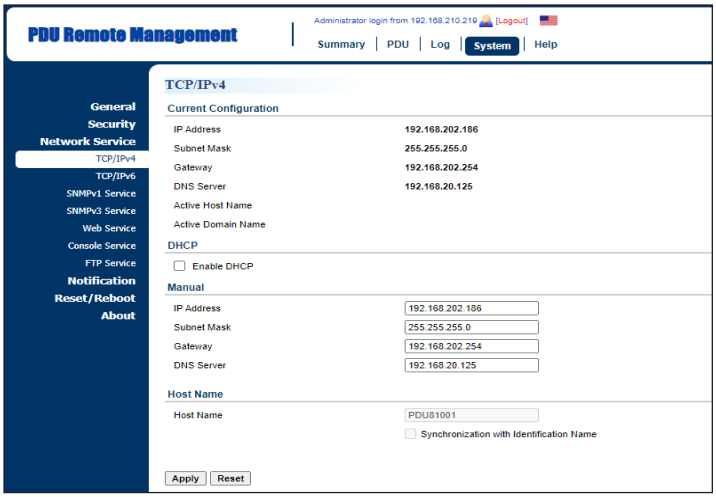
| Item | Definition |
|---|---|
| **Login Session** | |
| Timeout | The time in minutes that the system waits before automatically logging off. |

### Network Service

The following provides the network configurations.

### TCP/IPv4 Setting

Display the current TCP/IPv4 settings and allow users to select the option to obtain TCP/IP settings by DHCP.
See System > Network Service > TCP/IPv4.

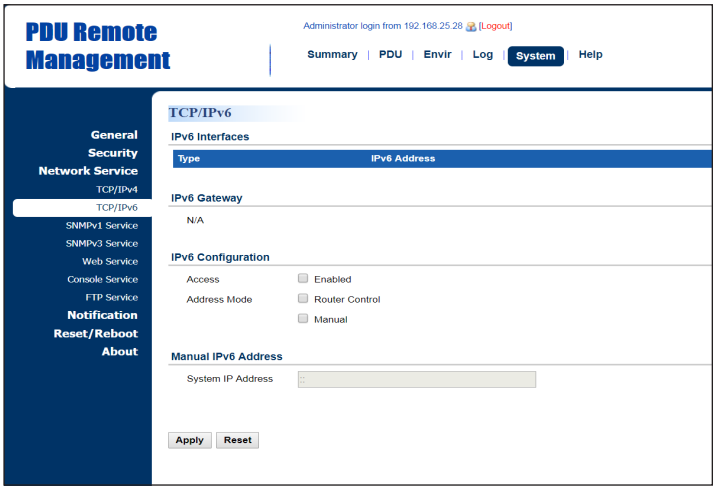



System > Network Service > TCP/IPv4

| Item | Definition |
|---|---|
| Current Configuration | Display the current TCP/IP settings: IP Address, Subnet Mask, Gateway, and DNS server. |
| DHCP | **Enable DHCP:** Select this option to get IP address, Subnet Mask, and Gateway from DHCP.<br>**Obtain DNS Address from DHCP:** Select this option to get DNS by DHCP if DHCP is enabled. |
| Manual | Unselect Enable DHCP first. Enter the TCP/IP settings manually and click **Apply**. |
| Host Name | Configure a host name.<br>**Synchronization with Identification Name:** Allow the identification name to be synchronized with the host name so both fields automatically contain the same value.<br>**Note:** When enabling this feature, the identification name can only contain numbers (0-9), letters (a-z, A-Z), hyphen and decimal point.<br>**Note:** the identification name should not start with hyphen or decimal point. |

### TCP/IPv6 Setting

Display the current TCP/IPv6 settings and allow users to assign the IPv6 address either by router control or manually. See System > Network Service > TCP/IPv6.



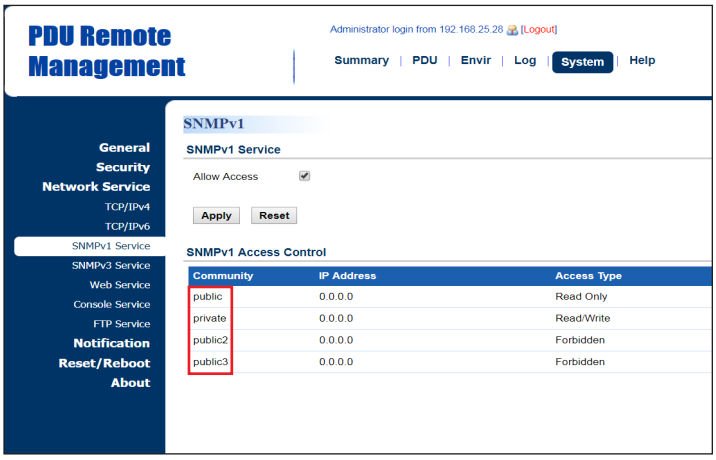

System > Network Service > TCP/IPv6

| Item | Definition |
|---|---|
| IPv6 Interface | Displays the current IPv6 address. |
| IPv6 Gateway | Displays the current IPv6 gateway. |
| **IPv6 Configuration** | |
| Allow Access | Enable/Disable IPv6 service. |
| Address Mode: Router Control | The IPv6 address is assigned through the method (Stateless Address Auto configuration, Stateless DHCPv6, or Stateful DHCPv6) determined by the router's configuration. |
| Address Mode: Manual | The IPv6 address is assigned manually. |
| Manual IPv6 Address | Enter the IPv6 address manually and click **Apply** when the Address Mode: Manual option is selected. |

### SNMPv1 Service Setting

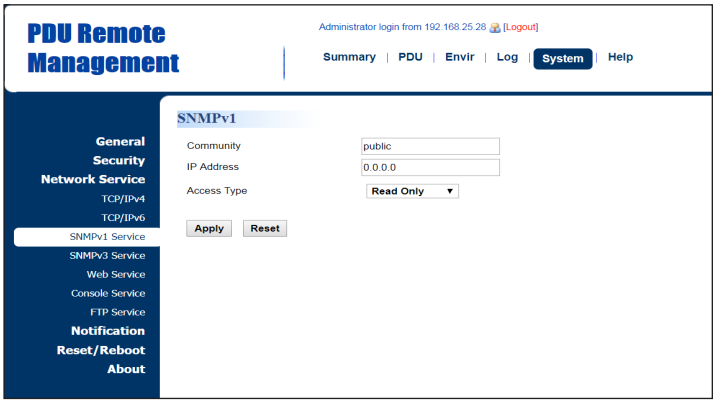
Allow users to perform SNMPv1 configurations. See System Tab > Network Service > SNMPv1 Service.

Click the SNMP Trap Community field to enter the SNMPv1 Page. Users can configure the SNMPv1 settings.




System Tab > Network Service > SNMPv1 Service

| Item | Definition |
|---|---|
| **SNMPv1 Service** | |
| Allow Access | Enable or disable the SNMPv1 service. |

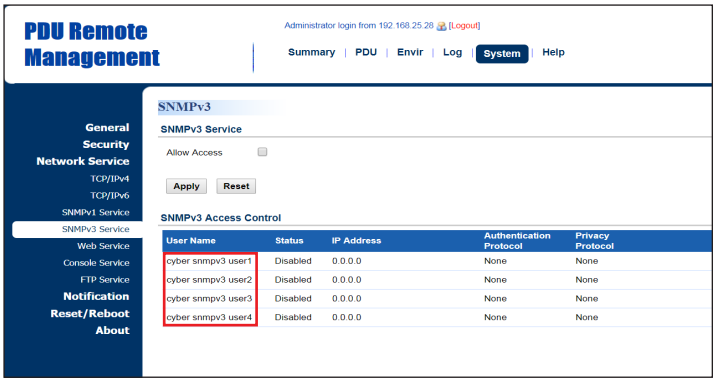



SNMPv1 Page

| Item | Definition |
|---|---|
| Community | The name used to access the SNMP community from a Network Management System (NMS). Its maximum length is 15 characters. |
| IP Address<br>(IPv6 Support) | The IP address or IP address mask can be accessed by the NMS. A specific IP address allows access only by the NMS with the specified IP Address. The “255” is regarded as the subnet mask and the rules are as follows:<br>**192.168.20.255:** Access only by an NMS on the 192.168.20.0 segment.<br>**192.255.255.255:** Access only by an NMS on the 192.0.0.0 segment.<br>**0.0.0.0 (the default setting) or 255.255.255.255:** Access by any NMS on any segments. |
| Access Type | The allowable action for the NMS through the community and IP address.<br>**Read Only:** GET at any time but cannot SET.<br>**Write/Read:** GET at any time. SET at any time unless someone logs in to the Web interface.<br>**Forbidden:** No GET or SET. |

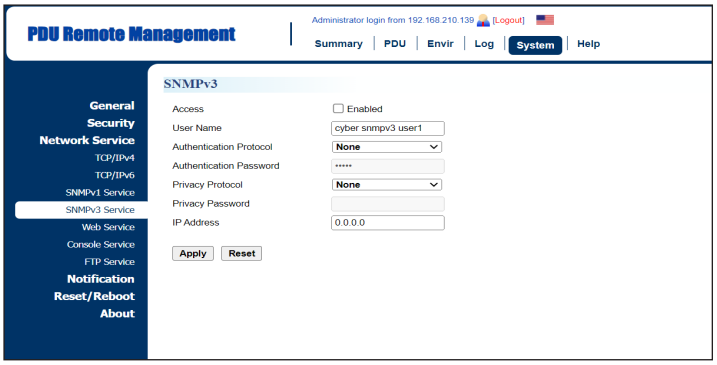
### SNMPv3 Service Setting

Users can perform SNMPv3 configurations. Authentication type or privacy type are provided to strengthen security.
See System Tab > Network Service > SNMPv3 Service.
Click the User Name field to enter the SNMPv3 Page. Users can configure SNMPv3 settings.




System Tab > Network Service > SNMPv3 Service

| Item | Definition |
|---|---|
| **SNMPv3 Service** | |
| Allow Access | Enable or disable the SNMPv3 service. |

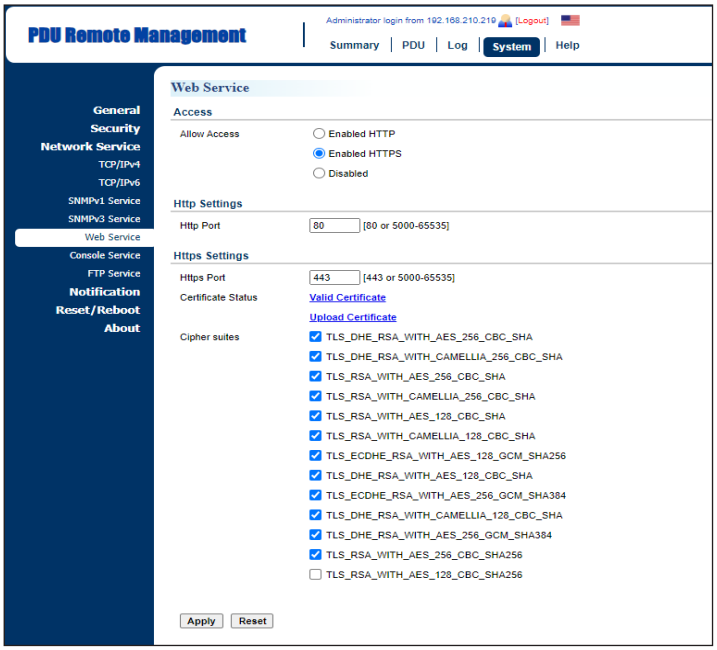



SNMPv3 Page

| Item | Definition |
|---|---|
| Access | Enable or disable the SNMPv3 service. |
| User Name | The name that identifies the SNMPv3 user. It must be 1 to 31 characters long. |
| Authentication Protocol | The hash type for authentication. |
| Authentication Password | The password used to generate the key for authentication. It must be 16 to 31 characters long. |
| Privacy Protocol | The type for encrypting and decrypting data. **Note:** The privacy protocol can not be selected if no authentication protocol is selected. |
| Privacy Password | The password used to generate the key for encryption. It must be 16 to 31 characters long. |
| IP Address<br>(IPv6 Support) | The IP address or IP address mask that can be accessed by the NMS. A specific IP address allows access only by the NMS with the specified IP Address. The “255” is regarded as the subnet mask and the rules are as follows:<br>**192.168.20.255:** Access only by an NMS on the 192.168.20.0 segment.<br>**192.255.255.255:** Access only by an NMS on the 192.0.0.0 segment.<br>**0.0.0.0 (the default setting) or 255.255.255.255:** Access by any NMS on any segments. |

### Web Service

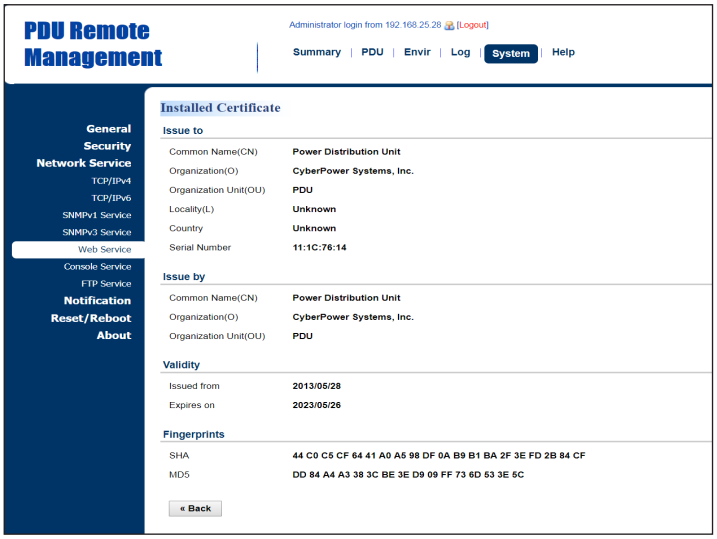
Select the Enable HTTP/HTTPS option to access the HTTP/HTTPS Service and configure HTTP/HTTPS port settings. See System Tab > Network Service > Web Service.




System Tab > Network Service > Web Service

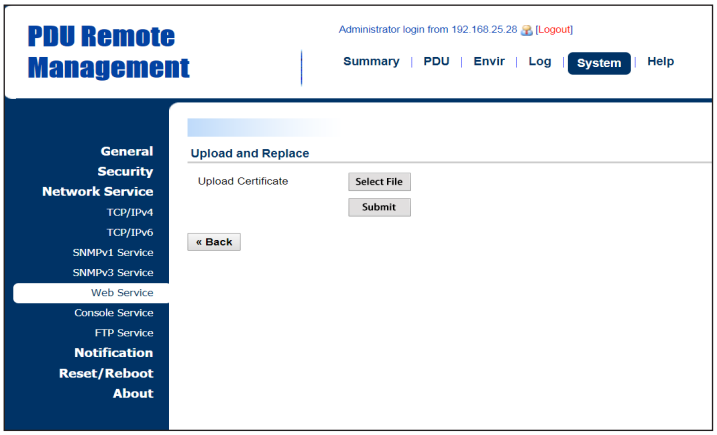
| Item | Definition |
|---|---|
| **Access** | |
| Allow Access | Enable or disable HTTP/HTTPS service.<br>HTTPS supports the following encryption algorithms:<br>• AES (256/128 bits)<br>• Camellia (256/128 bits) |
| **Http Settings** | |
| HTTP Port | The TCP/IP port of the Hypertext Transfer Protocol (HTTP); 80 is the default value.<br>Users can also change the port setting to any unused port from 5000 to 65535 to enhance security. |
| **Https Settings** | |
| Https Port | The TCP/IP port of the Hypertext Transfer Protocol Secure (HTTPS); 443 is the default value.<br>Users can also change the port setting to any unused port from 5000 to 65535 to enhance security. |
| Certificate Status | **Valid Certificate:** Display the detailed certificate information.<br>**Upload Certificate:** Upload a certificate and replace the current one. The certificate must be uploaded in standard PEM (Privacy Enhanced Mail) format. |
| Cipher suites | Set the Cipher suite to either Enable or Disable. |

Click the Valid Certificate link, and the Installed Certificate Page will appear.




Installed Certificate Page

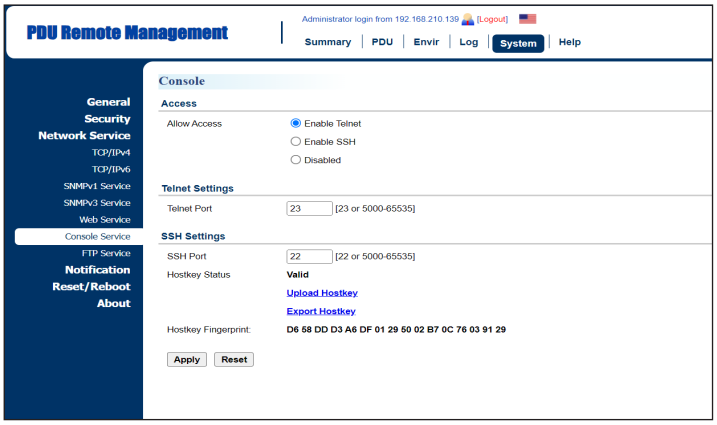
Click the Upload Certificate link, and the Change Certificate Page will appear.




Change Certificate Page

### Console Service

Select the Enable options to allow access using Telnet/SSH service and configure Telnet/SSH port settings.
See System Tab > Network Service > Console Service.

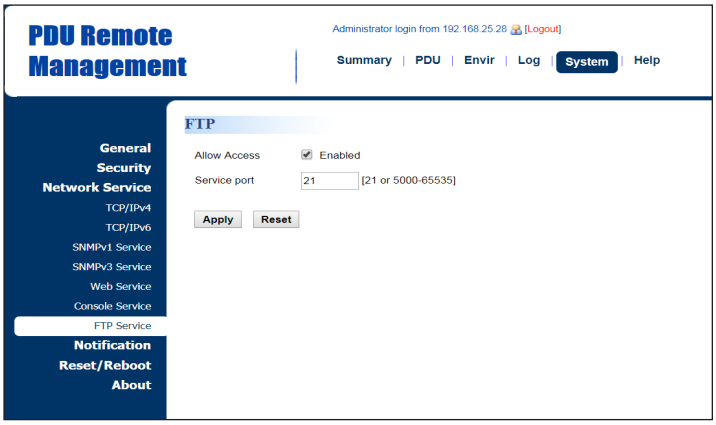



System Tab > Network Service > Console Service

| Item | Definition |
|---|---|
| **Access** | |
| Allow Access | Enable access using Telnet or SSH version 2, which transmits user names, passwords, and data in an encrypted format. |
| **Telnet Settings** | |
| Telnet Port | The TCP/IP port that Telnet uses to communicate; 23 is the default value.<br>Users can change the port setting to any unused port from 5000 to 65535 to enhance security.<br>**Note:** Telnet Client requires users to enter a space and the port number after the PDU/ATS IP address on the command line to access the control console. |
| **SSH Settings** | |
| SSH Port | The TCP/IP port that SSH uses to communicate; 22 is the default value.<br>Users can change port setting to any unused port from 5000 to 65535 to enhance security. |
| Hostkey Status | Display the status of hostkey fingerprint to show whether it is valid or invalid.<br>Click **Upload Hostkey** to upload or change hostkey.<br>Click **Export Hostkey** to export a current hostkey. |
| Hostkey Fingerprint | The hostkey fingerprint uploaded by users will be displayed in this field. |

### FTP Service

Allow users to enable/disable the FTP server service and configure the TCP/IP port of the FTP server. The FTP server is used for upgrading Firmware. See System Tab > Network Service > FTP Service.

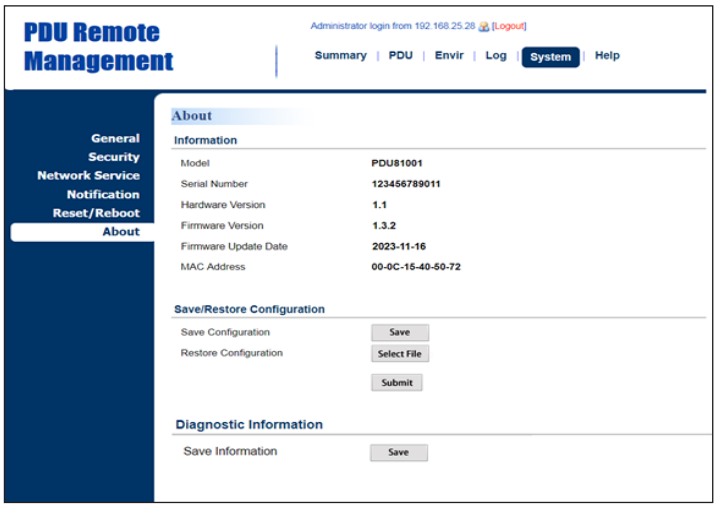



System Tab > Network Service > FTP Service

| Item | Definition |
|---|---|
| Allow Access | Enable FTP server access. |
| Access Port | The TCP/IP port of the FTP server; 21 is the default value. Users can change port setting to any unused port from 5000 to 65535 to enhance security. |

### PDU/ATS Information

Display the system information of the PDU/ATS. See System > About.




System > About

| Item | Definition |
|---|---|
| **Information** | |
| Model Name | Model name of the PDU/ATS. |
| Serial Number | Serial Number of the PDU/ATS. |
| Hardware Version | The hardware version of the PDU/ATS. |
| Firmware Version | The current firmware version installed on the PDU/ATS. |
| Firmware Updated Date | The date the firmware was last updated. |
| MAC Address | MAC address of the PDU/ATS. **Note:** The MAC address is shown on the label on the back of the PDU/ATS and via the LCD screen on the PDU/ATS. |
| **Save/Restore Settings** | |
| Save Configuration | Click **Save** to save the PDU/ATS configuration file to local computer. The text file name will have a default format of YYYY_MM_DD_HHMM.txt. |
| Restore Configuration | To restore a configuration that has been saved earlier. Click **Select File** to import an existing configuration file and then click **Submit**. |
| **Diagnostic Information** | |
| Save Information | Click **Save** to save all diagnostic information to a file. The saved information includes Event Logs, Status Records and other device information.<br>It is suggested to have this information saved when contacting CyberPower Technical Support for assistance. |

## Introduction

### How to log on

Users can log on to the command line interface through either console network access (Telnet or SSH) or local access (Serial port).

1. Network access to the command line interface

   When user logs in with the admin username and admin password through Telnet or SSH, there are two types of interfaces available. One is the command line interface (CLI) and the second is a menu interface. The default is CLI. If the user wants to change to the menu interface, type in the [menumode] command. To switch back to CLI, it is necessary to logout and login to the PDU/ATS.

2. Local access to the command line interface

   To log on via serial connection, the PC/server must be connected directly to the Universal port of the PDU/ATS using the included RJ45/DB9 Serial Port Connection Cable, and perform the following steps.

   Step 1: Open Hyper Terminal software (eg. PuTTY, HyperTerminal, or Tera Term) on your PC and select a name and icon for the connection.

   Step 2: Setup the COM port settings using the following values

   - Bits per second: 9600
   - Data bits: 8
   - Parity: None
   - Stop bits: 1
   - Flow control: None

   Step 3: Press **Enter** to enter the Authentication menu.

   Step 4: Enter the user name and password of the PDU/ATS at the Authentication menu.

   **Note:** Serial connection can only access Command Line Mode and cannot support Menu Mode.

### How to use telnet access command line interface

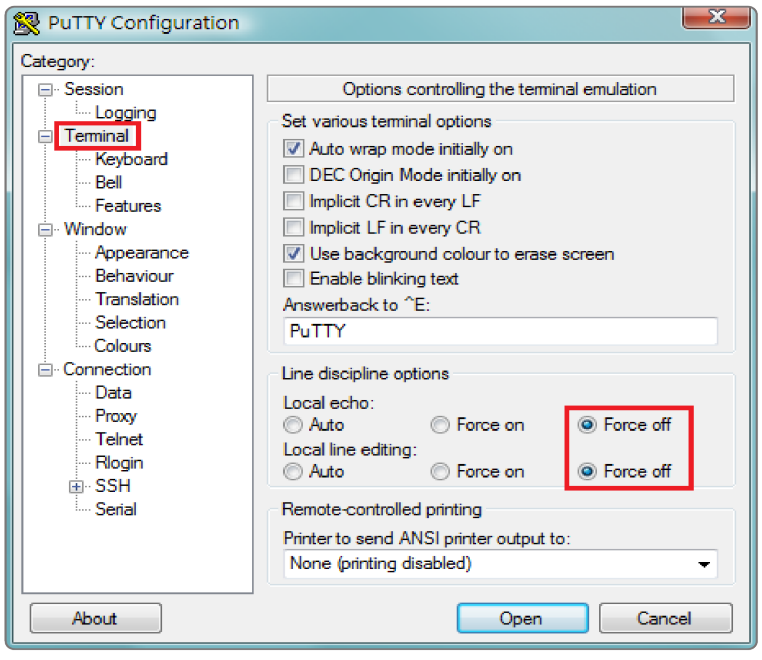
Step 1: Need to make sure the computer has access to the PDU/ATS installed network. At a command prompt, type telnet and the IP address for the PDU/ATS (for example, telnet 139.225.6.133, when the PDU/ATS uses the default Telnet port of 23), and press **Enter**.

Step 2: Enter the user name and password (by default, user name: cyber, password: cyber)

### How to use SSH access command line interface

SSH is highly recommended for using to access the command line interface. SSH encrypts user names, passwords, and transmitted data. To use SSH you must first configure SSH and install an SSH client program (eg. PuTTY, HyperTerminal, or Tera Term) on your computer.

**Note:** If using PuTTY to configure SSH access, please configure Line discipline of Terminal to “Force off”, as shown below.



### How to use the Command Line Interface

While using the command line interface, you can also do the following:

1. To close the connection to the command line interface ➔ Type **Exit** and press **Enter**
2. To switch mode as Menu Mode ➔ Type **menumode** and press **Enter**
3. To view a list of available commands or arguments ➔ Type **?** (eg. date ?).
4. To view the command that was typed most recently in the session: Press the UP/DOWN arrow key. (The session can remember up to ten previous commands.)
5. A command can support multiple options ➔ To define the date as March 21, 2015 (eg. date yyyy 2015 mm 3 dd 21)

### Command Response Codes

When the command or arguments is not recognized or is incorrect, the console interface will display [^] underneath the wrong command or argument. The following error message will be displayed:

| | |
|---|---|
| Command not found | PDU/ATS does not know this command.<br>Console interface display the list of available commands. |
| Parameter Error | The parameter type or format is not allowed.<br>Console interface display the list of available value or format. |

### Command Lists

| **devsta** | Show device status of load and utility. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show information of system device load and utility status. |
| guest | 1 \| 2 \| 3 | Select daisy chain index. |

Example 1:

To display device status

CyberPower > devsta show

| **devcfg** | Show and set device load threshold, reset power parameters in device level, set cold start status and delay. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show information of device configuration. |
| guest | 1 \| 2 \| 3 | Select daisy chain index. |
| overload | <overload threshold value> | Set device overload threshold value. |
| nearover | <near overload threshold value> | Set device near overload threshold value. |
| lowload | <low load threshold value> | Set device low load threshold value. |
| restriction | <none\|onnear\|onover> | Set outlet restriction of device. |
| pwrrest | peakload \| energy | Reset the peak load or energy of device. |
| coldstasta | previous \| allon | Set the cold start state of device. |
| coldstadly | -1 \| 0 \| 1 \| 2 \|...\| 300 | Set the cold start delay of device. |
| idletime | 1 \| 2 \| 3 \| 5 \| 10 \| never | Set idle time of device. |

Example 1:

To display load configuration of the device

CyberPower > devcfg show

Example 2:

To set overload threshold at 10A

CyberPower > devcfg overload 10

Example 3:

To set near overload threshold at 8A

CyberPower > devcfg nearover 8

Example 4:

To set cold start delay at 0

CyberPower > devcfg coldstadly 0

Example 5:

To set idle time of the device at 10 minutes

CyberPower > devcfg idletime 10

| **srccfg** | Show and set the source configuration. (For ATS Series only.) | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show information of source configuration. |
| guest | 1 \| 2 \| 3 | Select daisy chain index. |
| prefer | <a \| b \| none> | Set device preferred source. |
| freqdeviation | 1 \| 2 \| 3 | Set device frequency deviation.. |
| sensitivity | high\|low | Set device voltage sensitivity. |
| nomivol | <208 \| 220 \| 230 \| 240> or<br><100 \| 110 \|1 20> | Set device nominal voltage. |
| volrangepolicy | wide \| medium \| narrow | Set device voltage transfer range policy. |
| widevol | <voltage range> | Set device wide voltage transfer range. |
| mediumvol | <voltage range> | Set device medium voltage transfer range. |
| narrowvol | <voltage range> | Set device narrow voltage transfer range. |

Example 1:

To display source configuration of the device

CyberPower > srccfg show

Example 2:

To set preferred source of the device to be Source B

CyberPower > srccfg prefer b

Example 3:

To set frequency deviation to be +/- 2Hz

CyberPower > srccfg freqdeviation 2

Example 4:

To set device voltage sensitivity to be Low

CyberPower > srccfg sensitivity low

Example 5:

To set device nominal voltage at 100V

CyberPower > srccfg nomivol 100

| **bankcfg** | Show and set bank load configuration. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show information of bank load threshold. |
| guest | 1 \| 2 \| 3 | Select daisy chain index. |
| index | b1 \| b2 \| all | Select bank index. |
| overload | <overload threshold value> | Set bank overload threshold value. |
| nearover | <near overload threshold value> | Set bank near overload threshold value. |
| lowload | <low load threshold value> | Set bank low load threshold value. |
| restriction | none \| onnear \| onover | Set outlet restriction of bank |

Example 1:

To display bank load configuration

CyberPower > bankcfg show

Example 2:

To set overload threshold of bank 1 at 15A

CyberPower > bankcfg index b1 overload 15

Example 3:

To set near overload threshold of bank 2 at 10A

CyberPower > bankcfg index b2 nearover 10

| **oltsta** | Show information of outlet status. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show information of outlet status. |
| guest | 1 \| 2 \| 3 | Select daisy chain index. |
| index | 1 \| 2 \|...\| outlet number | Select outlet index. |

Example 1:

To display all outlet status

CyberPower > oltsta show

Example 2:

To display status of outlet #5

CyberPower > oltsta index 5 show

| **oltcfg** | Show and set configuration of outlet action. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show information of outlet delay time. |
| guest | 1 \| 2 \| 3 | Select daisy chain index. |
| index | 1 \| 2 \|...\| outlet number \| all | Select outlet index. |
| name | <outlet name> | Set outlet name. |
| td_on | -1 \| 0 \| 1 \| 2 \|...\| 7200 | Set outlet on delay time. |
| td_off | -1 \| 0 \| 1 \| 2 \|...\| 7200 | Set outlet off delay time. |
| td_reboot | <reboot duration time> | Set outlet reboot duration time. |
| set | <1 \| 2 \|...\| outlet number \|all><br><Outlet Name><br><0 \| 1 \| 2 \|...\| 7200><br><0 \| 1 \| 2 \|...\| 7200><br><5 \| 6 \|...\| 60> | Set outlet configuration |

Example 1:

To display all outlet configuration

CyberPower > oltcfg index all show

Example 2:

To name outlet #1 as test_1

CyberPower > oltcfg index 1 name test_1

Example 3:

To set turn on delay of outlet #2 as 3 seconds

CyberPower > oltcfg index 2 td_on 3

Example 4:

To set turn off delay of outlet #3 as 3 seconds

CyberPower > oltcfg index 3 td_off 3

Example 5:

To set reboot duration of outlet #4 as 5 seconds

CyberPower > oltcfg index 4 td_reboot 5

Example 6:

To name outlet #1 as test_1, set turn on delay as 3 seconds, set turn off delay as 4 seconds and set reboot duration as 5 seconds with a single command

CyberPower > oltcfg set 1 test_1 3 4 5

| **oltloadcfg** | Show and set outlet load threshold, reset power parameters in outlet level. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show information of outlet load threshold. |
| guest | 1 \| 2 \| 3 | Select daisy chain index. |
| index | 1 \| 2 \|...\|outlet number \| all | Select outlet index. |
| name | <outlet name> | Set outlet name. |
| overload | <overload threshold value> | Set outlet overload threshold value. |
| nearover | <near overload threshold value> | Set outlet near overload threshold value. |
| lowload | <low load threshold value> | Set outlet low load threshold value. |
| pwrrest | peakload \| energy | Reset the peak load or energy of outlet. |

Example 1:

To display outlet load configuration

CyberPower > oltloadcfg show

Example 2:

To set overload threshold of outlet #1 at 1800W

CyberPower > oltloadcfg index 1 overload 1800

Example 3:

To set near overload threshold of outlet #2 at 1000W

CyberPower > oltloadcfg index 2 nearover 1000

Example 4:

To set low load threshold of outlet #10 at 100W

CyberPower > oltloadcfg index 10 lowload 100

| **oltctrl** | Control the action of outlet. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| Index | 1 \| 2 \|...\| outlet number \| b1 \| b2 \| all | Select outlet index. |
| guest | 1 \| 2 \| 3 | Select daisy chain index. |
| act | on \| off \| reboot \| delayon \| delayoff \| delayreboot \| cancel | Control the action of outlet. |

Example 1:

To turn on outlet #1 immediately

CyberPower > oltctrl index 1 act on

Example 2:

To turn on outlet #2 with turn on delay

CyberPower > oltctrl index 2 act delayon

<table>
<tr><td>schedule</td><td colspan="2">Show and configure the outlet schedule of device.</td></tr>
<tr><td>Option</td><td>Argument</td><td>Description</td></tr>
<tr><td>show</td><td></td><td>Show information of schedule.</td></tr>
<tr><td>guest</td><td>1 | 2 | 3</td><td>Select daisy chain index.</td></tr>
<tr><td>index</td><td>1 | 2 |...| schedule number | 10</td><td>Select schedule index.</td></tr>
<tr><td rowspan="10">add</td><td rowspan="10">once | daily | weekly</td><td colspan="2">Add outlet schedule with a schedule name and follow the settings step by step:</td></tr>
<tr><td>Setting</td><td>Parameters</td></tr>
<tr><td>status</td><td>enable | disable</td></tr>
<tr><td>action</td><td>on | off | reboot | delayon | delayoff | delayreboot</td></tr>
<tr><td>outlet</td><td>1 | 2 |...| outlet number</td></tr>
<tr><td>frequency</td><td>once | daily | weekly</td></tr>
<tr><td>hour</td><td>1 | 2 | 3 | ..... | 24</td></tr>
<tr><td>minutes</td><td>1 | 2 | 3 | ..... | 59</td></tr>
<tr><td>day of week</td><td>Mon | Tue | Wed | Thu | Fri | Sat | Sun</td></tr>
<tr><td>month</td><td>1 | 2 | ..... | 12</td></tr>
<tr><td>day</td><td>1 | 2 | 3 | ..... | 31</td></tr>
<tr><td>name</td><td><schedule name></td><td colspan="2">Set schedule name.</td></tr>
<tr><td>status</td><td>enable | disable</td><td colspan="2">Set schedule status</td></tr>
<tr><td>act</td><td>on | off | reboot | delayon | delayoff | delayreboot</td><td colspan="2">Control the action of outlet.</td></tr>
<tr><td>time</td><td><hh:mm></td><td colspan="2">Set schedule time.</td></tr>
<tr><td>date</td><td><mm/dd></td><td colspan="2">Set schedule date.</td></tr>
<tr><td>week</td><td>Mon | Tue | Wed | Thu | Fri | Sat | Sun</td><td colspan="2">Set schedule week.</td></tr>
<tr><td>oltnum</td><td>1 | 2 |...| outlet number | b1 | b2 | all</td><td colspan="2">Set the outlet number of schedule.</td></tr>
<tr><td>delete</td><td></td><td colspan="2">Delete the schedule.</td></tr>
</table>

Example 1:

To display schedules of the device

CyberPower > schedule show

| **date** | Show and configure timezone, date format, date, time. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show system date information |
| yyyy | <number of year> | Set year of system date by AD. |
| mm | <number of month> | Set month of system date. |
| dd | <number of date> | Set day of month. |
| format | mm/dd/yyyy \| yyyy/mm/dd \| dd.mm.yyyy \| mmm-dd-yy \| dd-mmm-yy \| yyyy-mm-dd | Set system date format |
| timezone | <time zone offset> | Choose the time zone in GMT (Greenwich Mean Time). |
| time | <hh:mm:ss> | Set system time. |

Example 1:

To define timezone offset as +08:00

CyberPower > date timezone +0800

Example 2:

To define the date as March 21, 2015

CyberPower > date yyyy 2015 mm 3 dd 21

Example 3:

To define the time as 13:45:12

CyberPower > date time 13:45:12

| **ntp** | Show and configure NTP server IP, NTP update interval time. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all NTP information |
| access | enable \| disable | If enable was set, System will set date and time from NTP server. |
| priip | <primary ntp server ip> | Set the IP address/domain name of primary NTP servers |
| secip | <secondary ntp server ip> | Set the IP address/domain name of secondary NTP servers |
| update | now \| 1-8760 | **now:** Choose **Update right now** to update immediately.<br><br>**1-8760:** Set the frequency to update the date and time from NTP server. |

Example 1:

To enable NTP server define date and time

CyberPower > ntp access enable

Example 2:

To setup primary NTP server IP as “192.168.26.22”

CyberPower > ntp priip 192.168.26.22

Example 3:

To update time by NTP immediately

CyberPower > ntp update now

| **sys** | Show and configure identification of the device. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all system information |
| name | <system name> | Set name of the equipment. |
| location | <system location> | Set the location of power equipment. |
| contact | <system contact> | Set the person to contact about this equipment. |
| reset | reboot \| notcpip \| all | **reboot:** Reboot the device<br>**notcpip:** Reset the System to default setting but reserving TCP/IP settings, and restart it.<br>**all:** Set all to reset the System to default setting and restart it. |

Example 1:

To view all information of system

CyberPower > sys show

Name: PDU81001
Location: Server Room
Contact: Admainistrator
Model: PDU81001
Hardware Version: 1.1
Firmware Version: 1.0.3
Firmware Update Date: 03/08/2015
Serial Number: TALGY2001975
MAC Address: 00-0C-15-00-B9-42

Example 2:

To reset the device to default parameter.

CyberPower > sys reset all

<table>
<tr><td>dst</td><td colspan="2">Show and configure type of Daylight Saving Time.</td></tr>
<tr><td>Option</td><td>Argument</td><td>Description</td></tr>
<tr><td>show</td><td></td><td>Show all DST information</td></tr>
<tr><td rowspan="5">mode</td><td rowspan="5">disable | us | manual</td><td colspan="2">disable: Disable DST.<br>us: Tradition US DST<br>manual: Manual DST date time rules.<br>After finishing this command, input start and end time step by step:</td></tr>
<tr><td>Setting</td><td>Parameters</td></tr>
<tr><td>week of month</td><td>first | second | third | forth | last</td></tr>
<tr><td>day of week</td><td>Mon | Tue | Wed | Thu | Fri | Sat | Sun</td></tr>
<tr><td>month</td><td>Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec</td></tr>
</table>

Example 1:

Manual set Daylight Saving Time

CyberPower > dst mode manual

Start time (0~23): 2

Start week of month: second

Start day of week: Sun

Start month: Mar

End time (0~23): 2

End week of month: first

End day of week: Sun

End month: Nov

Example 2:

To view DST setting

CyberPower > dst show

DST: Manual DST Date Time

Start: 02:00, the second Sunday of Mar

End: 02:00, the first Sunday of Nov

| **login** | Show and configure authentication for login. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all login information |
| type | local \| radiuslocal \| radiusonly \| ldaplocal \| ldaponly | **local:** User to login Remote Management Card with user name and password that configured in Local Account.<br><br>**radiuslocal:** User to login Remote Management Card with user name and password for authenticate with RADIUS server first. If the RADIUS server fails to respond, the user name and password that configured in Local Account will be used.<br><br>**radiusonly:** User to login Remote Management Card with user name and password for authenticate with RADIUS server only.<br><br>**ldaplocal:** User to login Remote Management Card with user name and password for authenticate with LDAP server first. If the LDAP server fails to respond, the user name and password that configured in Local Account will be used.<br><br>**ldaponly:** User to login Remote Management Card with user name and password for authenticate with LDAP server only. |
| secretphrase | <Authentication Phrase> | The Authentication Phrase used to communicate with PowerPanel Business Remote. |
| timeout | 1~10 | The period (in minutes) that the system waits before auto logging off. The range of argument is from one to 10 (in minutes). |

Example 1:

To change authentication type to Radius, Local Account

CyberPower > login type radiuslocal

| **admin** | Show and configure administrator account and manager IP. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all admin information |
| primip | <primary manager IP> | Set primary manager IP of admin |
| secmipac | enable \| disable | Enable or disable secondary manager IP of admin |
| secmip | <secondary manager IP> | Set secondary manager IP of admin |
| name | <administrator account> | Set user name of admin |
| passwd | <administrator password> | Set user password of admin |

Example 1:

To change the primary administrator account information with a single command (need current password)

CyberPower > admin name pri_name passwd pri_pass

Input admin password : cyber

pass

| **device** | Show and configure viewer account and manager IP. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all viewer account information |
| access | enable \| disable | Enable or disable viewer account |
| primip | <primary manager IP> | Set primary manager IP of viewer account |
| secmipac | enable \| disable | Enable or disable secondary manager IP of viewer account |
| secmip | <secondary manager IP> | Set secondary manager IP of viewer account |
| name | <user name> | Set user name of viewer account |
| passwd | <user password> | Set user password of viewer account |

Example 1: To define primary viewer manager IP as 192.168.26.0/24

CyberPower > device primip 192.168.26.0/24

| **oltuser** | Show and configure the outlet user. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show information of outlet user. |
| index | 1 \| 2 \| .....outlet user number | Select outlet user index. |
| add | | Add outlet user then input user name/password/ outlet number appear later on. |
| status | enable \| disable | Enable of disable the status of outlet user. |
| name | <outlet user name> | Set the name of outlet user. |
| passwd | <outlet user password> | Set the password of outlet user. |
| oltnum | 1 \| 2 \|...\| outlet number \| b1 \| b2 \| all | Set the outlet number of outlet user. |
| | g#<1 \| 2 \| daisy chain index >-<1 \| 2 \|...\| outlet number \| b1 \| b2 \| all>; | Set the daisy chain PDU/ATS's outlet number of outlet user.<br>**Note 1:** Host PDU/ATS doesn't need to type "g#<daisy chain index>-".<br>**Note 2:** End of outlet number list need to type Semicolon";" |
| delete | | Delete the outlet user. |

Example 1:

To display configuration of outlet users

CyberPower > oltuser show

| **Status** | **User Name** | **Manageable Outlets** |
|---|---|---|
| 1 Ena | outletuser1 | 1,2,3,4 |
| 2 Disa | outletuser2 | g#1-5,6,7,8 |
| 3 Ena | outletuser3 | 1,3,5,7;g#1-2,4,6,8 |

Example 2:

To disable the outlet user #1

CyberPower > oltuser index 1 status disable

Example 3:

To set host outlet 1,3,5, guest #1 outlet 2,4,6, and guest #2 outlet 7,8,9 to the outlet user #1

CyberPower > oltuser index 1 oltnum 1,3,5;g#1-2,4,6;g#2-7,8,9

Example 4:

To delete the outlet user #1

CyberPower > oltuser index 1 delete

| **radius** | Show and configure information of RADIUS server. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all RADIUS server information |
| pri \| sec | show | Show primary/secondary RADIUS server information. |
| add | | Add RADIUS server then input radius server IP/ Secret/Port appear later on. |
| add | <server IP> <server secret> <server port> | Add RADIUS server information including server IP/Secret/Port at one time. |
| priip \| secip | <radius server IP> | Set the IP address of primary/secondary RADIUS server. |
| priport \| secport | <radius server port> | Set the UDP port which is used by the primary/secondary RADIUS server. |
| prisecret \| secsecret | <radius server secret> | Set the shared secret of primary/secondary RADIUS server. |
| pritype \| sectype | <radius server authentication type> | Set the authentication type of primary/secondary RADIUS server. |
| pridel \| secdel | | Delete primary/secondary RADIUS server |

Example 1:

To view primary radius server information

CyberPower > radius pri show

Server IP: 192.168.26.33

Server Secret: testsecret

Server Port: 1826

Example 2:

To view secondary radius server information

CyberPower > radius sec show

Server IP: 192.168.30.58

Server Secret: testsecret2

Server Port: 1508

Enter the following command to add RADIUS server information configuration with a single command:

radius add <Server IP> <Share Secret> <Server Port><Authentication Type>

For example: CyberPower > radius add 192.168.203.55 testsecret 150 pap

**Note:** This single command could not be executed successfully if there are two RADIUS servers to be set already.

| **ldap** | Show and configure information of LDAP server. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all LDAP server information |
| add | | Add LDAP server then input information for requirements appear later on. |
| pritype \| sectype | open l dap \| ad | Set the type of LDAP server. |
| priip \| secip | <LDAP server IP> | Set the IP address of primary/secondary LDAP server. |
| prissl \| secssl | enable \| disable | Enable or disable using LDAPS. |
| priport \| secport | <LDAP server port> | Set the TCP port which is used by the primary/ secondary LDAP server. |
| pridn \| secdn | < LDAP server base DN> | Set the Base DN of primary/secondary LDAP server. |
| priaddomain \| secaddomain | < LDAP server AD domain> | Set the AD Domain of the primary/secondary Active Directory server. |
| priattr \| secattr | < LDAP server login attribute> | Set the Login Attribute of primary/secondary LDAP user entry. |
| pridel \| secdel | | Delete primary/secondary LDAP server. |

Example 1:

To add LDAP Server
CyberPower > ldap add
Input LDAP Server Type [openldap | ad]: ad
Input IP address: 192.168.26.33
Use SSL [enable | disable]: disable
Input LDAP port: 389
Input base DN: dc=cyber,dc=com
Input login attribute: cn
Input AD Domain: cyber.com

Example 2:

To view information about LDAP Server
CyberPower > ldap show
Primary LDAP Server
Type: Windows AD
LDAP Server: 192.168.26.33
LDAP SSL: Disable
Port: 389
Base DN: dc=cyber,dc=com
Login Attribute: cn
AD Domain: cyber.com

| **tcpip** | Show and configure IPv4 IP, netmask, gateway, DNS. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all IPv4 information |
| dhcp | enable \| disable | Enable or disable DHCP |
| dns | manual \| auto | **Auto:** Obtain DNS Address from DHCP when DHCP is enabled.<br>**Manual:** Obtain DNS Address by manual when DHCP is enabled. |
| ip | <system IP> | Set IP Address of system |
| netmask | <system netmask> | Set netmask of system |
| gateway | <system gateway> | Set gateway of system |
| dnsip | <system dns> | Set DNS of system |

Example 1:

To disable DHCP and define IP address to 192.168.26.33

CyberPower > tcpip dhcp disable ip 192.168.26.33

| **tcpip6** | Show and configure status of IPv6 router control, IPv6 manual IP. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all IPv6 information |
| access | enable \| disable | Enable or disable IPv6 service. |
| routerctrl | enable \| disable | The IPv6 address is assigned through the method (Stateless Address Autoconfiguration, Stateless DHCPv6 or Stateful DHCPv6) which is decided by router setting. |
| manual | enable \| disable | Enable or disable IPv6 manual ip. |
| ip | <manual IPv6 IP> | Set manual IPv6 ip. |

Example 1:

To define IPv6 manual IP address then show the information of IPv6

CyberPower > tcpip6 ip 2001:cdba:0:0:0:0:3257:9652 show

Access: Enable

Router Control: Enable

Manual: Enable

Manual IPv6 Address: [2001:cdba::3257:9652]

| **snmpv1** | Show and configure status of SNMPv1. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show SNMPv1 status. |
| index | 1 \| 2 \| 3 \| 4 | Select SNMPv1 community index. |
| set | <1 \| 2 \| 3 \| 4> <Community> <IP Address> <readonly \| readwrite \| forbidden> | Set SNMPv1 community information. |
| access | enable \| disable | Enable or disable SNMPv1. |
| community | <Community> | Set SNMPv1 community name. |
| ip | <IP Address> | Set SNMPv1 community IP address. |
| type | readonly \| readwrite \| forbidden | Set SNMPv1 community type. |

Example 1:

To view the second SNMPv1 community information

CyberPower > snmpv1 index 2 show

Community: private

IP Address: 192.169.203.20

Type: Read/Write

Example 2:

To change the community name of first SNMPv1 community to Public1

CyberPower > snmpv1 index 1 community Public1

Example 3:

To change the IP address of third SNMPv1 community to 192.168.203.88

CyberPower > snmpv1 index 3 ip 192.168.203.88

Example 4:

To change the community type of forth SNMPv1 community to read/write

CyberPower > snmpv1 index 4 type readwrite

Enter the following command to perform all parameters configuration with a single command:

snmpv1 set <1 | 2 | 3 | 4> <Community> <IP Address> <readonly | readwrite | forbidden>

For example: CyberPower > snmpv1 set 3 CyberPower 192.168.203.91 readonly

| **snmpv3** | Show and configure status of SNMPv3. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show SNMPv3 status. |
| index | 1 \| 2 \| 3 \| 4 | Select SNMPv3 index. |
| Set | <1 \| 2 \| 3 \| 4> <Community> <IP Address> <readonly \| readwrite \| forbidden> | Set SNMPv3 user information. |
| access | enable \| disable | Enable or disable SNMPv3. |
| name | <User Name> | Set SNMPv3 user name. |
| status | <enable \| disable> | Enable or disable SNMPv3 user. |
| ip | <IP Address> | Set IP address of SNMPv3 user. |
| auth | md5 \| sha \| none | Set authentication protocol of SNMPv3 user. |
| authkey | <Auth Key> | Set authentication password of SNMPv3 user. |
| priv | aes \| des \| none | Set privacy protocol of SNMPv3 user. |
| privkey | <Priv Key> | Set privacy password of SNMPv3 user. |

Example 1:

To view the first SNMPv3 user information

CyberPower > snmpv3 index 1 show

User Name: CyberPower
Status: Enable
IP Address: 192.169.30.58
Auth Protocol: MD5
Priv Protocol: aes

Example 2:

To change the user name of second SNMPv3 user to CyberPower

CyberPower > snmpv3 index 2 name CyberPower

Example 3:

To enable the third SNMPv3 user

CyberPower > snmpv3 index 3 status enable

Example 4:

To change the IP address of forth SNMPv3 user to 192.168.203.66

CyberPower > snmpv3 index 4 ip 192.168.203.66

Example 5:

To change the authentication protocol of second SNMPv3 user to md5 and set its authentication password as test_authkey_123456

CyberPower > snmpv3 index 2 auth md5 authkey test_authkey_123456

Example 6:

To change the authentication password of first SNMPv3 user to test_authkey_123456

CyberPower > snmpv3 index 1 authkey test_authkey_123456

Example 7:

To change the authentication protocol of third SNMPv3 user to none

CyberPower > snmpv3 index 3 auth none

Example 8:

To change the privacy protocol of second SNMPv3 user to aes and set its privacy password as test_privkey_123456

CyberPower > snmpv3 index 2 priv aes privkey test_privkey_123456

Example 9:

To change the privacy password of first SNMPv3 user to test_privkey_123456

CyberPower > snmpv3 index 1 privkey test_privkey_123456

Example 10:

To change the privacy protocol of third SNMPv3 user to none

CyberPower > snmpv3 index 3 priv none

Enter the following command to perform all parameters configuration with a single command:

snmpv3 set <1 | 2 | 3 | 4> <User Name> <IP Address> <md5 | sha | none> <Auth Key> <aes | des | none> <Priv Key>

For example:

CyberPower > snmpv3 set 1 CyberPower 192.168.203.90 sha test_authkey_123456 des test_privkey_123456

| **trap** | Show and configure information of SNMP trap receiver. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show trap receiver information. |
| add | | Add trap receiver. |
| index | 1 \| 2 \| ... \| 10 | Select trap receiver index. |
| name | <Trap Receiver Name> | Set trap name of trap receiver. |
| ip | <Trap Receiver IP> | Set IP address of trap receiver. |
| ver | v1 \| v3 | Set SNMP version of trap receiver. |
| status | enable \| disable | Enable or disable trap receiver. |
| community | <Trap Receiver Community> | Set SNMPv1 community name of trap receiver. |
| user | 1 \| 2 \| 3 \| 4 | Select SNMPv3 user of trap receiver. |
| test | | Trap receiver send test |
| delete | | Delete trap receiver. |

Example 1:

To view sixth trap receiver information

CyberPower > trap index 6 show

Trap Name: CyberPower

Status: Enable

IP Address: 192.168.203.68

Type: SNMPv1

Community: test_community

Example 2:

To change the trap name of second trap receiver to test

CyberPower > trap index 2 name test

Example 3:

To change the IP address of third trap receiver to 192.168.30.85

CyberPower > trap index 3 ip 192.168.30.85

Example 4:

To change the SNMP version of forth trap receiver to SNMPv3

CyberPower > trap index 4 ver v3

Example 5:

To change the fifth trap receiver

CyberPower > trap index 5 status enable.

Example 6:

To change the community name of second trap receiver to CyberPower with the condition that the SNMP version of trap receiver must be SNMPv1.

CyberPower > trap index 2 community CyberPower

Example 7:

To change the SNMPv3 user of tenth trap receiver to SNMPv3 user2 with the condition that the SNMP version of trap receiver must be SNMPv3

CyberPower > trap index 10 user 2

Example 8:

To delete the fifth trap receiver

CyberPower > trap index 5 delete

Enter the following command to add trap receiver configuration with a single command:

For SNMPv1: trap add <Trap Name> <Trap Receiver IP> v1 <Community>

For example: CyberPower > trap add CyberPower 192.168.203.16 v1 test

For SNMPv3: trap add <Trap Name> <Trap Receiver IP> v3 <1 | 2 | 3 | 4>

For example: CyberPower > trap add cyberpower 192.168.203.12 v3 3

| **web** | Show and configure web access type, http port and https port. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all web information |
| access | http \| https \| disable | **http:** Enable the access to http service.<br>**https:** Enable the access to https service.<br>**disable:** Disable web service |
| httpport | <http port> | The TCP/IP port of the Hypertext Transfer Protocol (HTTP) (80 by default) |
| httpsport | <https port> | The TCP/IP port of the Hypertext Transfer Protocol Secure (HTTPS) (443 by default) |
| index | 1 \| 2 \| ... \| 13 | Select Cipher Suites list index |
| status | enable \| disable | Enable or disable Cipher Suite |

Example 1:

To change the HTTP server port to 5000

CyberPower > web httpport 5000

| **console** | Show and configure console network access type, telnet port and SSH port. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all console information. |
| access | telnet \| ssh | **telnet:** Enable the access to Telnet.<br>**ssh:** Enable the access to SSH. |
| telnet | enable \| disable | **enable:** Enable Telnet.<br>**disable:** Disable Telnet. |
| ssh | enable \| disable \| reset_hostkey | **enable:** Enable SSH.<br>**disable:** Disable SSH.<br>**reset_hostkey:** Reset SSH Hostkey to default. |
| telnetport | <telnet port> | The TCP/IP port (23 by default) that Telnet uses to communicate. |
| sshport | <ssh port> | The TCP/IP port (22 by default) that SSH uses to communicate. |

Example 1:

To enable Telnet as console type

CyberPower > console telnet enable

Example 2:

To disable SSH as console type

CyberPower > console ssh disable

**Note:** The telnet and the ssh modes are options for switching between each other. For example, the telnet will be automatically disabled once ssh is enabled as console type and vice versa.

Example 3:

To reset SSH Hostkey to default

CyberPower > console ssh reset_hostkey

**Note:** The system will reboot after the SSH Hostkey is reset to default.

| **ftp** | Show and configure FTP access type and TCP/IP port of FTP. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all FTP= information |
| access | enable \| disable | Enable or disable FTP server |
| port | <ftp port> | The TCP/IP port of the FTP server (21 by default). |

Example 1:

To enable FTP service

CyberPower > ftp access enable

| **eventlog** | View and clear the eventlog of the device. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show the list of events and a brief description of each event along with the date and time stamp. |
| clear | | Clear the existing event logs. |

Example 1:

CyberPower > eventlog show

12/11/2015 03:32:08 Admin login from 192.168.26.33.

Use the following keys to navigate the event log.

| **Key** | **Description** |
|---|---|
| SPACE | View the next page of event log. |
| Q | Close the event log and return to command line interface. |

Example 1:

To clear all event logs.

CyberPower > eventlog clear

Do you want to clear all eventlog [yes / no]: yes

| **syslog** | Show and configure information of SYSLOG server. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show all syslog information. |
| s1 \| s2 \| s3 \| s4 | show | Show syslog server information for 1 to 4 servers. |
| add | | Add syslog server then input syslog server IP /Port appear later on. |
| add | <server IP> <server port> | Add syslog server information including server IP/ Port at one time. |
| access | enable \| disable | Enable or disable syslog. |
| facility | kernel \| user \| mail \| system \| auth1 \| syslog \| link \| news \| uucp \| clock1 \| auth2 \| ftp \| ntp \| logaudit \| logalert \| clock2 \| local0 \| local1 \| local2 \| local3 \| local4 \| local5 \| local6 \| local7 | Set Syslog facility. |
| s1test \| s2test s3test \| s4test | | Send test message to Syslog server for 1 to 4 servers. |
| Ip1 \| Ip2 \| Ip3 \| Ip4 | <SYSLOG server IP> | Set the IP address of Syslog server for 1 to 4 servers. |
| port1 \| port2 port3 \| port4 | <SYSLOG server port> | Set the UDP port which is used by the Syslog server 1 to 4 servers. |
| s1del \| s2del s3del \| s4del | | Delete Syslog server for 1 to 4 servers. |

Example 1:

To view syslog information of server 1

CyberPower > syslog s1 show

IP: 192.168.26.33

Port: 514

Example 2:

To view syslog information of server 2

CyberPower > syslog s2 show

IP: 192.168.203.89

Port: 268

Example 3:

To view syslog information of server 3

CyberPower > syslog s3 show

IP: 192.168.30.15

Port: 101

Example 4:

To view syslog information of server 4

CyberPower > syslog s4 show

IP: 192.168.26.93

Port: 358

Enter the following command to perform all parameters configuration with a single command:
syslog add <Server IP address> <Server Port>

For example: CyberPower > syslog add 192.168.203.65 180

**Note:** This single command could not be executed successfully if there are four Syslog servers to be set already.

| **menumode** | Switch mode as Menu Mode. |
|---|---|

| **accy** | Show accessory information. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show information of accessory. |

Example 1:

To display general information of accessory

CyberPower > accy show

| **Model** | **Serial Number** | **HW Version** | **FW Version** |
|---|---|---|---|
| 1 SENV001 | TBLMV2000001 | 1.0 | 1.0.4 |
| 2 SENV001 | TBLMV2000002 | 1.0 | 1.0.4 |

| **envsta** | Show environment sensor status. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show status of environment sensor. |
| index | 1 \| 2 \| 3 \|...\| 8 | Select environment sensor index. |

Example 1:

To display general status of environment sensor

CyberPower > envsta show

| **Name** | **Location** | **Temp** | **Humid** |
|---|---|---|---|
| 1 Name1 | Location1 | 77.21 F | 54.00 %RH |
| 2 Name2 | Location2 | 76.33 F | 53.00 %RH |

| **envcfg** | Show and set environment sensor configuration. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show configuration of environment sensor. |
| index | 1 \| 2 \| 3 \|...\| 8 | Select environment sensor index. |
| name | < environment sensor name> | Set environment sensor name. |
| location | < environment sensor location> | Set environment sensor location. |
| temphthres | <high threshold value> | Set high temperature threshold. |
| templthres | <low threshold value> | Set low temperature threshold. |
| temphyster | <hysteresis value> | Set temperature hysteresis. |
| tempchange | <rate of change value> | Set temperature rate of change. |
| humhthres | <high threshold value> | Set high humidity threshold. |
| humlthres | <low threshold value> | Set low humidity threshold. |
| humhyster | <hysteresis value> | Set humidity hysteresis. |
| humchange | <rate of change value> | Set humidity rate of change. |
| maxminreset | <temp \| humid> | Reset maximum and minimum record of temperature or humidity. |
| unit | <celcius \| fahrenheit> | Set temperature unit |

Example 1:

To display general configuration of environment sensor

CyberPower > envcfg show

| **Name** | **Location** | **Temperature (F)** | **Humidity (%RH)** |
|---|---|---|---|
| | | **[ HTH \| LTH \| HYS \| CAG ]** | **[ HTH \| LTH \| HYS \| CAG ]** |
| 1 Name1 | Location1 | [ 158 \| 33 \| 3 \| 18 ] | [ 80 \| 50 \| 5 \| 20 ] |
| 2 Name2 | Location2 | [ 158 \| 33 \| 3 \| 18 ] | [ 80 \| 50 \| 5 \| 20 ] |

HTH = High Threshold LTH = Low Threshold HYS = Hysteresis CAG = Change Rate (per 5min)

Example 2:

To set accessory#1's name as envirname1

CyberPower > envcfg index 1 name envirname1

Example 3:

To set high temperature threshold of the accessory#1 at 70

CyberPower > envcfg index 1 temphthres 70

Example 4:

To reset maximum and minimum record of accessory#1 temperature

CyberPower > envcfg index 1 maxminreset temp

Example 5

To set temperature unit as celcius

CyberPower > envcfg unit celcius

| **contactsta** | Show contact status | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show status of contact. |
| index | 1 \| 2 \| 3 \|...\| 8 | Select contact index. |

Example 1:

To display general status of contact

CyberPower > contactsta show

| **name** **contact1** | **name** **contact2** | **name** **contact3** | **name** **contact4** | **status** **[ #1 \| #2 \| #3 \| #4 ]** |
|---|---|---|---|---|
| 1 contact1-1 | contact1-2 | contact1-3 | contact1-4 | [ X \| X \| X \| X ] |
| 2 contact2-1 | contact2-2 | contact2-3 | contact2-4 | [ X \| X \| X \| X ] |

O = Normal X = Abnormal

| **contactcfg** | Show and set contact configuration. | |
|---|---|---|
| **Option** | **Argument** | **Description** |
| show | | Show configuration of contact. |
| index | 1 \| 2 \| 3 \|...\| 8 | Select contact index. |
| contact1name | <contact name> | Set contact 1 name. |
| contact1state | <open \| closed> | Set contact 1 state |
| contact2name | <contact name> | Set contact 2 name. |
| contact2state | <open \| closed> | Set contact 2 state |
| contact3name | <contact name> | Set contact 3 name. |
| contact3 state | <open \| closed> | Set contact 3 state |
| contact4name | <contact name> | Set contact 4 name. |
| contact4state | <open \| closed> | Set contact 4 state |

Example 1:

To display general configuration of contact

CyberPower > contactcfg show

Example 2:

To set envirsensor#1's contact 2 name as contact1-2

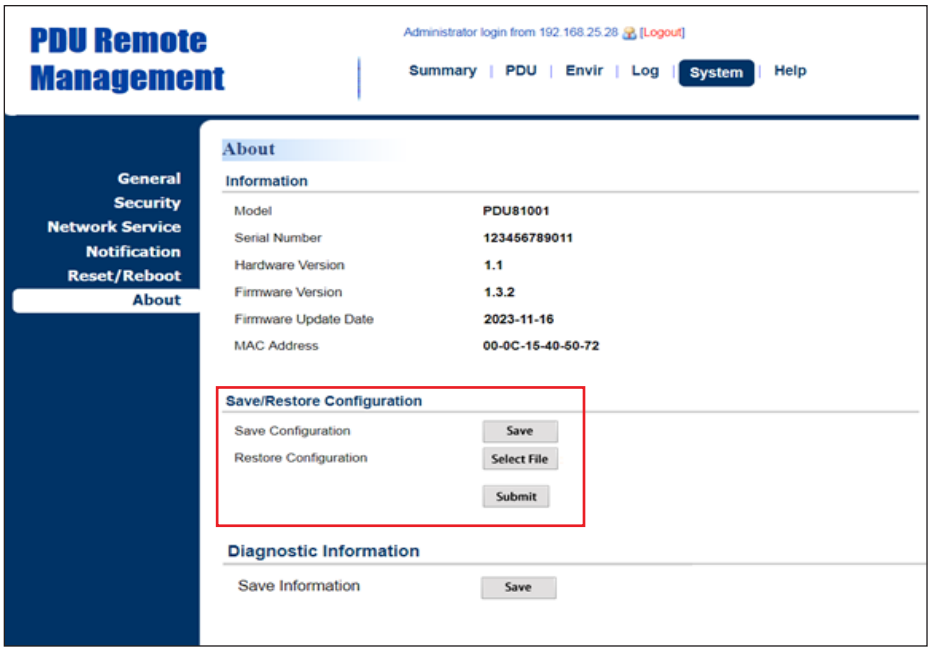
CyberPower > contactcfg index 1 contact2name contact1-2

| **clear** | Clear the console screen. |
|---|---|

| **exit** | Close the connection to the command line interface. |
|---|---|

### Option 1: via Web interface

You can easily save and restore the device configuration to your local PC on System > About.




To save the configuration file, click **Save** to save the configuration to your local PC. The text file will have a default format of YYYY_MM_DD_HHMM.txt. To restore configuration, click **Browse** to the location of the saved configuration file and click **Submit** to restore a configuration that has been saved earlier.

### Option 2: via File Transfer Protocol (FTP)

**Note:** Only firmware version 1.2.6 and above supports the functionality to download configuration file via FTP.

**Use the following steps to save configuration via FTP.**

1. Open a command prompt window and navigate to "C:\".
2. Login to the PDU/ATS with FTP command, type
   - C:\>ftp
   - ftp> open 192.168.22.126 21
     (for example: 192.168.22.126 is the current IP of the PDU/ATS and 21 is the default ftp port for the PDU/ATS)
   - Connected to 192.168.22.126.
   - 220 CyberPower FTP Server Ready.
   - User (192.168.22.126:(none)):cyber
   - 331 User name okay, need password.
   - Password:
   - 230 User logged in, proceed.
   - ftp>
3. Download the configuration file, type
   - ftp> get <filename>
4. Download is complete, type
   - ftp> quit

   **Note:** <filename> is the configuration file with format of .TXT. Maximum length of filename is 32 characters, excluding the file extension(.TXT).

   For example:

   –ftp> get YYYY_MM_DD_HHMM.txt

   YYYY_MM_DD_HHMM.txt is the configuration file to be saved.

**Use the following steps to restore configuration via FTP.**

1. Open a command prompt window and navigate to “C:\”.
2. Login to the PDU/ATS with FTP command, type
   - C:\>ftp
   - ftp> open 192.168.22.126 21 (for example: 192.168.22.126 is the current IP of the PDU/ATS and 21 is the default ftp port for the PDU/ATS)
   - Connected to 192.168.22.126.
   - 220 CyberPower FTP Server Ready.
   - User (192.168.22.126:(none)):cyber
   - 331 User name okay, need password.
   - Password:
   - 230 User logged in, proceed.
   - ftp>
3. Upload the configuration file, type
   - ftp> put <filename>
4. Upload is complete, type
   - ftp> quit
5. The system will reboot after you type “quit”.

**Option 3: Use Secure Copy (SCP) command**

**Use the following steps to restore configuration via SCP.**

**Note:** Only firmware version 1.1.2 and above supports the functionality to restore configuration via SCP.

For Windows Users:

1. Download any PuTTY Secure Copy client (PSCP) utility.
2. Save the configuration file and the PSCP Utility in the same folder.
3. Open the Command Line Interface and change the path to where the configuration file and the PSCP Utility are saved.
4. Enter the following command to restore configuration:
   pscp –scp <filename> <user>@<IP address of PDU/ATS>:

**Note:**

1. The SSH setting on the PDU/ATS must be Enabled.
2. <filename> is the filename of the configuration file with a default format of YYYY_MM_DD_HHMM.txt.
3. <user> is the username of the SSH account on the PDU/ATS.
4. Ensure to add “:” after the IP address.

   For example:
   pscp –scp YYYY_MM_DD_HHMM.txt cyber@192.168.1.100:
   **Note:** YYYY_MM_DD_HHMM.txt is the configuration file to be restored.

5. After executing the command, a message may appear asking if you trust the host. To continue type “y” for yes within 10 seconds.
6. On the next screen enter the PDU/ATS password. Please wait until the progress indicator displays 100%. The system will automatically log out and reboot after the transfer is complete.

**For Linux, MacOS and Unix Users:**

1. Install the related distribution of an SSH or SCP client, for example OpenSSH client.
2. Open the Terminal and change the path to where the configuration files are saved.
3. Enter the following Command to restore configuration:
   scp <filename> <user>@< IP address of PDU/ATS>:

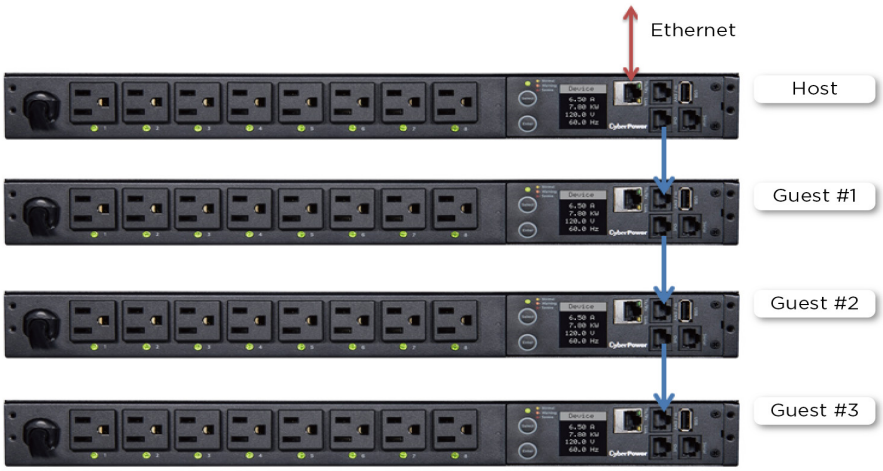
   **Note:**

   1. The SSH setting on the PDU/ATS must be Enabled.
   2. <filename> is the filename of the configuration file with a default format of YYYY_MM_DD_HHMM.txt.
   3. <user> is the username of the SSH account on the PDU/ATS.
   4. Ensure to add ":" after the IP address.

   For example:
   scp YYYY_MM_DD_HHMM.txt cyber@192.168.1.100:
   **Note:** YYYY_MM_DD_HHMM.txt is the configuration file to be restored.
4. After executing the command, a message may appear asking if you trust the host. To continue type "y" for yes within 10 seconds.
5. On the next screen enter the PDU/ATS password. Please wait until the progress indicator displays 100%.
   The system will automatically log out and reboot after the transfer is complete.

## PDU/ATS NETWORK DAISY CHAIN

The daisy-chain function allows up to four PDU/ATS units to be connected together to be monitored and controlled from one IP address.

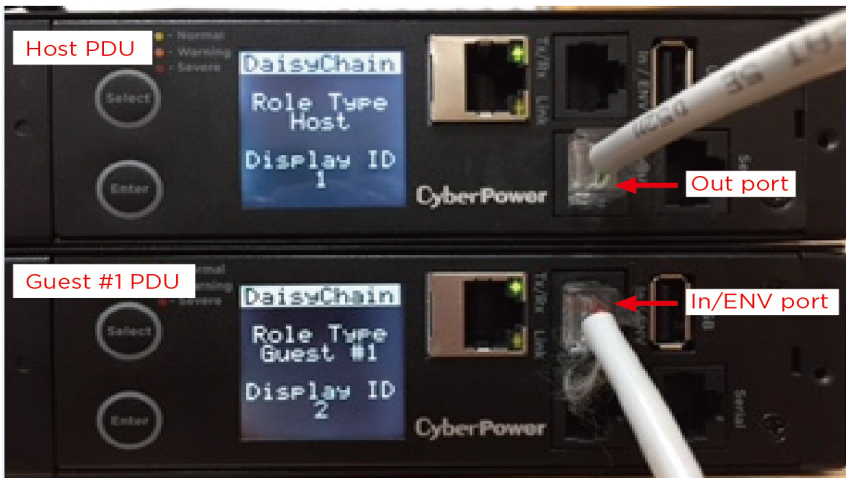



When PDU/ATS units are connected, two roles are defined: Host and Guest. Up to three Guest PDU/ATS units can be connected to one Host PDU/ATS. The Guest PDU/ATS units will be recognized by serial number and their order within the daisy-chain.

**Note:** To perform the daisy-chain function, the firmware version of the connected PDU/ATSU units needs to be the same (v1.08 or above).

**How to connect the PDU/ATS units together?**

Use one Ethernet cable and connect one end of it to the daisy-chain (Out) port on the Host PDU and the other end to the daisy-chain (In/ENV) port on the Guest 1 PDU/ATS to connect the PDU/ATS units (as shown below).




**What remote management protocols are supported in PDU/ATS daisy-chains?**

Currently users can monitor and control daisy-chained PDU/ATS units through Web interface (HTTP/HTTPS) or SNMP protocols.

## PDU/ATS NETWORK DAISY CHAIN

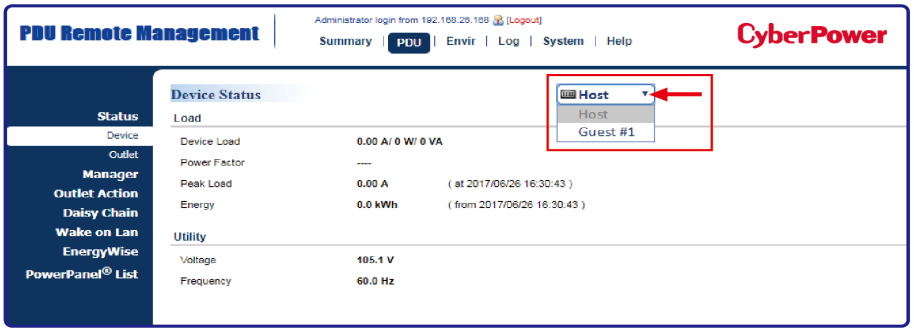
**What functions on the Web pages does daisy-chain support?**

Please find in below table:

| | |
|---|---|
| Summary | |
| PDU/ATS | Device Status |
| | Outlet Status |
| | Source Manager<br>ATS Series Only |
| | Device Manager |
| | Bank Manager |
| | Outlet Manager |
| | Outlet Control |
| | Outlet Schedule |
| Log | Status Records |
| | Energy Records |
| | Graphing |
| System | Identification |

**How to switch between Host and Guest PDU/ATS units on the Web interface?**

Functionality supported by daisy-chained PDU/ATS units will have the Host/Guest # drop down menu displayed on the Web interface (as shown below).




**Can I upgrade the firmware version of the Guest PDU/ATS units through the Host PDU/ATS?**

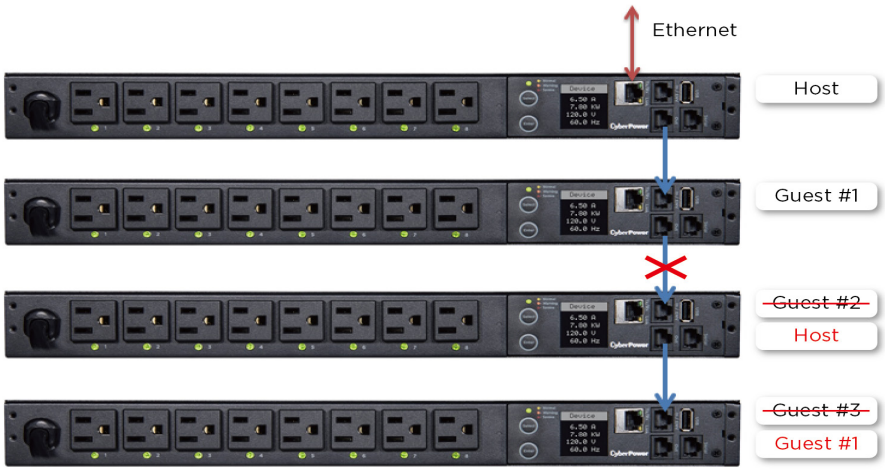
Yes, you can upgrade the firmware using the Power Device Network Utility 2, FTP (network connection required), or USB port. Once the Host completes the PDU/ATS firmware upgrade, it will trigger its Guest PDU/ATS units to upgrade the firmware automatically. It takes about five minutes for the Guest PDU/ATS units to upgrade, regardless of the number of PDU/ATS units in the series.

## PDU/ATS NETWORK DAISY CHAIN

**What will happen if an Ethernet cable is disconnected in the PDU/ATS daisy-chain?**

For example, if four PDU/ATS units are connected and the cable connecting Guest 1 and 2 is disconnected, then Guest 2 and 3 will no longer be detected by the Host PDU/ATS.

An event showing that Guest 2 and 3 are removed will be recorded in the Host PDU/ATS. Meanwhile, Guest 2 and 3 will create a new daisy-chain where Guest 2 becomes a Host and Guest 3 becomes Guest 1 to the new Host.




**In the above example, if the disconnected Ethernet cable is re-connected, will the role of the PDU/ATS units stay the same?**

Yes, when the disconnected cable between Guest 1 and 2 is re-connected, Guest 2 and 3 will revert to their previous roles.

**What happens if one PDU/ATS in the daisy-chain is powered off?**

For example, if four PDU/ATS units are connected and Guest 1 is powered off, an event showing that Guest 1, 2 and 3 are removed will be recorded in the Host PDU/ATS. Guest 2 and 3 will not create another daisy-chain.

**Does the Host PDU/ATS record the logs of the Guest PDU/ATS units and itself?**

Yes, the Host PDU/ATS records the logs from all Guest PDU/ATS units daisy-chained to it.

**Will the logs of the Guest PDU/ATS units recorded in the Host PDU/ATS be cleared if the Guest PDU/ATS units are removed from the Host PDU/ATS?**

No, the logs of the Guest PDU/ATS units will remain even after the Guest PDU/ATS units are removed.

**Does the Host PDU/ATS record the Status Records of the Guest PDU/ATS units and itself?**

Yes, the Host PDU/ATS records the Status Records for all the PDU/ATS units in the daisy-chain.

**Will the Status Records of the Guest PDU/ATS units logged in the Host PDU/ATS be cleared if the Guest PDU/ATS units are disconnected from the Host PDU/ATS?**

Yes, once the Guest PDU/ATS units are removed, the Status Records logged in the Host PDU/ATS will be cleared. As long as the Host PDU/ATS does not connect to other PDU/ATS units, the Status Records of the disconnected PDU/ATS can be displayed when it is re-connected to the Host PDU/ATS. If the Host PDU/ATS connects to different PDU/ATS units, the Status Records of the removed PDU/ATS will be entirely cleared.

**Are the Guest PDU/ATS units able to connect to the network when they are daisy-chained?**

Yes, even when the PDU/ATS units are daisy-chained, the Guest PDU/ATS units are able to connect to the network directly. Note that a Guest PDU/ATS will require having its own Ethernet cable connected to the network.

**What will happen if a 5th PDU/ATS is added to a daisy-chain?**

The maximum number of PDU/ATS units that can be connected in one daisy-chain is four. The daisy-chain functionality will not work until the fifth PDU/ATS is removed.

**What is the maximum recommended length of the Ethernet cable to daisy-chain the PDU/ATS units?**

50 ft (15 m)

| Problem | Possible Cause | Solution |
|---|---|---|
| The PDU/ATS units are connected but the daisy chain function is not working. | The firmware version does not support daisy chain.<br><br>The PDU/ATS units have different firmware version. | Check the firmware version of each PDU/ATS and upgrade to v1.08 or above. |
| I cannot set the EnergyWise configuration for Guest PDU/ATS units. | Only the Host PDU/ATS supports this function. | N/A |
| I cannot set the WoL for Guest PDU/ATS units. | Only the Host PDU/ATS supports this function. | N/A |

## FIRMWARE UPGRADE

By upgrading the Firmware, you can obtain new features and updates/improvements to existing functionality. To ensure the firmware is kept up to date, please regularly visit our website to see if there is any updated firmware version available. There are three methods for upgrading the PDU/ATS firmware. Please follow the instructions below for the method that is appropriate for your application. There are two files to update in order to upgrade the firmware version:

- cpsmpdumadata_XXX.bin
- cpsmpdumafw_XXX.bin

Note that the XXX is not part of the file name but is where the version number in the filename is given.

Prior to performing a firmware update, please:

- Download the latest firmware from www.cyberpower.com
- Extract the downloaded firmware file to your local “C:\” drive

**Note:**

1. The FTP service needs to be enabled before attempting to execute a firmware upgrade. Please refer to 5.7 FTP Service to make sure that FTP is enabled.
2. Please do not turn the PDU/ATS off when processing the Firmware upgrade. PDU/ATS outlets will remain powered on while the firmware update takes place. Only the PDU/ATS LCD screen will reboot.
3. The PDU/ATS LCD screen will reboot during the firmware update process. This DOES NOT cause the PDU/ATS outlets to reboot.

**Option 1: Single Device Upgrade via FTP**

Use the following steps to upgrade the firmware.

1. Open a command prompt window and navigate to “C:\”.
2. Login to the PDU/ATS with FTP command, type
   - C:\>ftp
   - ftp> open 192.168.22.126 21
     (for example: 192.168.22.126 is the current IP of the PDU/ATS and 21 is the default ftp port for the PDU/ATS)
   - Connected to 192.168.22.126.
   - 220 CyberPower FTP Server Ready.
   - User (192.168.22.126:(none)):cyber
   - 331 User name okay, need password.
   - Password:
   - 230 User logged in, proceed.
   - ftp>
3. Upload the cpsmpdumadata_XXX.bin, type
   - ftp > bin
   - ftp > put cpsmpdumadata_XXX.bin
4. Upgrade complete, type
   - ftp > quit
5. The system will reboot after you type “quit”. This reboot will take approx. 30 seconds.
6. Login to the PDU/ATS via FTP again, type
   - C:\>ftp
   - ftp> open 192.168.22.126 21
     (for example: 192.168.22.126 is the current IP of the PDU/ATS and 21 is the default ftp port for the PDU/ATS)
   - Connected to 192.168.22.126.
   - 220 CyberPower FTP Server Ready.
   - User (192.168.22.126:(none)):cyber
   - 331 User name okay, need password.
   - Password:
   - 230 User logged in, proceed.
   - ftp>

7. Upload cpsmpdumafw_XXX.bin, type
   - ftp > bin
   - ftp > put cpsmpdumafw_XXX.bin
8. Upgrade complete, type
   - ftp > quit
9. The system will reboot after you type “quit”.

**Option 2: Single or Multiple Device Upgrade (recommended)**

Use the following steps to upgrade the firmware.

1. Install the Power Device Network Utility 2 available for download at www.cyberpower.com
2. After installation completes, run the Power Device Network Utility 2.
3. Wait for scanning to finish (shown in Figure 1).

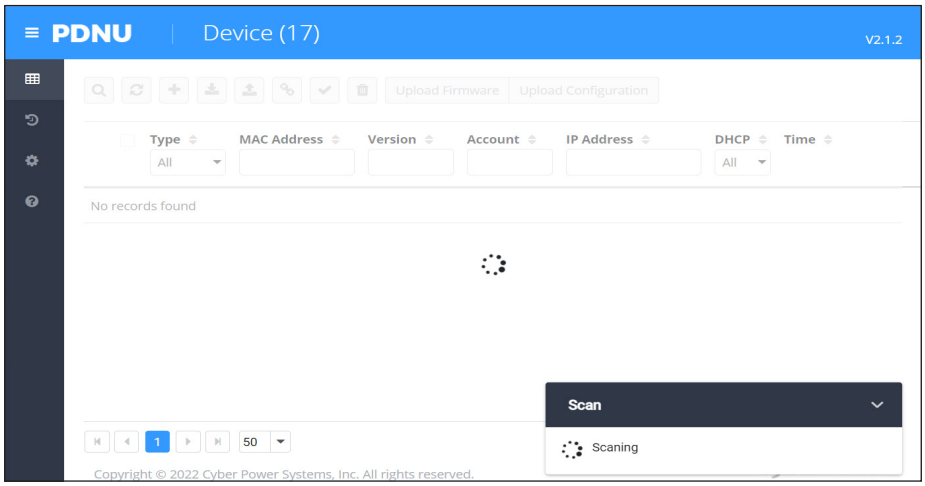



Figure 1

4. Check the checkbox to select devices listed in the Operation View (Shown in Figure 2).

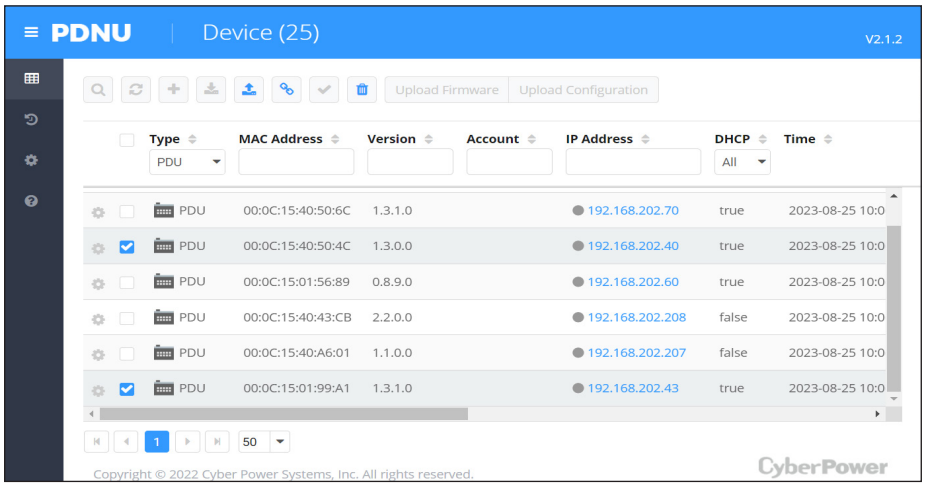



Figure 2

5. Make sure Account and Password are valid on selected devices (Shown in Figure 3).

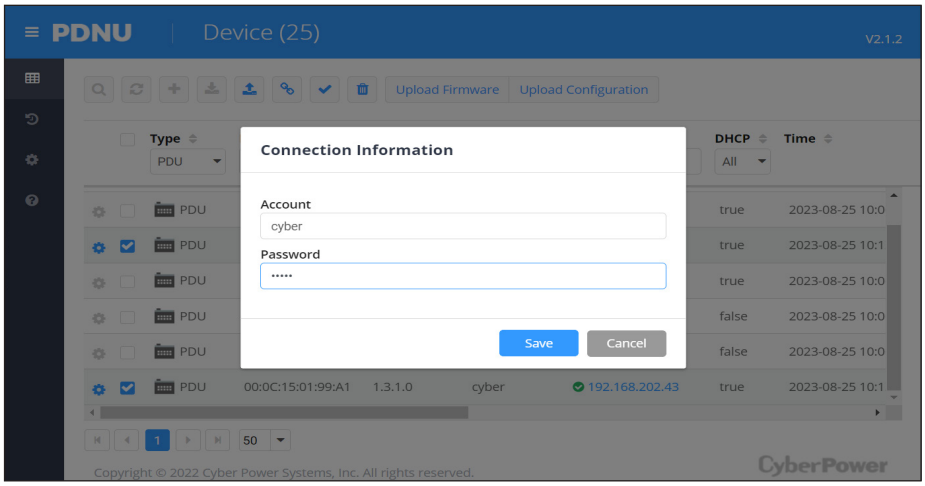



Figure 3

6. Select **Upload Firmware**.
7. Click **Browse** to locate and select the firmware and data file to be updated and then click **OK** (Shown in Figure 4).

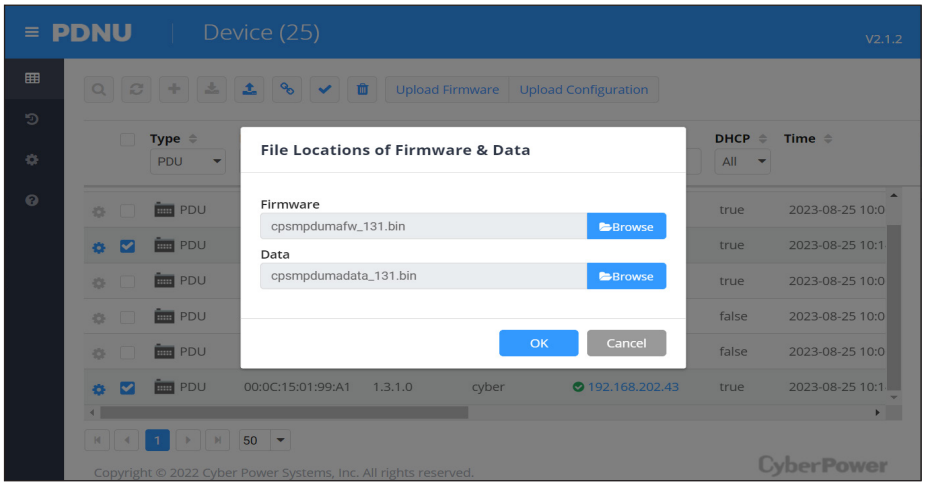



Figure 4

8. The upgrade progress bar will show in the lower right Upload Firmware window (Shown in Figure 5).

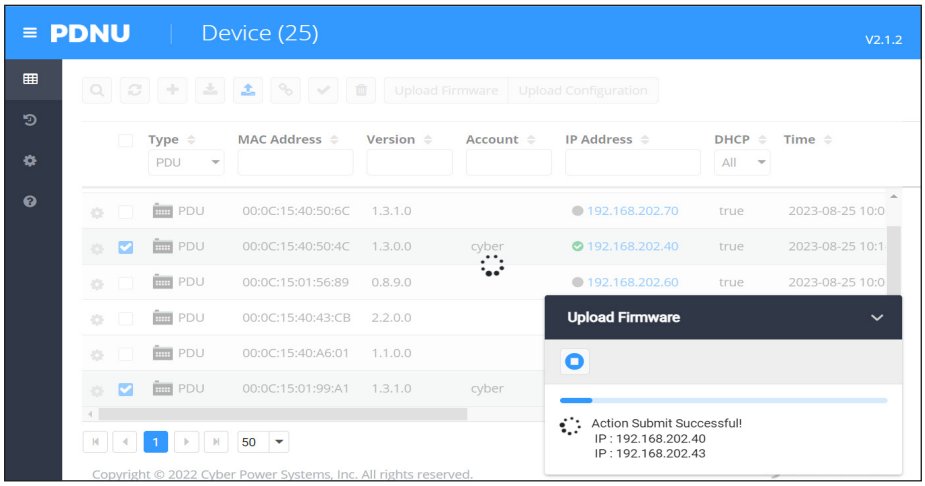



Figure 5

9. The result of firmware upgrade will show in Result column (Shown in Figure 6).

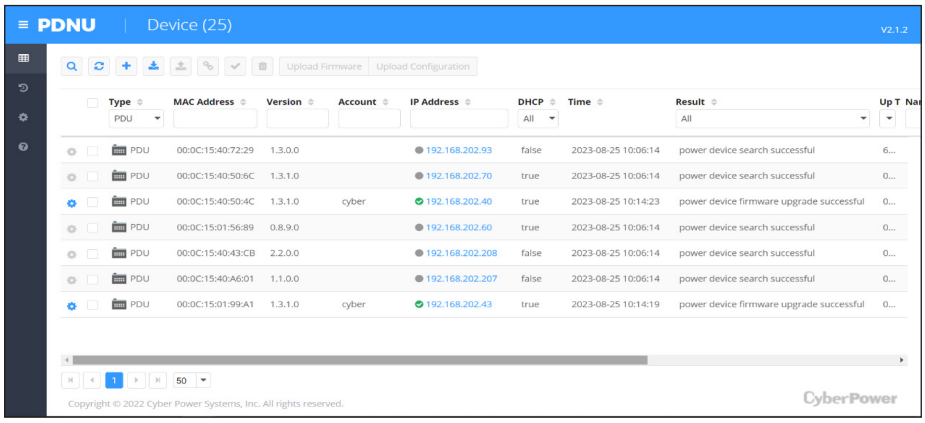



Figure 6

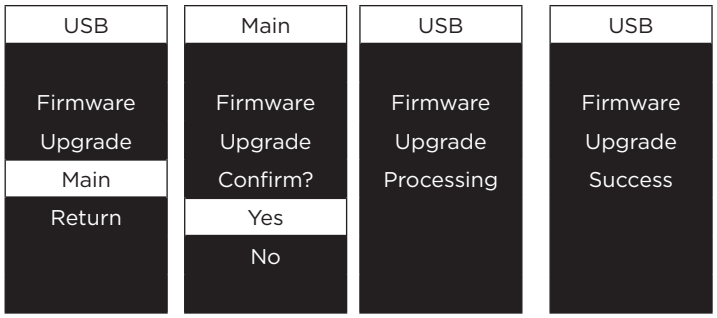
**Note:** If you do not want to wait for the firmware upgrade, you can stop the process by clicking **Cancel** in the lower right Upload Firmware window. However, this is not recommended because the Cancel action may cause the device to malfunction.

**Option 3: Use a USB Flash Drive**

Use the following steps to upgrade the firmware.

1. Download the latest firmware from www.cyberpower.com
2. Extract the file to the root directory of a USB flash drive with FAT32 formatting. Please note that the two files below should be available in order to complete the firmware upgrade process:
   - cpsmpdumadata_xxx.bin
   - cpsmpdumafw_xxx.bin
3. Plug the USB drive into the PDU/ATS USB port and press **Enter** on the PDU/ATS LCD screen to enter Main Menu. The USB option will be displayed.


4. Select USB and press **Enter** to enter Firmware Upgrade menu.
5. Select Main and Yes to start the upgrade process.




6. The PDU/ATS will reboot after the process is completed.

   **Note:** You can check to see if the firmware upgrade is successful by checking the “Firmware version” on the [System->About] webpage. You can also check Firmware Version on LCD screen. Press **Enter** on the LCD screen to enter Main Menu. Select **About** and press **Enter** to see the PDU/ATS information. Select **Firmware Version** to check the PDU/ATS Firmware Version.

**Option 4: Use Secure Copy (SCP) command**

Use the following steps to update the firmware via SCP.

**Note:** Only firmware version 1.10 and above supports the functionality to update firmware via SCP.

**For Windows Users:**

1. Download any PuTTY Secure Copy client (PSCP) utility.
2. Save the firmware files and the PSCP Utility in the same folder.
3. Open the Command Line Interface and change the path to where the firmware files and the PSCP Utility are saved.
4. Enter the following command to perform the firmware update:

   pscp –scp <filename> <user>@<IP address of PDU/ATS>:

   **Note:**

   (5) The SSH setting on the PDU/ATS must be Enabled.

   (6) <filename> is the filename of the firmware file.
   There are two firmware files to upload: cpsmpdumadata_XXX.bin and cpsmpdumafw_XXX.bin. In order to upgrade the firmware version both files need to be uploaded. Only one firmware file can be uploaded at a time, it is recommended to upload the data file cpsmpdumadata_XXX.bin first followed by the firmware file cpsmpdumafw_XXX.bin.

   (7) <user> is the username of the SSH account on the PDU/ATS.

   (8) Ensure to add ":" after the IP address. For example:

   pscp –scp cpsmpdumafw_XXX.bin cyber@192.168.1.100:

   **Note:** cpsmpdumafw_XXX.bin is the firmware file of the version being updated.

5. After executing the command, a message may appear asking if you trust the host. To continue type **y** for yes within 10 seconds.
6. On the next screen enter the PDU/ATS password. Please wait until the progress indicator displays 100%. The system will automatically log out and reboot after the transfer is complete.
7. Repeat steps 4 through step 6 to upload the firmware file cpsmpdumafw_XXX.bin to complete the firmware update process.
8. If the firmware file transfer is unsuccessful you will see an error message. Attempt to retype the command and execute it again.

**For Linux, MacOS and Unix Users:**

1. Install the related distribution of an SSH or SCP client, for example Openssh client.
2. Open the Terminal and change the path to where the firmware files are saved.
3. Enter the following Command to perform firmware update:

   scp <filename> <user>@< IP address of PDU/ATS>:

   **Note:**

   (1) The SSH setting on the PDU/ATS must be Enabled.

   (2) <filename> is the filename of the firmware file. There are two firmware files to upload: cpsmpdumadata_XXX.bin and cpsmpdumafw_XXX.bin. In order to upgrade the firmware version both files need to be uploaded. Only one firmware file can be uploaded at a time, it is recommended to upload the data file cpsmpdumadata_XXX.bin first followed by the firmware file cpsmpdumafw_XXX.bin.

   (3) <user> is the username of the SSH account on the PDU/ATS.

   (4) Ensure to add ":" after the IP address. For example:

   scp cpsmpdumafw_XXX.bin cyber@192.168.1.100:

   **Note:** cpsmpdumafw_XXX.bin is the firmware file of the version being updated.

4. After executing the command, a message may appear asking if you trust the host. To continue type **y** for yes within 10 seconds.
5. On the next screen enter the PDU/ATS password. Please wait until the progress indicator displays 100%. The system will automatically log out and reboot after the transfer is complete.
6. Repeat steps 3 through step 5 to upload the firmware file cpsmpdumafw_XXX.bin to complete the firmware update process.
7. If the firmware file transfer is unsuccessful you will see an error message. Attempt to retype the command and execute it again.

**Contact Information**

Feel free to contact our Tech Support department with installation, troubleshooting, or general product questions.

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