



POWERMASTER+

UPS-SC600 Power Master+ Software

User Manual

100-00093 Rev A





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IMPORTANT SAFETY INSTRUCTIONS - EN

SAVE THESE INSTRUCTIONS - This manual contains important instructions that should be followed during installation and maintenance of the UPS and batteries.

For complete safety instructions, refer to the UPS-SC600 Battery Backup User Manual (100-00053) at www.legrandav.com.

- Only use attachments and accessories specified by the manufacturer.
- Read all instructions before using the product.

INSTRUCTIONS IMPORTANTES SUR LA SÉCURITÉ - FR

CONSERVER CES INSTRUCTIONS - Ce manuel contient des instructions importantes qui doivent être suivies lors de l'installation et de la maintenance de l'onduleur et des batteries.

Pour obtenir des instructions de sécurité complètes, reportez-vous au manuel d'utilisation UPS-SC600 Battery Backup User Manual (100-00053) à www.legrandav.com.

- Utiliser uniquement les accessoires spécifiés par le fabricant.
- Lisez toutes les instructions avant d'utiliser le produit.

Understanding General Symbols and Terms



NOTE

A note is used to highlight procedures pertaining to the installation, operation, or maintenance of the product.



REMINDER

A reminder marks information which may be of importance to you for recalling in context and later use.



TIP

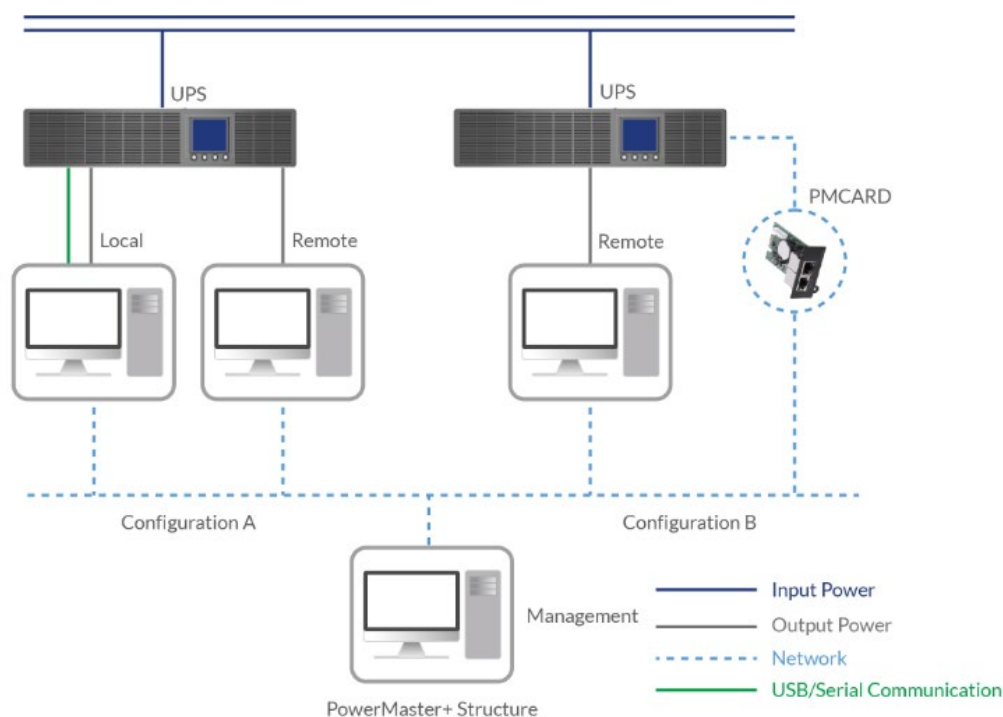
A tip helps users apply techniques and procedures for their specific needs. The information suggests alternative methods that may not be obvious and help users understand the benefits and capabilities of the product. A tip is not essential to the basic understanding of the material.

Introduction

Power Master+® software provides comprehensive advanced power management for UPS systems. It controls unattended shutdowns, scheduled shutdowns, and notifications for computers powered by the UPS.

Power Master+ software consists of two different modules: Local and Remote. Local monitors and configures the UPS through the USB connection, logs UPS status and power events, and generates actions in response to events. Remote establishes communication with both the Local workstation and the UPS CIPCARD Network Card option to generate actions based on notifications received from the UPS when power events occur.

The Local module should be installed on a single workstation computer connected to the UPS via USB. The Local module controls the UPS and establishes communication with the Remote module if the UPS doesn't have a CIPCARD Network Card option. The Local module relays the UPS status to each Remote module, and then the Remote module performs actions based on the notifications. Each computer powered by the UPS can be protected and controlled using the Remote module. In the event of a power failure, the Local module shuts down the hosted computer and requests the Remote workstation shut down prior to the UPS shutting down. Configuration A in the following illustration shows this setup.



A UPS with a CIPCARD Network Card option has the ability to communicate with multiple computers which have the Remote module installed and are on the same network and relay the UPS status to each Remote workstation. In the event of a power failure, each Remote workstation requests the hosted computer shuts down following notifications from the UPS. Configuration A in the previous illustration shows this setup.

Understanding the Local Module

Aside from the primary function of shutting systems down in the event of an outage, the Local module also provides the following functions:

- Unattended shutdown in response to various power conditions.
- User notification of power conditions.
- Flexible configuration of actions for each event and notifications via E-mail, Instant Message, and SMS.
- Run command files for custom applications.
- Historical logs of events and power conditions.
- Detailed load management for all powered equipment.
- Scheduled shutdown and restart.
- Status monitoring of the UPS and utility power.
- UPS configuration.
- Quick view system summary.

Understanding the Remote Module

The Remote module provides unattended shutdown for the hosted computer following a notification from the UPS. The Remote module also provides the following functions:

- Unattended shutdown in response to various power conditions.
- User notification of power conditions.
- Flexible configuration of actions for each specific event and notifications via E-mail, Instant Message, and SMS.
- Historical logs of power events.
- Quick view system summary.

Understanding Hardware, Operating System, and Web Browser Requirements

Understanding Hardware Requirements

- Minimum Core 2 – Compatible CPU.
- One gigabytes (GB) of RAM recommended minimum; more memory improves responsiveness.
- Minimum of 1 GB of free space of hard disk.
- USB port. (Required for the Local workstation.)
- Network interface.

Understanding Operating System Requirements

Power Master+ software can be installed and is supported on the following Windows® operating systems:

32-Bit Versions:

- Windows 10
- Windows 8
- Windows 7

64-Bit Versions:

- Windows Server® 2022
- Windows Server 2019
- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2016
- Windows Hyper-V Server 2012
- Windows Hyper-V Server 2012 R2
- Windows 11
- Windows 10
- Windows 8
- Windows 7

Understanding Web Browser Requirements

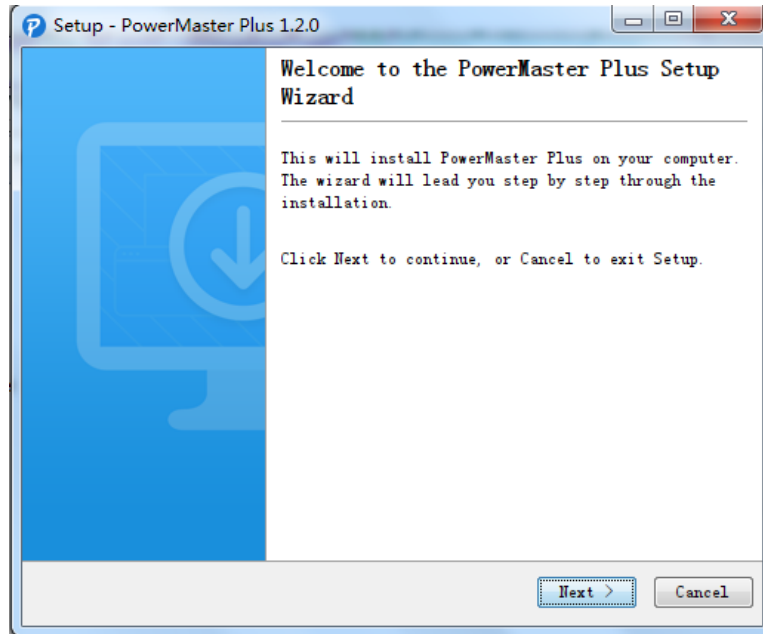
Power Master+ software is accessed using a web browser and is compatible with the following browsers:

- Microsoft Edge®
- Google Chrome®
- Firefox®
- Safari®

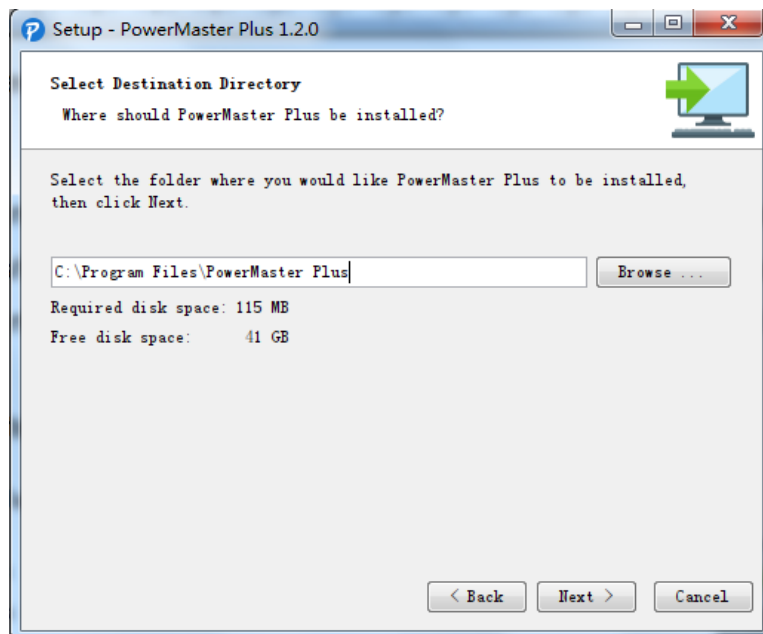
Installing the Power Master+ Software on a Windows Workstation

Use the following steps to install the software on your Windows® workstation.

1. Download the software from the website at <https://www.legrandav.com/resources/power-downloads> and store it on the workstation on which you wish to install it.
2. Open the software installation file.
3. Click the **Next** button to start the installation.



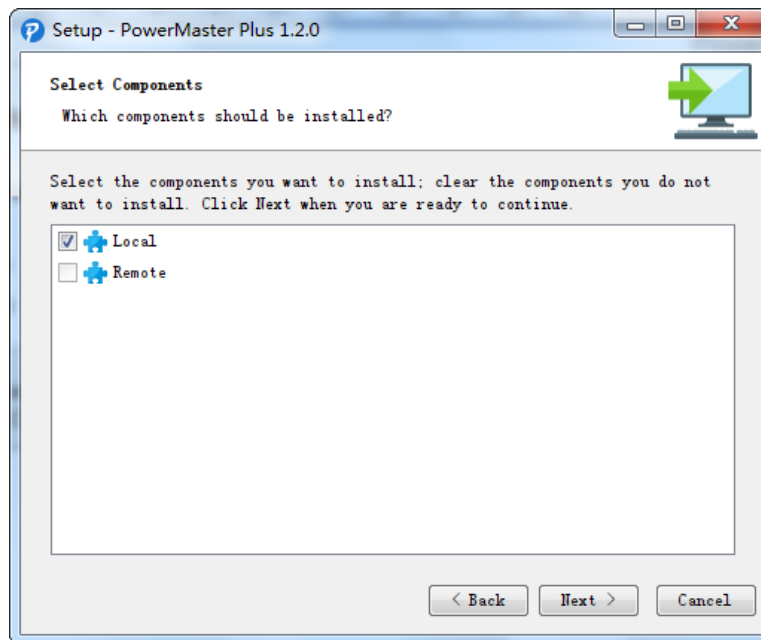
4. Select destination directory.



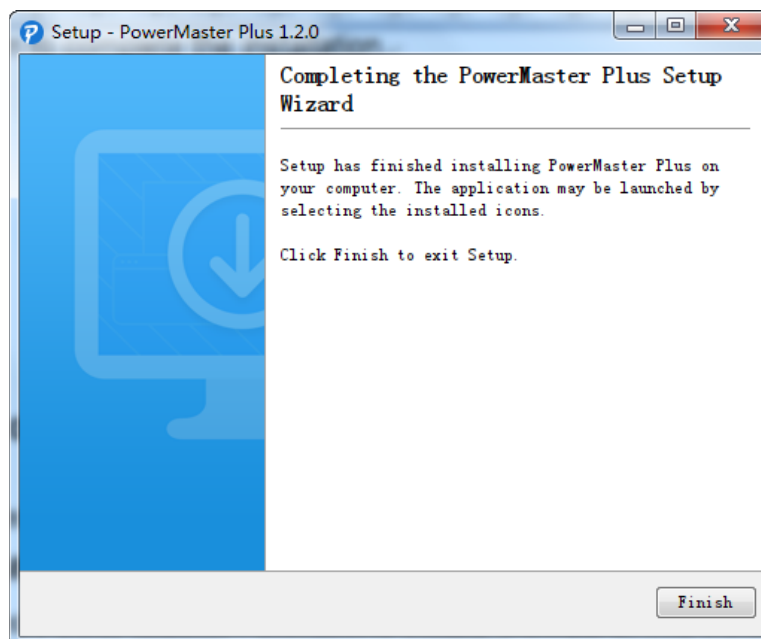
5. Choose the component. If one single computer is connected to the UPS directly via USB connection, the Local module should be installed. If the computer is powered by a UPS connected to a Local workstation or has a CIPCARD Network Card option installed, the Remote module should be installed.

**NOTE**

Both the Local and Remote modules cannot be installed on the same workstation.

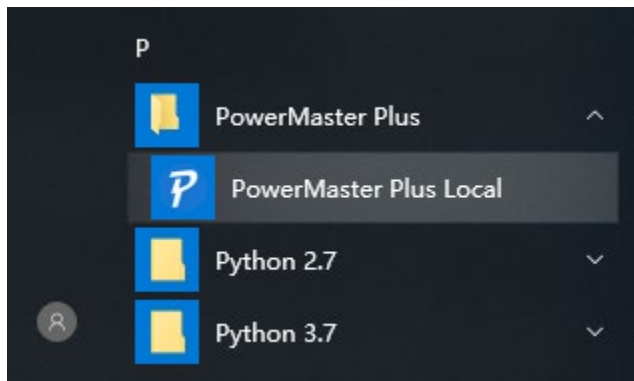


6. Click the **Finish** button to complete the installation.



Accessing the Power Master+ Web Interface

The Power Master+ web interface can be accessed following the directions below. To access the web interface on a local computer, select **Start, All Programs, PowerMaster Plus, PowerMaster Plus Local, PowerMaster Plus Remote** in the Windows Desktop, or you may enter <http://localhost:3052/local>, <http://localhost:3052/remote> on the web browser.



Logging Into the Web Interface

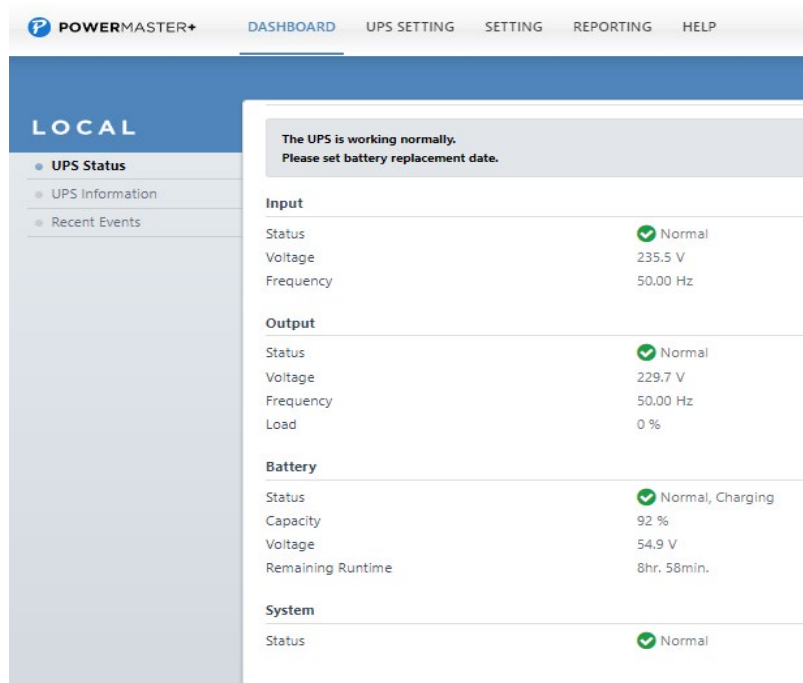
The default username is **admin** and the password is **admin**. The first time you log into the system, you are directed to the Account Information Page to change the default password for security purposes.

The login page for the PowerMaster+ LOCAL web interface. It features the PowerMaster+ logo (a blue circle with a white 'P') and the text 'POWERMASTER+ LOCAL' below it. There are two input fields: 'Username' and 'Password'. Below the password field is a checkbox labeled 'Remember Me' with a blue question mark icon to its right. At the bottom is a 'LOG IN' button.

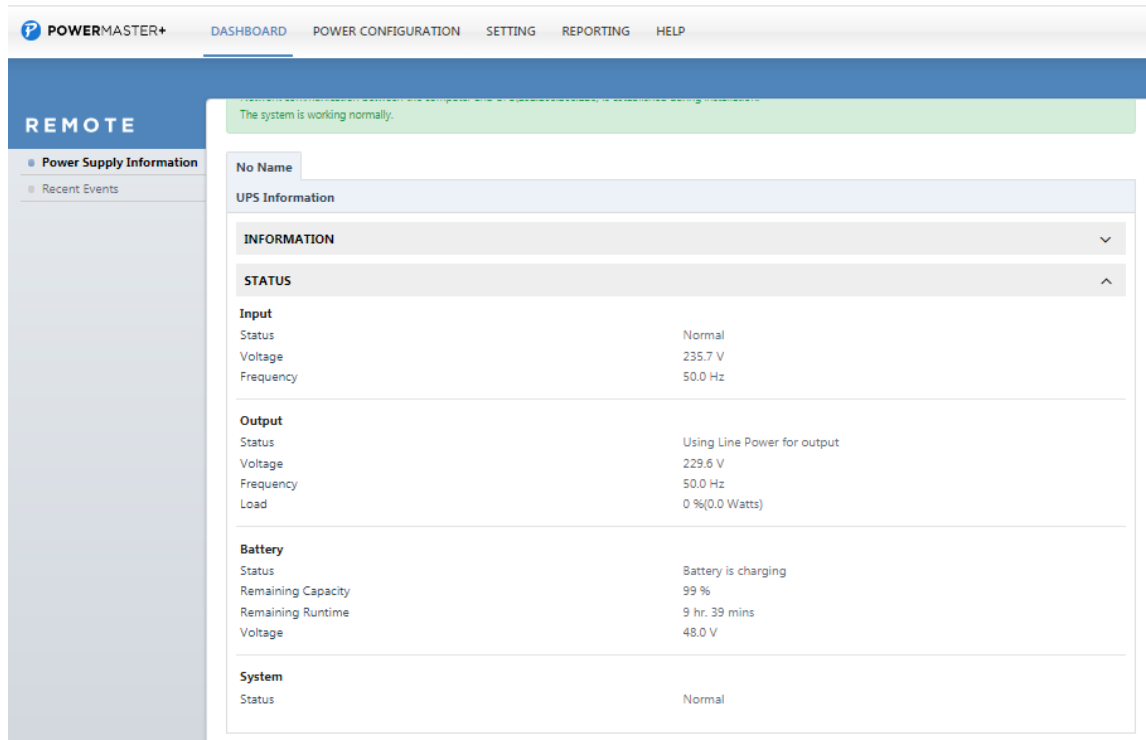
Selecting the **Remember Me** option on the login page allows the credentials to be remembered for automatic logon at the next session. To terminate the session, click the **Logout** button on the page.

Using the Power Master+ Web Interface

Using the Dashboard



In the Local module, the dashboard page provides an overview of the system operations. This includes System Summary, UPS Status, Recent Events, and UPS Information.



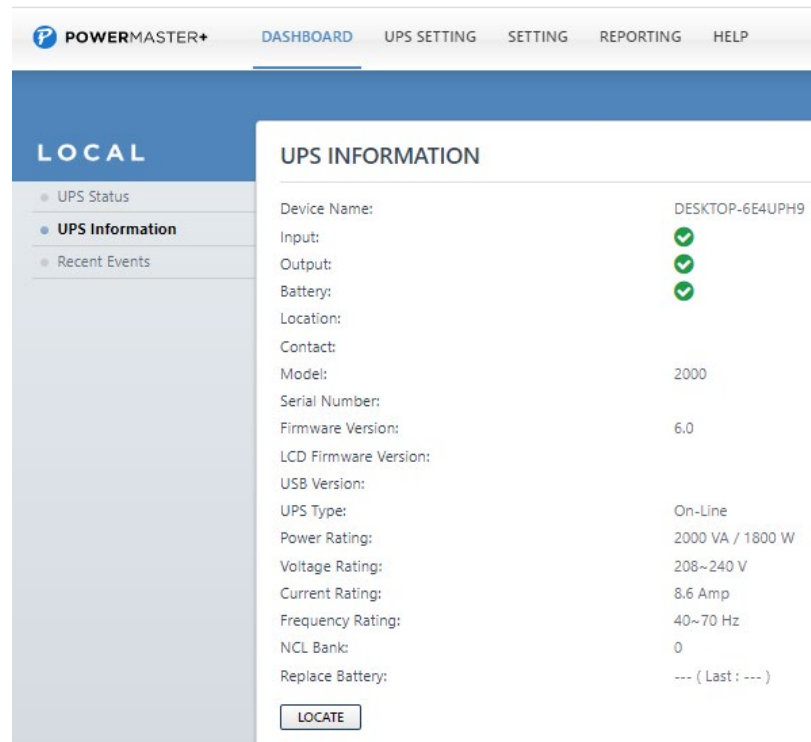
In the Remote module, the dashboard page provides an overview of the system, including System Summary, Power Supply Information, and Recent Events.

Viewing UPS Information on the Dashboard



NOTE

Content in this section only applies to the Local module.



The UPS Information section on the left side of Local shows information about the UPS, users can choose to hide this information by clicking on the < symbol on the menu.

- **Name:** The name of the hosted computer, e.g., Web Server or Bill's Computer.
- **Location:** Where the hosted computer is located, e.g., Server room or Rack A.
- **Contact:** Who to contact about this hosted computer, e.g., someone's name, email, or phone number.

The information above can be set in the UPS Setting, Connect Equipment page of the Local module. For more information, see [Using the Setting, Connected Equipment](#) Page on page 33.

- **Model:** The model name of the UPS.
- **Serial Number:** The serial number of the UPS.
- **Firmware Version:** The firmware version of the UPS.
- **LCD Firmware Version:** The firmware version of the LCD screen on the UPS.
- **USB Version:** The version of the USB chipset on the UPS.
- **UPS Type:** The type of the UPS. On-Line, Line Interactive, or Sine wave Line Interactive.

- **Power Rating:** The Volt-Amp rating and power rating (Watts) of the UPS.
- **Voltage Rating:** The input voltage range (Volts) of the UPS.
- **Current Rating:** The output current rating (Amps) of the UPS.
- **Frequency Rating:** The input frequency range (Hz) of the UPS.
- **NCL Bank:** The amount of the Non-Critical Load banks.
- **Extended Battery Module:** The amount of extended battery modules connected to the UPS.
- **Next Battery Replacement Date:** The next date that the batteries should be replaced. This date only changes based on the Battery Replacement Date. Battery Replacement Date is the date that batteries have been replaced. This date should be changed immediately after the battery replacement or when the unit is first purchased. The battery lifetime varies by UPS models. Once battery replacement date is changed, the software will alert the customer when the battery age has reached the lifetime.
- **LOCATE:** Clicking the **LOCATE** button sets the alarm to beep or LEDs to flash and inform users of the UPS location. This helps users to identify the specific UPS at installation sites with multiple UPS units.

**NOTE**

Not all models provide the same information. The information shown varies based on your specific UPS model.

Viewing Information on the Dashboard, UPS Status Page

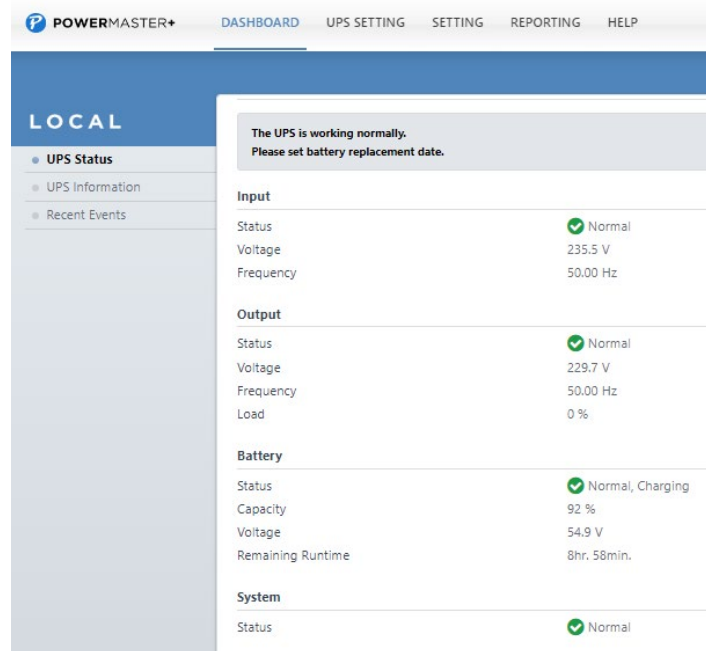
The Dashboard, UPS Status page shows various data values on Input, Bypass, Output, Battery, and System sections of the screen.

**NOTE**

Content in this section only applies to the Local module.

Viewing Status Data

The UPS Status page displays detailed status on the UPS power conditions, batteries, and system.



Viewing Input Data

- **Status:** In this location, Status displays the condition of the utility power supplied to the UPS with the following possible values.
 - **Normal:** The voltage and frequency of the utility power is normal.
 - **Blackout:** There is no utility power being supplied to the UPS and it is supplying battery power to connected equipment.
 - **Over Voltage:** The utility voltage is higher than the high voltage threshold and the UPS is using the battery to supply power.
 - **Under Voltage:** The utility voltage is lower than the low voltage threshold and the UPS is using the battery to supply power.
 - **Frequency Failure:** The frequency of the utility power is out of tolerance and the UPS is supplying battery power with a fixed frequency.
 - **Wiring Fault:** The UPS has detected a wiring fault in the outlet it is plugged into.
 - **No Neutral:** The neutral wire is not connected properly.
 - **Generator Detected:** UPS is being supplying power by generator.
 - **Power Failure:** The utility power being supplied to the UPS is not within spec due to other power noise and distorted conditions.
- **Voltage:** The voltage of the utility power supplied to the UPS.

- **Frequency:** The frequency of the utility power supplied to the UPS.
- **Current:** The current of the utility power supplied to the UPS.
- **Power Factor:** The ratio of the real power flowing to the UPS, to the apparent power of utility power. In an UPS system, a UPS with a low power factor draws more current than a UPS with a high-power factor for the same amount of useful power transferred.

Viewing Bypass Data

- **Status:** In this location, Status displays the condition of the bypass circuit. In bypass mode, the UPS provides the power from bypass input to directly connected equipment.
 - **Normal:** The power quality of bypass circuit is normal.
 - **Blackout:** There is no input power being supplied in bypass circuit.
 - **Over Voltage:** The input voltage of bypass is higher than an acceptable threshold.
 - **Under Voltage:** The input voltage of bypass is lower than an acceptable threshold.
 - **Frequency Failure:** The frequency of bypass is out of tolerance.
 - **Power Failure:** The power of bypass is not qualified due to other power noise and distorted conditions.
 - **Wrong Phase Sequence:** The phase sequence of the bypass circuit is different from utility power.
 - **Overload:** Output power consumption exceeds the power rating of UPS.
 - **Extended Overload:** The duration of the overload is too long; UPS will shut down soon.
- **Voltage:** The voltage of the bypass supplied to the UPS.
- **Current:** The current of the bypass supplied to the UPS.
- **Frequency:** The frequency of the bypass supplied to the UPS.
- **Power Factor:** The ratio of the real power flowing to the bypass, to the apparent power of bypass. In a UPS system, a load with a low power factor draws more current than a load with a high-power factor for the same amount of useful power transferred.

Viewing Output Data

- **Status:** In this location, Status displays the condition of the output power the UPS is supplying to connected equipment.
 - **Normal:** The output power is normal.
 - **Bypass:** The UPS has switched to bypass mode and the utility power is being supplied directly to the connected equipment bypassing the UPS circuitry.

**NOTE**

Bypass mode is only applicable in Online Series UPS units.

- **No Output:** There is no output from the UPS. The UPS is switched off.
- **Short Circuit:** There is a short circuit on the UPS output. This causes the UPS to stop supplying output power.
- **Boost:** The utility voltage is below the regular voltage range. The UPS is increasing the output voltage closer to normal.
- **Buck:** The utility voltage is beyond the regular voltage range. The UPS is decreasing the output voltage closer to normal.

**NOTE**

The Boost and Buck function are only available on a UPS with AVR; only high-end units with AVR have a Buck feature. The UPS uses the AVR function to improve the utility voltage and supplies the power to its connected equipment within a narrow range.

- **Overload:** The present load exceeds the load threshold of the UPS. Remove some equipment from the UPS to reduce the load.
- **ECO Mode:** Online UPS enters Economy mode. The UPS will enter bypass mode according to thresholds for input voltage. Once the utility voltage exceeds thresholds, the UPS will supply battery power to its loads. Users can configure exclusive days and exclusive time to for UPS when to not enter ECO mode.
- **Manual Bypass:** The Online UPS enters Manual Bypass mode due the Manual option being enabled. The UPS will be forced to provide utility power to its equipment.
- **Insufficient Inverter Power:** There is not enough capacity of the inverter's power. UPS cannot back to line mode from bypass mode.
- **Redundancy Lost:** The quantity of UPS modules has not enough power to be complete redundancy; UPS has no complete fault-tolerant ability.
- **EPO:** The function of EPO (Emergency Power Off) has been activated; UPS output power was turned off.
- **Voltage:** The output voltage that the UPS is supplying to the connected equipment.
- **Frequency:** The output frequency that the UPS is supplying to the connected equipment.
- **Load:** The power draw of the connected equipment expressed as a percentage of the total load capacity. This is displayed as watts on some UPS models.
- **Current:** The output current of the UPS which is supplying to connected equipment.
- **Active Power:** The capacity of the circuit for performing work in a particular time.

- **Reactive Power:** Reactive power is needed in an alternating-current transmission system to support the transfer of real power over the network. In alternating current circuits, energy is stored temporarily in inductive and capacitive elements, which can result in the periodic reversal of the direction of energy flow. The portion of power flow remaining, after being averaged over a complete AC waveform, is the real power; that is, energy that can be used to do work. On the other hand, the portion of power flow that is temporarily stored in the form of magnetic or electric fields, due to inductive and capacitive network elements, and then returned to source, is known as reactive power.
- **Apparent Power:** The product of the current and voltage of the circuit.
- **Power Factor:** The ratio of the active power flowing to the load, to the apparent power in the circuit. In an electric power systems, a load with a low power factor draws more current than a load with a high-power factor for the same amount of useful power transferred.
- **NCL Outlet:** Displays the present status of the NCL outlet.
 - **On:** This outlet is turned on and supplying power to the connected equipment.
 - **Off:** This outlet is turned off and is not supplying power to the connected equipment.
 - **Pending On:** This outlet is going to turn on following an action such as a scheduled turn on.
 - **Pending Off:** This outlet is going to turn off following an action such as a scheduled turn off.

Viewing Battery Data

- **Status:** In this location, Status displays the condition of the battery packs.
 - **Fully Charged:** The batteries are at 100% capacity.
 - **Discharging:** The UPS is supplying battery power to support the load. This is caused by a utility power failure or battery test.
 - **Charging:** The batteries are charging.
 - **Boost Charging:** Boost charging involves a high current for a short period of time to charge the battery. Boost charger enables the quick charging of depleted batteries.
 - **Float Charging:** The float charger starts charging the battery by exerting a charging voltage. As the battery is charged, its charging current reduces gradually. The float charger senses the reduction in charging current and reduces the charging voltage.
 - **Exhausted:** Batteries are exhausted; UPS stops the output power.
 - **Reversed Connection:** Connection between UPS and batteries is wrong on electrical polarity.
 - **Capacity Critically Low:** The battery capacity is too low, and the UPS may shut down immediately.
 - **Not Present:** There are no batteries present in the UPS.

- **Testing:** The UPS is performing a battery diagnostic test. See the UPS, Diagnostics page for more details about the test results.
- **Normal:** The batteries are working normally.
- **Voltage:** The present voltage supplied by the batteries.
- **Remaining Runtime:** The amount of time that the UPS can supply power to its load.
- **Remaining Charge Time:** The remaining time the batteries required to be fully charged.
- **Capacity:** The present capacity of the batteries expressed as a percentage of full charge.

Viewing System Data

- **Status:** In this location, Status displays the operating status of the UPS.
 - **Normal:** The operating status is normal.
 - **Fault:** The UPS is in fault state due to an internal malfunction.
 - **Overheat:** The temperature exceeds the normal temperature threshold.
 - **Bypass Fault:** The bypass module of UPS has been malfunctioned.
 - **Bypass Fan Fault:** The fan of the bypass module has been malfunctioned.
 - **Module Failure:** One of UPS modules is no more normal and offline.
 - **Unable Recover:** UPS fails to recover to line mode from bypass on occurred overload condition in past one hour.
- **Temperature:** The present internal temperature of the UPS. It is displayed in both Fahrenheit (°F) and Celsius (°C).
- **Maintenance Break:** Displays the present operating status of maintenance break.



NOTE

When the UPS needs maintenance or repair, the load can be transferred to maintenance bypass without interruption and the power module can be removed for maintenance.

- **Opened:** The UPS is in maintenance bypass mode.
- **Closed:** The UPS is not in maintenance bypass mode.
- **Module Status:** Displays the present operating status of each UPS module.
 - **Normal:** The module is operating normally.
 - **Offline:** The module is not installed.
 - **Rectifier Fault:** The module rectifier is faulty and stops output power.
 - **Inverter Fault:** The module inverter is faulty and stops output power.
 - **Inverter Protected:** The module inverter has been protected and stops operating.

- **Rectifier Overheat:** The internal temperature of module rectifier exceeds the normal rating.
- **Inverter Overheat:** The internal temperature of module inverter exceeds the normal rating.
- **Inverter Overload:** The module inverter is overloaded.
- **Inverter Extended Overload:** The module's inverter has been overloaded for intolerable duration; the UPS will stop output power soon.
- **Fan Fault:** The module fan is faulty. It may cause overheat in module.
- **Shutdown:** The module has been shut down and stopped its output power.

**NOTE**

Not all models provide the same information. The information shown varies based on your specific UPS model.

Viewing Power Supply Information

**NOTE**

Content in this section only applies to the Remote module.

The Remote module can interact with your UPS through a network interface. If you don't have the CIPCARD Network Card option for your UPS, the Local module can be installed on a workstation computer directly connected to your UPS via USB connection and establish the network connection to the Remote module.

The screenshot displays the Power Master+ web interface. The top navigation bar includes links for DASHBOARD, POWER CONFIGURATION, SETTING, REPORTING, and HELP. The left sidebar shows the REMOTE section with options for Power Supply Information and Recent Events. The main content area is titled POWER SUPPLY INFORMATION and features a green status message: "Network communication between the computer and UPS(192.168.168.216) is established during installation. The system is working normally." Below this, there is a "No Name" label and a "UPS Information" section. The UPS Information section contains a table of system details.

INFORMATION	
Location	Server Room
Contact	Administrator
Model	2000
Firmware Version	6.4.0a
Serial Number	123456789abcdef
Power Rating	2000 VA / 1800 W
Current Rating	8.6 Amp
Voltage Rating	230 V
Frequency Rating	40.0~70.0 Hz
NCL Bank	-1
Extended Battery Pack	0
MAC Address	00-0C-15-05-05-C4
IP Address	192.168.168.216
Low Battery Threshold (%)	20 %
Low Battery Threshold (mins)	5 min

The **Dashboard, Power Supply Information** page shows information and status about the UPS which supplies power to the Remote computer. When the Remote module on the workstation establishes communication with your UPS, the **Power Supply Information** page displays the information. If the Remote computer has redundant power supplies, users can view the information and status of specific power supply by clicking the tab.

Viewing Power Supply Information Details

- **Name:** The name of the UPS.
- **Location:** Where the UPS is located.
- **Contact:** Who to contact about the UPS.
- **Model:** The model name of the UPS.
- **Firmware Version:** The firmware version of the UPS.
- **Serial Number:** The serial number of the UPS.
- **Power Rating:** The Volt-Amp rating and power rating (Watts) of the UPS.
- **Current Rating:** The output current rating (Amps) of the UPS.
- **Voltage Rating:** The output voltage rating (Volts) of the UPS.
- **Frequency Rating:** The output frequency rating (Hz) of the UPS.
- **Battery Replacement Date:** The date that the batteries were last replaced.
- **NCL Bank:** The amount of NCL (Non-Critical Load) outlets in the UPS.
- **Extended Battery Pack:** The number of extended battery packs connected to the UPS.
- **Outlet:** The number of outlets of the devices.
- **MAC Address:** The MAC address of the UPS CIPCARD Network Card option or the Local workstation's network interface.
- **IP Address:** The IP address of the UPS CIPCARD Network Card option or the Local workstation's network interface. Click the hyperlink to open the web interface on the of the Network Card option or the Local workstation.
- **Low Battery Threshold (%):** The low battery threshold in terms of the percentage of the remaining capacity.
- **Low Battery Threshold (mins):** The low battery threshold in terms of the remaining runtime.



NOTE

Not all models provide the same information. The information displayed will vary by model.

Viewing Status Data

The Status section displays the details of the UPS status from the Remote Management for users to quickly review the system.



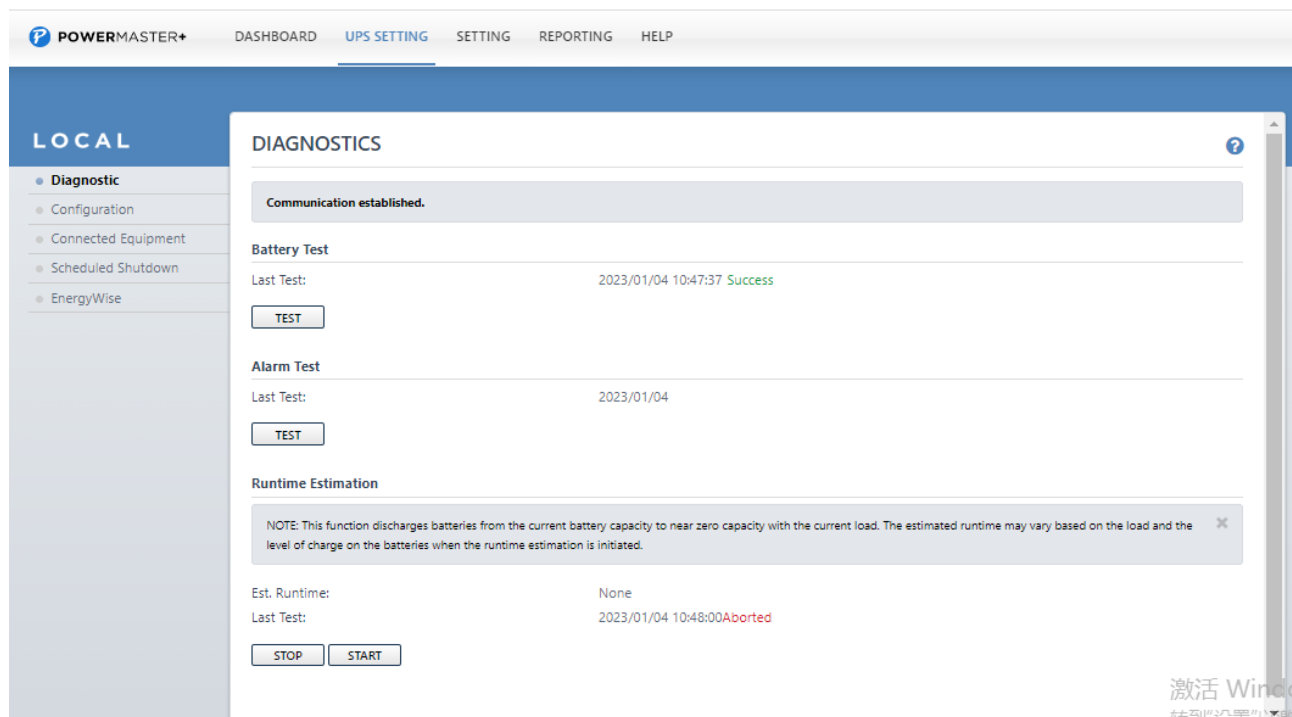
NOTE

Not all models provide the same status. The status shown varies based on UPS model.

Using the UPS Setting Pages

Using the Setting, Diagnostics Page

The UPS Setting, Diagnostic page provides confirmation that the UPS can supply adequate battery runtime for connected workstations to shutdown properly. Perform a complete runtime estimation to ensure an accurate estimate of the runtime required for the connected load. The buzzer can be tested to ensure that the UPS issues an alarm and indicator lights display properly when requested by the UPS.



Battery Test

The **Battery Test** performs a battery test to verify that the batteries are good and shows information including the result and the date of the last battery test.

1. Click **UPS Setting, Diagnostic**.
2. The UPS Setting, Diagnostic page appears.
3. Click the **TEST** button to begin a battery test. Performing a battery test is prohibited when the **Frequency Working Mode** option is set to **fix**.

4. The test results appear after completion and provides the following values.

- **Last Test:** The date the last battery test was performed and the result of the last battery test.
 - **Passed:** The battery performed normally during the test.
 - **None:** The UPS has never performed the battery test.
 - **Failed:** The battery test resulted in failure.

If the battery test fails, use the following steps to diagnose the issue.

- Repeat the battery test. If the test fails again, replace the batteries.

For more information, contact support at

av.middleatlantic.techsupport@legrand.com or (866) 977-3901.

- If the battery test fails even after replacing them, contact support at av.middleatlantic.techsupport@legrand.com or (866) 977-3901.

Indicator Test

Indicators on the front panel or on the LCD screen are used to signal the UPS status. If any of them malfunction, the current UPS status is unclear. Testing the indicators provides you a way to check them for correct operation.

1. Click **UPS Setting, Diagnostic**.

The UPS Setting, Diagnostic page appears.

2. Click the **TEST** button to begin an indicator test.
3. The test results appear after completion and provides the following values.
 - **Last Test:** The date the last indicator test was performed.

Alarm Test

The Alarm Test allows users to verify the alarm will sound normally and shows the date of the last test.

1. Click **UPS Setting, Diagnostic**.

The UPS Setting, Diagnostic page appears.

2. Click the **TEST** button to begin an alarm test.
3. The test results appear after completion and provide the following values.
 - **Last Test:** The date the last alarm test was performed.

Runtime Estimation

The **Runtime Estimation** function discharges batteries from the current battery capacity to near zero capacity with the current load. The results of the runtime estimation show the runtime, status of estimation, and the date of the last estimation. When the runtime estimation is initiated, the connected equipment will be run on battery power until the batteries are discharged to near zero capacity.



NOTE

The estimated runtime may vary based on the load and the level of charge on the batteries when the runtime estimation is initiated. The batteries will be recharged then automatically after the estimation is done.

1. Click **UPS Setting, Diagnostic**.

The UPS Setting, Diagnostic page appears.

2. Click the **START** button to begin a runtime estimation.
3. Click the **STOP** button to interrupt the estimation, if desired.
4. The test results appear after completion or interruption and provide the following values.
 - **Est. Runtime:** The estimated runtime of the batteries.
 - **Last Test:** The date and the results of the last runtime estimation performed.
 - **Passed:** The runtime estimation was completed, and the batteries are good.
 - **None:** The UPS has not performed a runtime estimation.
 - **Failed:** The UPS failed during the runtime estimation.
 - **Canceled:** The runtime estimation was interrupted.



NOTE

A complete runtime estimation depletes the battery capacity. Ensure the UPS is recharged completely after performing runtime estimation.

Using the Setting, Configuration Page

The UPS Setting, Configuration page allows for customized UPS configurations to meet specific operational requirements.

POWERMASTER+ DASHBOARD UPS SETTING SETTING REPORTING HELP

LOCAL

- Diagnostic
- Configuration**
- Connected Equipment
- Scheduled Shutdown
- EnergyWise

CONFIGURATION

Supplied Power

Voltage: 240 volts

Frequency Working Mode: Follow-up

Follow-up Tolerance: 6 %

Fixed Frequency: 60 Hz

BOD Mode Threshold: Disabled

Exclude Days: ☐ Su ☐ M ☐ Tu ☐ We ☐ Th ☐ Fr ☐ Sa

Exclude Times: 6 AM - 6 PM

Power Failure Conditions

Utility Voltage Upper Bound: 240 volts

Utility Voltage Lower Bound: 240 volts

Power Restore

Automatic Restore: Enabled

Mandatory Power Cycle: Disabled

Startup Delay: 0 min - 0 sec

System Conditions

Qualification: Valid volt & freq

Mandatory: Disabled

Manually System: Stop

Voltage Upper Bound: +20 %

Voltage Lower Bound: -10 %

Overload: Enabled

Battery

Prevent Excessive Discharge: Disabled

Energy Saving: Disabled

Low Battery Threshold: 20 %

Periodical Battery Test: 1 week

Last Replace: _____

Replacement Date: _____

[Set Replacement Date](#)

System

Cold Start: Disabled

Short Circuit Recovery: Disabled

Utility Power Failure Alarm: Disabled

1. Click **UPS Setting, Configuration**.
The UPS Setting, Configuration page appears.

2. Configure fields on the Supplied Power section of the page as follows.

- **Voltage:** Sets the output voltage which is supplied to the connected equipment.



NOTE

On some models belonging to the Smart App Online Tower series, this setting becomes configurable in bypass mode and the changes require a restart to activate.

- **Frequency Working Mode:** Smart App Online series supports two frequency modes: Follow-up and Fixed. In the Follow-up mode, the UPS supplies power based off of the utility frequency. If utility frequency varies and is out of tolerance, the UPS supplies battery power with a fixed frequency to avoid supplying the connected equipment an improper frequency. The fixed frequency depends on the utility frequency detected as the UPS is powering up.
In Fixed mode, the UPS supplies power at a fixed frequency with no regard to utility frequency. When the input frequency is unstable such as with power supplied by generators, set the UPS to fixed mode to supply power with a stable frequency. The UPS can be set to fixed mode if the equipment needs a different frequency from the utility power. For example, the equipment is rated at 50 Hz, but utility frequency is at 60 Hz.
- **Follow-up Tolerance:** Sets the acceptable range of the output frequency on the Follow-up mode.
- **Fixed Frequency:** Sets the fixed value of the output frequency on the Fixed mode.

CAUTION



ATTENTION

The wrong frequency settings may damage the connected equipment. Make sure the selected frequency is correct for the connected equipment. An alert warning message will remind you of the following conditions:

- The frequency mode has changed from the Follow-up mode to the Fixed mode, and the fixed frequency is not equal to the utility frequency.
- The frequency mode is Fixed mode, and the fixed frequency is going to be changed.

Des réglages de fréquence incorrects peuvent endommager l'équipement connecté. Assurez-vous que la fréquence sélectionnée est correcte pour l'équipement connecté. Un message d'avertissement vous rappellera les conditions suivantes:

- Le mode de fréquence est passé du mode de suivi au mode fixe, et la fréquence fixe n'est pas égale à la fréquence utilitaire.
- Le mode de fréquence est fixe et la fréquence fixe va être modifiée.

- **ECO Mode:** The UPS will enter bypass mode according to the utility voltage if it is in range of thresholds or the utility frequency is within 3Hz of the utility frequency. If the utility voltage or the utility frequency exceeds thresholds, the UPS will supply battery power to its loads.

If this threshold is set to 10% and the current utility voltage is 220 V, the UPS will enter bypass mode as long as the utility voltage within the range of 198 V ~ 242 V. Once the voltage threshold is exceeded, the UPS will supply battery power to its loads.

CAUTION



Once the UPS is set to enter Fixed mode, Generator Mode, or Manual Bypass when the UPS is in the ECO mode, the UPS will exit from ECO mode.

Users can configure Exclusive Days and Exclusive Time to tell the UPS when not to enter ECO mode.

- **Exclusive Days:** Sets the days when the UPS should not enter ECO mode.
- **Exclusive Time:** Sets the period during which the UPS should not enter ECO mode.

Une fois que l'onduleur est configuré pour passer en mode fixe, en mode générateur ou en bypass manuel lorsque l'onduleur est en mode ECO, l'onduleur quitte le mode ECO.

ATTENTION

Les utilisateurs peuvent configurer Exclusive Days et Exclusive Time pour indiquer à l'onduleur quand ne pas entrer en mode ECO.

- **Jours exclusifs:** Définit les jours où l'onduleur ne doit pas entrer en mode ECO.
- **Temps exclusif:** Définit la période pendant laquelle l'onduleur ne doit pas entrer en mode ECO.

3. Click the **APPLY** button on the Supplied Power section of the page.

4. Configure fields on the Power Failure Condition section of the page as follows.

When the utility power exceeds specific thresholds, the UPS will supply battery power to the connected equipment.

- **Utility Voltage Upper/Lower Bound:** Before utility power is provided to the UPS, the UPS will detect whether utility voltage exceeds the threshold. If utility voltage exceeds the threshold, the UPS will supply battery power to the connected equipment.
- **Output Voltage Upper/Lower Bound:** Before the UPS uses utility power as its output power, the UPS will detect whether utility voltage exceeds the threshold. If the utility voltage exceeds the threshold, the UPS will supply battery power to connected equipment.



NOTE

High/Low Utility Voltage Threshold High/Low Output Voltage Threshold settings only come into effect after a restart of the UPS.

- **Frequency Upper/Lower Bound:** When the utility frequency exceeds the threshold, the UPS will supply battery power at a fixed frequency to the connected equipment.
- **Detected Sensitivity:** When the UPS detects that utility voltage is out of range, the UPS will switch to battery mode to protect the equipment plugged into the UPS. Low sensitivity has a wider voltage range, and the supplied power may vary more.

The UPS switches to battery mode rarely and also saves more battery power. The power from a fuel generator may cause the UPS to switch to battery mode more frequently, and low sensitivity is recommended. High sensitivity allows the UPS to supply more stable power to equipment but switches to battery mode frequently.

5. Click the **APPLY** button on the Power Failure Condition section of the page.
6. Configure fields on the Power Restore section of the page as follows.

When a utility power failure occurs, Power Master+ software may order the computer to shut down and power off after the specified remaining runtime is met or if the battery capacity is low. After the utility power is restored, the UPS turns on automatically and supplies power to the computer. If the computer BIOS is set to boot when power is restored the computer will automatically restart.

The following settings are used to configure the UPS restore behavior:

- **Automatic Restore:** When this option is enabled, the UPS will restore output immediately when the utility power is restored. When this option is disabled, the UPS will not restore output at that moment and users have to turn it on manually.
- **Mandatory Power Cycle:** When a shutdown sequence is initiated due to a power failure, the connected computers may be ordered to shut down and the UPS will be also ordered to turn off after a time delay. If the utility power is restored prior to the UPS shutting off, the UPS will still turn itself off. In this circumstance, the utility power has restored, but the connected computers have shut down and the UPS has turned off.

If the Mandatory Power Cycle option is enabled, the UPS will also turn off after a time delay, but it will turn on again about 10 seconds later. The UPS has restarted and then all connected computers will boot.

**NOTE**

Most computers have the ability to boot when utility power is restored. Make sure this function is supported and enabled in the system BIOS.

- **Recharged Delay:** When the utility power is restored, the UPS will start to recharge until the specified delay is expired before restoring output power.
- **Recharged Capacity:** When the utility power is restored, the UPS will start to recharge until the specified battery capacity is met before restoring output power.

- **Startup Delay:** When the utility power is restored, the UPS will delay the restoration of output power. This option can be used to stagger the startup time of multiple UPS to avoid overloading the utility power circuit or power source. The Startup Delay option will take effect every time when the UPS is about to restore power. This also includes the scheduling task.
- **Stable Utility Delay:** When the utility power is restored, the UPS will delay switching to normal operation from using battery power.

If the battery capacity is lower than the Low Battery Threshold as power is restored, the UPS will switch to normal operation immediately. This option can be used to prevent frequent outage due to unstable utility power.

- **Restore Action:** Sets the operating mode after utility power restores. If the Bypass option is selected, the UPS will enter to bypass mode and supply power from the bypass module to connected equipment when utility power restores. If the Online option is selected, the UPS will supply power from the UPS modules to connected equipment when utility power restores. If the Standby option is selected, the UPS will be off when utility power restores.

7. Click the **APPLY** button on the Power Restore section of the page.
8. Configure fields on the Bypass Condition section of the page as follows.

The Online UPS series supports the bypass function. When the UPS is in bypass mode, the utility power is supplied directly to the connected equipment. To configure whether the UPS is allowed to enter or remain in bypass mode in select from the following:

- **Qualification:** This configures the qualifications the UPS uses to determine if it will enter bypass mode when a UPS fault or overload occurs.
 - **Valid Volt. & Freq:** If the utility voltage is in range of the voltage thresholds and the utility frequency is in range of the frequency tolerance, the UPS will enter bypass mode. Otherwise, the UPS will stop supplying output power.
 - **Valid Voltage:** If the utility voltage is in range of the voltage thresholds, the UPS will enter bypass mode. Otherwise, the UPS will stop supplying output power.
 - **Never Bypass:** If this option is selected, the UPS will not enter bypass mode and will stop supplying output power.
- **Mandatory:** If this option is enabled, the UPS will enter bypass mode due to a fault or overload, even if the utility voltage is outside of the normal range. Otherwise, the UPS will stop supplying output power.

Caution: Bad utility voltage while in bypass mode may damage the connected equipment.
- **Manually Execution:** Determines whether to allow the UPS to enter Manual Bypass mode. If this Start option is selected, the UPS will be forced to enter bypass mode.

**CAUTION****ATTENTION**

- Make sure that the UPS is not using generator power or converted power. When the UPS enters bypass mode, it uses input power, and the unstable frequency may damage connected equipment.
- If this option is enabled, the UPS can't function in Generator mode.
- S'assurer que l'onduleur n'utilise pas l'alimentation du générateur ou l'alimentation convertie. Lorsque l'onduleur passe en mode de dérivation, il utilise l'alimentation d'entrée et la fréquence instable peut endommager l'équipement connecté.
- Si cette option est activée, l'onduleur ne peut pas fonctionner en mode générateur.

- **Voltage Upper/Lower Bound:** When a UPS fault or overload occurs, the UPS will determine whether to enter bypass mode according to the utility power threshold range. If the utility voltage exceeds thresholds, the UPS will be forbidden to enter bypass mode and will stop supplying output power.
- **Overload:** This configures the ability of the UPS to switch to bypass mode and supply utility power when the output is overloaded. Without this enabled the UPS will stop supplying power when overloaded.
- **Bypass at Power Off:** This determines whether the UPS will switch to bypass mode and supply utility power when the UPS is switched off.
- **Bypass Frequency Tolerance:** If the UPS tries entering bypass mode due to an overload or fault, the UPS will compare the frequency with the Bypass Frequency Tolerance. If the frequency is out of range, the UPS will stop supplying output power.

9. Click the **APPLY** button on the Bypass Condition section of the page.

10. Configure fields on the Battery section of the page as follows.

- **Prevent Excessive Discharge:** When the UPS uses the battery to supply power for output, a deep discharge with a low load can shorten the battery life. If this option is enabled, the UPS will stop supplying power after discharging for 4 hours to avoid a deep battery discharge.
- **Energy Saving:** When the utility power fails, the batteries will start discharging. If this option is enabled and there is no output load, the UPS will shut down to save battery power after discharging for 5 minutes. The UPS will restart automatically and restore output after the utility power is restored.
- **Low Battery Threshold:** When the UPS supplies battery power and the remaining capacity or running time slower than this threshold, the UPS will sound an alarm.
- **Battery Pack Type:** Sets the type of extended battery packs. When the UPS is installed with standard battery packs, Local has capability of measurement the runtime according to the capacity of the battery packs. The option should be set Standard. When the UPS is installed with customized battery packs, the option should be set Customization.

- **Periodical Battery Test:** The UPS will periodically perform the battery test to ensure the batteries are fully functional.
- **Extended Module Setting:** Sets the mode of Extended Battery Module detection, could be auto detect or manual. If auto detect is selected, the UPS will detect the number of Extended Battery Module automatically.
- **Extended Battery Pack:** Sets the amount of extended battery packs. This allows for an accurate runtime estimate based upon the total number of batteries.
- **Boost Charge Period:** Sets the period for UPS batteries being boost charged automatically and periodically.
- **Discharge Duration Limit:** Sets the duration to limit the battery discharging to avoid a deep discharge excessively.

11. Click the **APPLY** button on the Battery section of the page.

12. Configure fields on the System section of the page as follows.

- **Cold Start:** Sets the ability of the UPS to start in the absence of input power. When this option is enabled, the UPS can be turned on without having input power.
- **Short Circuit Recovery Detect:** When the output of the UPS causes a short circuit, the output will turn off immediately. If this option is enabled, the UPS will inspect the circumstance of the short circuit 3 times in 30 seconds. If the short circuit is no longer present, the UPS will restore power. If the circumstances of the short circuit still remain, the UPS will not supply power.
- **Utility Power Failure Alarm:** If this option is enabled, the UPS will issue an audible alarm when the utility power fails.
- **Overload Alarm Threshold:** When the output load exceeds this threshold, the UPS will issue an audible alarm.
- **Generator Mode:** If the UPS is using a generator for its input power, this option should be enabled for UPS to function normally. If this option is enabled, the UPS will be forbidden to enter bypass mode to protect the powered equipment.



CAUTION

ATTENTION

If this option is enabled, the UPS can't function in Manual Bypass mode.

Si cette option est activée, l'onduleur ne peut pas fonctionner en mode de dérivation manuelle.

- **LCD Back-light Saving:** When no UPS button is pressed or no power event occurs during this delay, the LCD screen will be turned off.
- **Wiring Fault Detecting:** If this option is enabled, the UPS will detect if the UPS wiring is not grounded or reversed. It is recommended to assure the UPS wiring has ground connection first. This option should be enabled if the UPS wiring has ground connection.

- **Redundant Quantity:** Sets the quantity of UPS modules permitted to have power redundancy on your system. This power redundancy can provide the fault-tolerant protection against failures of equivalent UPS modules.

The UPS should avoid exceeding output load from the connected device that deducted the power redundancy; otherwise, the UPS cannot afford the equivalent fault-tolerant protection set on the system.

13. Click the **APPLY** button on the System section of the page.

14. Configure fields on the NCL Outlet section of the page as follows.

NCL stands for Non-Critical Load. Under the following conditions, the UPS will turn off the NCL outlet to conserve battery power and maximize battery runtime for the remaining outlets:

- **Turn Off Threshold:** When supplying battery power, the UPS will power off this NCL outlet if the remaining battery capacity is lower than this threshold.
- **Turn Off Runtime Threshold:** When supplying battery power, the UPS will power off this NCL outlet if the remaining battery runtime is lower than this threshold.
- **Turn Off Delay:** When supplying battery power, the UPS will power off this NCL outlet after this delay time is met.
- **Turn On Delay:** When the utility power is restored, the UPS will restore the output of this NCL outlet after the delay time is met. This prevents excessive power consumption caused by all the connected equipment starting at the same time.

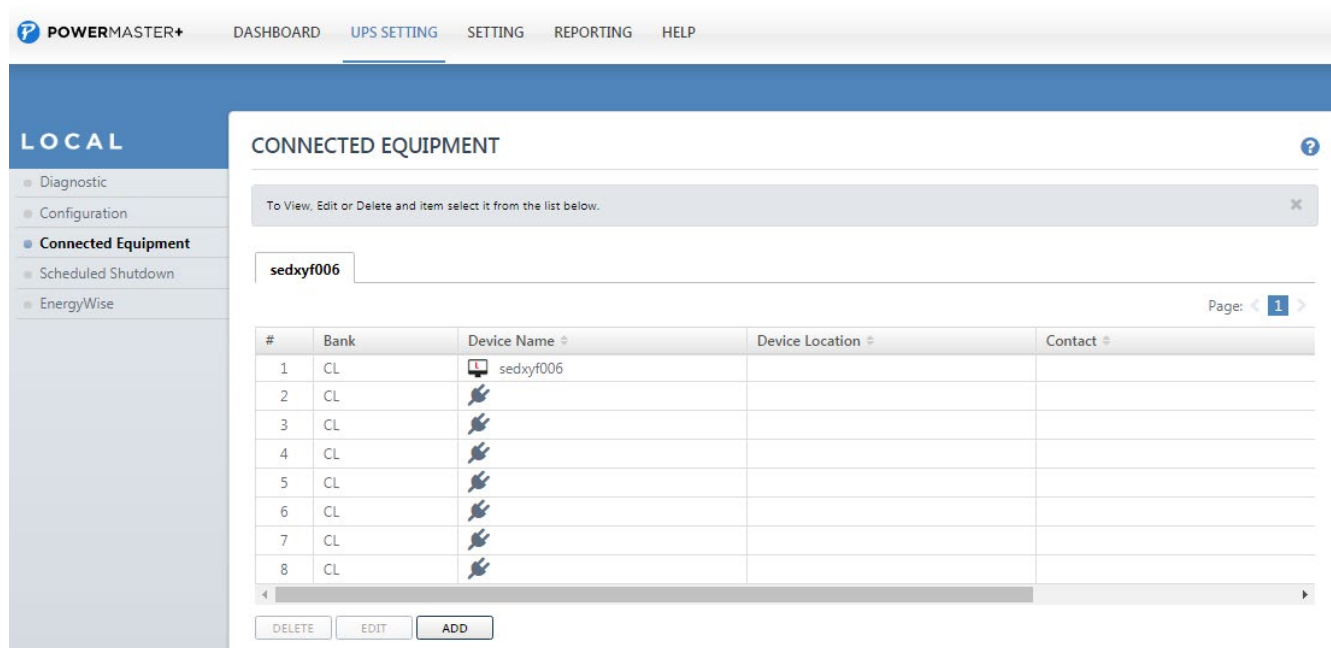
**NOTE**

Not all models provide the same configurations. The configuration shown varies based on your UPS.

15. Click the **APPLY** button on the NCL Outlet section of the page.

Using the Setting, Connected Equipment Page

The UPS supplies power to generic equipment and shutdown-protected computers that connect to native outlet sockets on the UPS. The UPS Setting, Connected Equipment page provides detailed information about connected equipment.



Users can manage connected loads that include generic equipment and computers from the Connected Equipment page. All connected loads will be listed with detailed information including the device name, device location, contact, and what type of outlet the equipment is plugged in from the list.

- Plug equipment on UPS. Click the **ADD** button and input the equipment information, then click the **OK** button.
- Change the equipment information. Select the target equipment you want to change from the list and click the **EDIT** button. Update the data as desired and then click **OK** to complete.
- Unplug the equipment from you UPS. Select the target equipment you want to unplug from the list. Click the **DELETE** button to remove the equipment.

The Power Master+ Remote software can be installed on computers to benefit shutdown protection in order to ensure a proper shutdown in the extended power outage event and control demands of the UPS. You will see Power Master+ Remote on this Connected Equipment page once you connect the Remote workstation to a UPS with a Local workstation monitoring it.

Assigning a correct outlet is important. The Outlet option must be configured to match the actual equipment plugged into the UPS outlet. Depending on the UPS configuration of specific models with NCL outlets, these outlets will lose power before the entire UPS is shutdown. The Local module requests Remote workstations powered by these outlets to perform a shutdown to avoid data loss because of the power outage.

The list columns are described as follows:

- **#:** Indicates which power outlet of the UPS is supplying power to the connected equipment.
- **Bank:** The bank type of the power outlet on the UPS (non-critical or critical).
- **Device Name:** The name of the power equipment.
- **Device Location:** Where the power equipment is located.
- **Contact:** Who to contact about this power equipment.
- **IP Address:** The IP address of the computer which installed the Power Master+ Remote module software.

Using the Setting, Scheduled Shutdown Page

In the Local module, an active schedule causes the computer to shut down or hibernate, and then ask the UPS to completely power off the output or turn the specific outlets off at a specified date and time. It also allows users to specify the date and the time to turn on output or turn the specific outlets on. The UPS turns on the specific outlets and begins supplying power, which causes the computer to restart or wake from the hibernation.

Before the Local shuts down because of a schedule shutdown, Remote computers running Power Master+ Remote will be shut down or hibernated to prevent data loss.

The UPS Setting, Scheduled Shutdown page manages scheduled shutdowns and lists all configured schedules. Each schedule row displays the details of when the schedule will take effect and when to perform it. The time displayed at the upper right corner is the local time of the hosted computer. If you are connected to a remote Local this time may be different from the time on your computer.

POWERMASTER+ DASHBOARD **UPS SETTING** SETTING REPORTING HELP

LOCAL

- Diagnostic
- Configuration
- Connected Equipment
- Scheduled Shutdown**
- EnergyWise

SCHEDULED SHUTDOWN

Scheduled Shutdowns

Page: < 1 >

Shutdown Time	Restore Time	Frequency	Bank	Comment
✓ 2023-01-04 10:55 AM	✓ 2023-01-04 11:00 AM	Once	ALL	

DELETE EDIT ADD

- **Create schedule:** Click the **ADD** button to open the ADD Schedule dialog. Enter all required data and click **OK** to add a new schedule.
- **Modify the schedule:** Select the schedule you wish to modify and click the **EDIT** button. After entering the new data, click the **OK** button to apply the modifications.
- **Remove the schedule:** Select the schedule from the list and click the **DELETE** button to complete the schedule removal.

Detailed schedule settings include the following items.

- **Active:** Check this check box to activate this schedule effective. If the check box is unchecked, the schedule will be ignored.
- **Bank:** There are two conditions for this option.
 - Power off the output completely. When users choose the Master Power option, all equipment connected to the outlets labeled both SURGE and BATTERY, or all the outlets on the UPS includes labeled CL, NCL, NCL 1, NCL 2 will be turned off. Only the UPS with NCL support the NCL outlets are available, and if there are two NCL outlets on the UPS, the NCL 1, NCL 2 outlets are available.

	CAUTION	A surge protected outlet provides protection to the connected equipment but does not provide battery power once a power outage occurs. When utility power fails, computers on the surge outlets will shut down immediately due to power loss. Une prise protégée contre les surtensions protège l'équipement connecté, mais ne fournit pas d'alimentation par batterie une fois qu'une panne de courant se produit. Lorsque l'alimentation électrique tombe en panne, les ordinateurs sur les prises de surtension s'arrêtent immédiatement en raison d'une perte de puissance.
	ATTENTION	

- Turn off the NCL outlet. If the NCL option is chosen, users can assign a scheduled shutdown to particular outlets on the UPS with NCL support. If there are two NCL outlets on the UPS, the NCL 1 and NCL 2 outlet can be assigned individual schedules.
- **Frequency:** There are three frequencies that can be assigned Once, Daily and Weekly. Daily and Weekly schedules will be repeated.
- **Shutdown Date:** Configures what date to perform the schedule and when to shut down computers.
- **Shutdown Time:** Configures what time to perform the schedule and when to shut down computers.
- **Restore:** Configures whether to restore the controlled outlet power. If the check box is checked, the UPS will restore the power or power on the NCL outlet at the time specified in the Restore Time option. Otherwise, the UPS output will stay powered off.
- **Restore Date:** The date to restore the output or to turn on the NCL outlet.
- **Restore Time:** The time to restore the output or to turn on the NCL outlet. The shutdown time must occur prior to the restore time. The maximum duration between the turn off and turn on must depends on UPS model. Returned Delay in the Setting, Configuration page will affect the Restore Time. If a schedule is set to restore power at 6:00 PM and the Returned Delay is set 5 minutes, the schedule will actually restore power at 6:05 PM.

- **Comment:** Sets the user-defined comments for this schedule.



NOTE

- If the computer bios is set to boot when power restores, the computer will automatically restart when the power is restored. Consult your motherboard documentation or PC/Server supplier for additional details.
- An active schedule may have an insufficient duration to support a complete shutdown. If the active schedule has insufficient shutdown duration, the active schedule will be set inactive.
- The scheduled shutdown is functioned only for Local with UPS.

Using the Setting, Energy Wise Page

Cisco Energy Wise technology allows Cisco switches to discover Cisco Energy Wise-controllable devices, keep track of the power use and take actions to reduce the power consumption.

The Energy Wise page allows users to configure the connection details for Cisco switch and manipulate the device as endpoints in the children list.

POWERMASTER+ DASHBOARD **UPS SETTING** SETTING REPORTING HELP

LOCAL

- Diagnostic
- Configuration
- Connected Equipment
- Scheduled Shutdown
- EnergyWise**

ENERGYWISE

Settings

Version	1.2.0	Secure Mode	☒
Access Port	43440	Shared Secret	
Domain Name		Endpoint Local	☐
Off-State Cache	☐	Endpoint Local Port	0

Children List

Page: **1**

#	Name	Role	Keywords	Importance
1	UPS_Base	base, role	endpoint, child, base	1
2	UPS	ups, role	endpoint, child, ups	1
3	CLBank	cl, role, bank	endpoint, child, cl, bank	1

Connecting with Cisco Switch

Provide values for the following fields and click the **APPLY** button to establish connection with the Cisco switch.

- **Access Port:** Sets the port for Local interaction with the Cisco switch. The default port is 43440.
- **Domain Name:** Sets the domain name for Local interaction with the Cisco switch. The default domain name is cyber.
- **Off-State Cache:** If this option is enabled, Remote will allow its own endpoint data to be cached on the Cisco switch when it becomes non-operational.
- **Secure Mode:** Determines whether to use the shared secret to interact with Cisco switch.

- **Shared Secret:** Sets the secret for Local interactions with the Cisco switch. The default secret is cyber.
- **Endpoint Local:** Determines whether to establish communication with Cisco switch.
- **Endpoint Local Port:** Displays the port between the Local and Energy Wise service. Local will interact with the Cisco switch through the Energy Wise service.

Starting the Energy Wise Service

For the Local module to establish a connection with the Cisco switch, you must enter the required data and verify it is matched.

After the Endpoint Local option is enabled, click **APPLY** to establish the connection.

Using the Children List

The Local that has joined into the Energy Wise network will become the endpoint member and can be divided into several nodes in children list. Each node has individual attributes for Cisco switches to manage the power usage.

Children attributes include the following:

- **Name:** Defines the device identity for which query results are filtered.
- **Role:** Defines the function which is based on the business or deployment context.
- **Keywords:** Defines the description for this device for which query results are filtered.
- **Importance:** The device rating which is based on the business or deployment context.

The Local module is annotated as the UPS_Base node and UPS node indicates the UPS unit. According to the outlet function of the UPS, the outlet bank will be managed as NCLBank node and NCLBank node. Due to limitation of the UPS, Cisco switches can only turn on or turn off an NCLBank node.

Using the Power Configuration Page



NOTE

- Content in this section only applies to the Remote module.
- The correct connection type, address and connected outlet must be assigned properly in the Power Configuration page for workstations with the Power Master+ Remote module software installed to receive the UPS status and have shutdown protection from power events.
- If the Remote workstation has redundant power supplies, please make sure that configuration of all the power supplies must be assigned properly.

POWERMASTER+ DASHBOARD **POWER CONFIGURATION** SETTING REPORTING HELP

REMOTE

• POWER CONFIGURATION

POWER CONFIGURATION ?

Page level notification relative to page content.

Power Supply Configuration ↻

Redundant Power Supply Policy 1 ▾

Power Supply #1

Device Type UPS ▾

Hover over an IP Address for more device information. ✕

UPS Address 192.168.168.216 ▾

UPS Outlet 1 ▾

Communication established.

CANCEL CONNECT

Network communication between a computer and UPS can be established by assigning the correct power connection, address of UPS, and a computer connected to the outlet of a UPS. The details are described as following:

- **Redundant Power Supply Policy:** Configure the computer's power supply redundancy policy. Supported policies are described below:
 - **1:** Indicates the computer only has one power supply, this is the most common case.
 - **2 (1 + 1):** Indicates the computer has two power supplies, one for redundancy. The computer needs at least one power supply to operate.
 - **3 (2 + 1):** Indicates the computer has three power supplies, one for redundancy. The computer needs at least two power supplies to operate.
 - **4 (3 + 1):** Indicates the computer has four power supplies, one for redundancy. The computer needs at least three power supplies to operate.

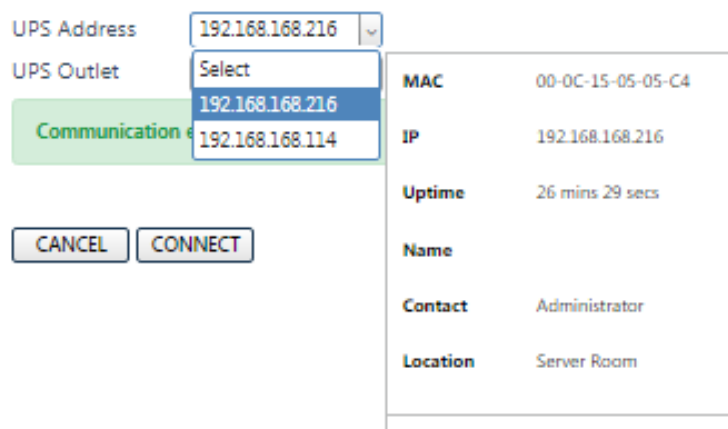
- **4 (2 + 2):** Indicates the computer has four power supplies, two for redundancy. The computer needs at least two power supplies to operate.

**NOTE**

If the Remote computer has redundant power supplies, events about power supply status will only be triggered when redundant power supplies are lost. Please refer to Events section for details.

- **Device Type:** Assign the actual UPS power connection supporting the workstation computer. If not already selected, choose the UPS option from the drop-down.
- **UPS Address:** Assigns the network address of the UPS. Use the drop-down menu to show the device list and select a device address from the list.

Clicking the refresh button  on the right side causes to search the network to update the results. If a UPS communicates with a computer that has Power Master+ Local installed, assign the IP address of the computer as the UPS network address. This option appears when the Power Connection is set with the UPS option.



MAC	00-0C-15-05-05-C4
IP	192.168.168.216
Uptime	26 mins 29 secs
Name	
Contact	Administrator
Location	Server Room

The computer searches the network and uses the device with the least uptime as the default device after an installation. One available outlet will automatically be assigned as powering the connected computer. If no outlet is available, the first critical-load outlet will be assigned as being used by the computer.

The uptime of the devices indicates the length of time that the device has been functioning without interruption.

If the target device is not available in the device list, change the scanning range on the UPS Setting, Remote Host page by setting a Custom Scan Model in the Auto-Discover Range section of the screen.

- **UPS Outlet:** Indicates which power outlet of the UPS is supplying power to the computer that has Power Master+ Remote module software installed. The outlet list will be updated after entering the network address of the UPS. An outlet preview will be shown so users may verify whether the computer is connected to the proper outlet.

Configuring a Proper Power Connection

If you are using a Remote module connection with only a single UPS, set the Device Type to UPS, accordingly. Then, choose the required IP address, assign the correct outlet, and click the **CONNECT** button to establish communication.

**NOTE**

Your UPS must have a CIPCARD Network Card option installed or be controlled by a computer which has the Local module installed.

Troubleshooting Communication Problems

If the Remote module is unable to communicate with power devices, use the following steps to troubleshoot the issue:

- Verify the network address is correct.
- Verify the network configuration for the UPS is correct.
- Verify that the UPS Setting, Security page is configured correctly and matches the settings of the device. For more information, see [Configuring Security](#) on page 55.
- Verify the port in the UPS Setting, Security page matches the settings in the Power Master+ Local module.
- Check the network status of your connected workstation and devices.
- Verify your firewall settings. Unblock Port 3052(UDP/TCP), port 53568(TCP), port 161(UDP), port 162(UDP) and port 53566 (UDP). The workstation communicates with your UPS over these ports. The Power Master+ software installation on your workstation automatically configures the Windows firewall to allow Power Master+ application access over these ports.
- Verify the SSL certificate from the Remote module has been added into the trusted list on the Local module. If the Remote module applies a new SSL certificate and it's not in the trusted list, communication is lost.

Using the Setting Pages

Configuring a Remote Host

**NOTE**

Content in this section only applies to the Remote module.

The screenshot shows the Power Master+ web interface. The top navigation bar includes the Power Master+ logo and links to DASHBOARD, POWER CONFIGURATION, SETTING (which is highlighted), REPORTING, and HELP. On the left, a sidebar menu is titled 'REMOTE' and lists several options: Remote Host (selected), Shutdown Events, Notifications, Notification Channels, Recipients, Security, Advanced, Network Configurations, and Import and Export Profile Settings. The main content area is titled 'REMOTE HOST' and is divided into three sections: Information, Auto-Reconnect, and Auto-Discover Range. The Information section contains three text input fields: 'Host Remote Device Name' (with the value 'sedxyf006'), 'Location', and 'Contact'. Below these fields are 'CANCEL' and 'APPLY' buttons. The Auto-Reconnect section has a checkbox labeled 'Reconnect if Supply's IP Address Changes', which is checked, with 'CANCEL' and 'APPLY' buttons below it. The Auto-Discover Range section has a radio button selection for 'Scan Mode', with 'Local Subnet' selected and 'Custom' as an option, with 'CANCEL' and 'APPLY' buttons below it.

Configuring Remote Host Information Settings

The Information section shows detailed information about the Remote module as follows.

- **Host Remote Device Name:** The name of the hosted computer, e.g., Web Server or Bill's Computer.
- **Location:** Where the hosted computer is located, e.g., Server room or Rack A.
- **Contact:** Who to contact about this hosted computer, e.g., someone's name, email, or phone number.

Configuring Remote Host Auto-Reconnect Settings

Reconnect if Supply's IP Address Changes: Anytime the IP address of the power device is changed, the Remote module loses communication with the power device. Marking this check box configures the client to scan the network and automatically acquire the new IP address of the power device.

Configuring Remote Host Auto Discover Range Settings

You can search devices and computers in different segments or a specified range of IP addresses from this page. Settings made here are also used on the Power Configuration page.

The IP range detail settings and descriptions are explained below:

- **Scan Mode:** If the Local Subnet option is selected, the system scans for devices or computers in the same segment. If the Custom option is selected, the system scans a specific range specified in the IP Range field.
- **IP Range:** Specifies a range of IP addresses the system scans for when looking for devices and computers.

Configuring Shutdown Events

An event is generated when your UPS encounters specific power conditions. The Power Master+ software can be configured to respond to specific events and perform actions based on the event. These actions include notification, command execution, and computer shutdown. The Setting, Shutdown Events page lists events that can be set to shut down computers. You can also set shutdown requirements from this page. For more information about event details, see [Understanding Event Details](#) on page 64.

POWERMASTER+ DASHBOARD UPS SETTING **SETTING** REPORTING HELP

LOCAL

- Shutdown Events
 - Notifications
 - Notification Channels
 - Recipients
 - SNMP
 - Security
 - Advanced
 - Network Configurations
 - Import and Export Profile Settings

• The minimum shutdown-delay duration selectable in this section is calculated from delay and execution durations set for other actions to complete. This includes notification delay durations and command script delay & runtime durations

Local Host Shutdown Requirements

Required Shutdown Time: 2 min.

Shutdown Type: Hibernate

Shutdown UPS: ☒

Save Files and Log Out: ☒

CANCEL APPLY

Shutdown Delays

Urgency	Event	Shutdown
!	Battery capacity is critically low	Instant
!	Local communication lost in a power event	Instant
!	Remaining runtime will be exhausted	Instant
!	UPS is faulty	Inactive
!	Utility power failure	Inactive
!	Batteries are not present	Inactive
!	Local communication lost	Inactive
!	Battery test incomplete	Inactive
!	Available runtime is insufficient	Inactive
!	UPS fatal internal abnormality	Inactive

CANCEL APPLY

When an event occurs, Power Master+ software can initiate a computer shutdown sequence. The severity of each event is marked by a symbol. Severe level (❗) indicates users must be alerted and the computer shut down to avoid an improper shutdown. Warning level (⚠) indicates a warning and users should be notified when it occurs. If a warning condition persists, a system shutdown may be imminent.

Configuring Shutdown Requirements

In this section user can set the shutdown requirements for the computer.

- **Required Shutdown Time:** This setting will set the amount of time which Local and Remote workstations will take to shut down. The host computer will initiate the shutdown before power is stopped from the UPS in order to avoid a sudden blackout. This setting should be configured to allow for the normal shutdown time of the computer.
- **Shutdown Type:** This setting will specify the manner in which the Local and Remote workstation is shutdown. The options are Shutdown or Hibernation. The Hibernation option is only visible on operating systems and hardware that support hibernation. When the Local or Remote workstation shuts down the hosted computer using a Shutdown, any unnamed files will be saved automatically in a folder named Auto Saved in the My Documents folder.
- **Shutdown UPS:** This setting is used for the Local module to determine whether to turn off the UPS after the Local and all Remote workstations are shut down completely. If this check box is checked, the UPS will be turned off after the Local workstation is shutdown. The output power supplied to all equipment will also be turned off. Clear this check box if you want all connected equipment to continue receiving UPS power after the Local computer is shutdown.
- **Save Files & Log Out:** When a power event occurs, the computer will shut down in minutes. This setting is used to determine whether to save open files on desktop and then log off before the computer is shutdown.

Configuring Shutdown Delays

Initiate a shutdown sequence when an event occurs. A shutdown sequence is only initiated by events which are of severe-level and warning-level type. For details of each event, please refer to Event List section.

- **Shutdown:** Determines whether to request that the computer be shut down based on the delay before initiating the shutdown sequence. The shutdown will be canceled if the event is cleared during this delay time. The minimum delay time to initiate shut down is based on the time set for the execution of the other actions to complete. This includes the notify delay time, command delay time and command execution time.

Configuring Notifications

Power Master+ can be configured to respond to specific events and perform actions based on the event. The Setting, Notifications page lists events that can be configured to send messages.

For details of each event, please refer to Event Details section.

POWERMASTER+ DASHBOARD UPS SETTING **SETTING** REPORTING HELP

LOCAL

- Shutdown Events
- Notifications**
- Notification Channels
- Recipients
- SNMP
- Security
- Advanced
- Network Configurations
- Import and Export Profile Settings

NOTIFICATIONS

All Notifications

Urgency	Event	Send	Repeat
!	Battery capacity is critically low	Instant	Inactive
!	Local communication lost in a power event	Instant	Inactive
!	Remaining runtime will be exhausted	Instant	Inactive
!	UPS is faulty	Instant	Inactive
!	Utility power failure	Instant	Inactive
!	Batteries are not present	Instant	Inactive
!	Local communication lost	Instant	Inactive
!	Battery test incomplete	Instant	Inactive
!	Available runtime is insufficient	Instant	Inactive
!	UPS fatal internal abnormality	Instant	Inactive
i	Battery replacement recommended	Instant	Inactive
i	Shutdown initiated	Instant	Inactive
i	Enters bypass mode	Instant	Inactive
i	Battery is fully charged	Instant	Inactive

CANCEL APPLY

When an event occurs, Power Master+ software can initiate a computer shutdown sequence. The severity of each event is marked by a symbol. Severe level (❗) indicates users must be alerted and the computer shut down to avoid an improper shutdown. Warning level (⚠) indicates a warning and users should be notified when it occurs. If a warning condition persists, a system shutdown may be imminent. Information level (i) indicates the state of the UPS or that the utility power condition has changed.

The administrator can be notified when an event occurs. For more details about the notification methods and recipient assignment, see [Configuring Notification Channels](#) on page 44.

- **Send:** Determines whether to send a notification or not and sets the notification delay. If the event is cleared within the notification delay, the notification of the occurrence and the event cleared notification will not be sent.
- **Repeat:** Determines whether to send one additional notification after the initial notification.

Configuring Notification Channels

The administrator can be notified when an event occurs. The Setting, Notification Channels page provides several notification methods as follows.

Configuring Notifications via E-mail using Gmail

1. Click **Setting, Notification Channels**.
The Setting, Notification Channels page appears.
2. Select **Gmail** from the Provider field.
3. Click the **Connect** button to have Google send a verification and authorize the Gmail account.
4. Use the **Sender Name** text box to enter a name as desired.
5. Click **Apply** to save the settings.

POWERMASTER+ DASHBOARD UPS SETTING **SETTING** REPORTING HELP

LOCAL

- Shutdown Events
- Notifications
- Notification Channels**
- Recipients
- SNMP
- Security
- Advanced
- Network Configurations
- Import and Export Profile Settings

NOTIFICATION CHANNELS

E-mail

Enabled ☒

SMTP server address

Connection Security ☐ TLS ☐ SSL ☒ None

Service port Default port:25

Sender name

Sender E-mail

Authentication ☐

User Name

Password

TEST APPLY

Configuring Notifications via E-mail Using Other Providers

1. Select or clear the **Enabled** check box to specify whether the Local or Remote module may use email notifications.

POWERMASTER+ DASHBOARD UPS SETTING **SETTING** REPORTING HELP

LOCAL

- Shutdown Events
- Notifications
- Notification Channels**
- Recipients
- SNMP
- Security
- Advanced
- Network Configurations
- Import and Export Profile Settings

NOTIFICATION CHANNELS

E-mail

Enabled ☒

SMTP server address

Connection Security ☐ TLS ☐ SSL ☒ None

Service port Default port:25

Sender name

Sender E-mail

Authentication ☐

User Name

Password

TEST APPLY

2. Select **Other** from the Provider field.
3. Use the **SMTP server address** text box to specify the SMTP server used when sending email to a notification recipient.
4. Use the Connection Security radio button to select the encryption type used when sending email notifications. Choose from TLS, SSL, or None options.
5. Use the Service port text box to specify the port number of the SMTP service. The default port is 25.
6. Use the **Sender name** text box to specify the name you wish shown as having sent the email to recipients.
7. Use the **E-mail address** text box to specify the email address used when sending notification emails to recipients.
8. Select the **Authentication** check box if you wish to have the email provider send a verification and authorize the account.
9. Use the **User Name** and **Password** fields to set the account for accessing the SMTP server.
10. Click **Test** if you wish to test your Notification Channel settings.
11. Click **Apply** to save the settings.

Configuring Notifications via Short Message Service

Short Message Service (SMS) is a communication service used by mobile communication systems. Using standardized communications protocols allow the interchange of short text messages between mobile devices.

The Local or Remote module sends mobile text messages to a receiver's mobile phone using an online SMS service. Users can choose Clickatell as a platform to send SMS or any SMS provider which sends a message via email or HTTP.



NOTE

All account information and email or HTTP specification must be acquired from the service provider before using SMS.

The different SMS providers are described as follows.

Configuring SMS Using Clickatell

1. Select or clear the **Enabled** check box to specify whether the Local or Remote module may use this SMS notification channel.

2. Select **Clickatell** from the Service Provider drop-down.
3. Use the User Name, Password, and HTTP API ID text boxes to specify values for each field.
4. Click the **Test** button to verify the account settings, if desired.
5. Click **Apply** to save the settings.

Configuring SMS When Provider Accepts HTTPPOST to Send Messages

This specification is required from an SMS provider before using the HTTP POST method to deliver messages.

1. Select **Using HTTP POST** as the Service Provider.
2. Enter **EVENT_ACTION_PHONE_NUMBER** as recipient's mobile phone number.
3. Enter **EVENT_ACTION_MESSAGE** as the event message content described in the specification.
4. Enter **URL** and **POST BODY** in the corresponding text fields.



NOTE

These items are replaced with corresponding content before the Local or Remote module sends a notification to the SMS provider.

For example:

URL: `http://send-sms-company.com/sms`

POST Body: `user=xxxxxx&password=xxxxxx&to=EVENT_ACTION_PHONE_NUMBER
&text=EVENT_ACTION_MESSAGE`

Configuring SMS When Provider Accepts HTTPGET to Send Messages

This specification is required from an SMS provider before using the HTTP GET method to deliver messages.

1. Select **Using HTTP GET** as the Service Provider.
2. Enter **EVENT_ACTION_PHONE_NUMBER** as recipient's mobile phone number.
3. Enter **EVENT_ACTION_MESSAGE** as the event message content described in the specification.
4. Enter **URL** in the corresponding text field.



NOTE

These items are replaced with corresponding content before the Local or Remote module sends a notification to the SMS provider.

For example:

URL: `http://send-sms-company.com/sms?user=xxxxxx&password=xxxxxx&to=EVENT_ACTION_PHONE_NUMBER&text=EVENT_ACTION_MESSAGE`

Configuring SMS When Provider Accepts Email to Send Messages

This specification is required from an SMS provider before using Email to deliver messages.

1. Select **Using E-mail** as the Service Provider.
2. Enter **EVENT_ACTION_PHONE_NUMBER** as recipient's mobile phone number.
3. Enter **EVENT_ACTION_MESSAGE** as the event message content described in the specification.
4. Enter **Address**, **Subject**, and **Content** in the corresponding text fields.



NOTE

- These items are replaced with corresponding content before the Local or Remote module sends a notification to the SMS provider.
- Messages sent by the SMS system through the SMS provider are subject to any applicable provider fees.

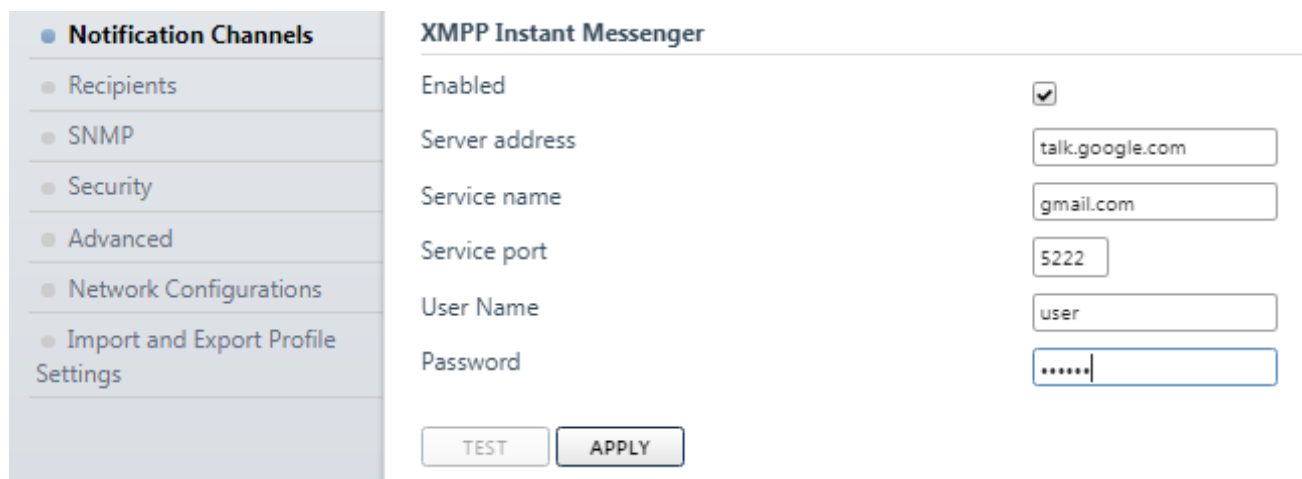
For example:

Address: `sms@send-sms-company.com`
Subject: `xxxxxx`
Content: `user: xxxxxx`
`password: xxxxxx`
`to: EVENT_ACTION_PHONE_NUMBER`
`text: EVENT_ACTION_MESSAGE`

Configuring Notifications via XMPP Instant Messenger

The XMPP (Extensible Messaging and Presence Protocol) is an open protocol for instant messaging. Configure this type of notification to receive instant messages when events occur.

Contact your network administrator to see if an existing XMPP Instant Messaging server is already on your network. If an existing XMPP server is not on your network, various open source XMPP Instant Messenger server software, such as Openfire, are available. More server software information can be found on XMPP server software list at <https://xmpp.org/software/>.



XMPP Instant Messenger	
Enabled	☒
Server address	talk.google.com
Service name	gmail.com
Service port	5222
User Name	user
Password	
TEST APPLY	

To use XMPP Instant Messaging, you need two distinct XMPP Instant Messaging service accounts. One is used as the sender and the other as the receiver when configuring the service on the Setting, Recipients page. For more information, see [Configuring Recipients](#) on page 50.

1. Select the **Enabled** check box to turn XMPP Instant Messaging service notifications on or off for your Local or Remote module.
2. Use the **Service address** field to provide your address as specified by your XMPP Server configuration.
3. Use the Service name field to set the name of the XMPP Instant Messaging server. The name is usually not required. Contact your system administrator for the service name if an existing XMPP Instant Messaging server is already on your network.
4. Use the **Service port** field to specify the port used by the server.
5. Provide a Username and Password for the account accessing the server.



NOTE

Ensure that users accept the invitation received from the sender to make sure XMPP notifications reach your recipients.

Configuring Notifications via Remote Desktop Services

NOTE: Remote Desktop Services only works on Windows platforms (Windows 7 and Server 2008 R2).

- Select the **Enabled** check box to send a notification to recipients.

Remote Desktop Services

Enabled ☒

APPLY

Configuring Recipients

As the Setting, Notification and Setting, Notification Channels sections show, the Power Master+ Local and Remote modules can send notifications to multiple recipients in various ways. Options for Windows Alert Messages, Instant Messages, and mobile phone text messages (SMS) are all available notification channels.

The Setting, Recipient page is where you add recipients. Listed recipients indicate the status (enabled or disabled) of each available notification channel.

POWERMASTER+ DASHBOARD UPS SETTING **SETTING** REPORTING HELP

LOCAL

- Shutdown Events
- Notifications
- Notification Channels
- Recipients**
- SNMP
- Security
- Advanced
- Network Configurations
- Import and Export Profile Settings

RECIPIENTS

All Recipients

Page: 1

Name	E-mail	XMPP	RDS Alert	SMS	Active Days	Active Time
✓ Default Receiver	x	x	x	x	Su,M,Tu,W,Th,F,Sa	00:00 - 00:00

DELETE EDIT ADD

Using the Setting, Recipients Page to Add Recipients

1. Click **Setting, Recipients**.
The Setting, Recipients page appears.
2. Click the **ADD** button.
The Add Receiver screen appears.
3. Provide values for all applicable fields as desired.
4. Select the **Active** check box to enable the recipient.
5. Use the **Language** field to specify the recipient's preferred language when receiving content.
6. Use the **Name** field to provide a unique recipient name. This name must be unique.
7. Use the **E-mail Address** field to enter the recipient address.

8. Use the **XMPP Account** field to enter the XMPP Instant Messaging account.
For more information, see [Configuring Notification Channels](#) on page 44.
9. Use the **Computer Username** field to enter the user account name for receiving Windows alert messages.

**NOTE**

- The Messenger Service varies with different Windows versions. With the Power Master+ software installed on Windows 7, Windows Server 2012, or Windows 8; messages are only sent to a local user account on the workstation.
- The **Computer Name** field and **Alert** column only appear when the Power Master+ is installed on a workstation running Windows.

10. Use the **Mobile Phone Number** field to enter the recipient's number for receiving mobile text messages. The number you enter must include the country code.
11. Use the **Active Days** field to specify which days of the week recipient notifications are sent.
12. Use the **Active Time** field to enter specify the time-of-day recipient notifications are sent.
13. Select the **Enabled** check boxes to activate specific notifications for the recipient.
14. Click the **Test** button to send the corresponding notification with the current settings and confirm it works as intended. You may only test a notification when its corresponding service is also enabled. For more information see [Configuring Notifications](#) on page 44 and [Configuring Notification Channels](#) on page 44.
15. Click the **Save** button.

Using the Setting, Recipients Page to Edit a Recipient

1. Click **Setting, Recipients**.
The Setting, Recipients page appears.
2. Select the check box to the left of the recipient you wish to edit.
3. Click the **EDIT** button.
4. Modify recipient fields as desired. For more information about the recipient fields, see [Using the Setting, Recipients Page to Add Recipients](#) on page 50.
5. Click the **SAVE** button.

Using the Setting, Recipients Page to Delete a Recipient

1. Click **Setting, Recipients**.
The Setting, Recipients page appears.
2. Select the check box to the left of the recipient you wish to delete.
3. Click the **DELETE** button.

Configuring SNMP on the Local Module



NOTE

Content in this section only applies to the Local module.

The Power Master+ Local module supports an SNMP Agent. Users can configure settings to select the NMS (Network Management Station).

The screenshot shows the 'POWERMASTER+' web interface with the 'SETTING' tab selected. The left sidebar lists various settings, with 'SNMP' highlighted under the 'LOCAL' section. The main content area is titled 'SNMP' and contains the following sections:

SNMP Settings

- SNMP Local Port: 161
- SNMPv1: ☐
- SNMPv3: ☐
- CANCEL APPLY

SNMP v1 Profiles

Community	IP Address	Access Type
public	0.0.0.0	Read Only
private	0.0.0.0	Read/Write
public2	0.0.0.0	Disable
public3	0.0.0.0	Disable

EDIT

SNMP v3 Profiles

Name	IP Address	Authentication	Privacy
✕ snmpv3 user1	0.0.0.0	None	None
✕ snmpv3 user2	0.0.0.0	None	None
✕ snmpv3 user3	0.0.0.0	None	None
✕ snmpv3 user4	0.0.0.0	None	None

EDIT

Using the Settings, SNMP (Local) Page to Configure the Port and Enable Versions

1. Click **Setting, SNMP**.
The Setting, SNMP page appears.
2. Use the **SNMP Local Port** text field to enter the desired port number. The default port is 161.
3. Select the **SNMPv1** check box to enable the service.
4. Select the **SNMPv3** check box to enable the service.
5. Click the **APPLY** button.

Using the Settings, SNMP (Local) Page to Edit SNMPv1 Profiles

The Local module uses the SNMPv1 Profile settings to communicate with the NMS.

1. Click **Setting, SNMP**.
The Setting, SNMP page appears.
2. Click the row to select a single profile from the SNMPv1 Profiles list.

- Click the **EDIT** button.

The SNMPv1 Edit screen appears.

- Modify the **Community** field to specify the name used to access this community from a Network Management System (NMS). The name must be 1 to 15 characters.
- Use the **IP Address** field to enter a specific IP address or address mask accessible by the NMS.



NOTE

A 255 address is regarded as the mask with the following rules.

- **192.168.20.255**: Only accessible by an NMS on the 192.168.20 segment.
- **192.255.255.255**: Only accessible by an NMS on the 192 segment.
- **0.0.0.0** or **255.255.255.255**: Accessible by any NMS on any segment.

- Use the **Access Type** field to configure the permission level give to the NMS through the community and the IP. Permission types include Read Only, Read/Write, and Disable.
- Click the **OK** button.

Using the Settings, SNMP (Local) Page to Edit SNMPv3 Profiles

The Local module uses the SNMPv3 Service settings to communicate with the NMS.

- Click **Setting, SNMP**.

The Setting, SNMP page appears.

- Click the row to select a single profile from the SNMPv3 Profiles list.
 - Click the **EDIT** button.
- The SNMPv3 Edit screen appears.
- Modify the **Name** field to identify the SNMPv3 user.
 - Use the **Authentication Key** field to enter a password used to generate the key used for authentication. The password must be 16 to 31 characters.
 - Use the **Privacy Key** field to enter a password used to generate the key used for encryption. The password must be 16 to 31 characters.
 - Use the **IP Address** field to enter a specific IP address or address mask accessible by the NMS.



NOTE

A 255 address is regarded as the mask with the following rules.

- **192.168.20.255**: Only accessible by an NMS on the 192.168.20 segment.
- **192.255.255.255**: Only accessible by an NMS on the 192 segment.
- **0.0.0.0** or **255.255.255.255**: Accessible by any NMS on any segment.

- Use the **Authentication Protocol** field to specify the hash type used for authentication. Supported types include MD5, SHA, or None.
- Use the **Privacy Protocol** field to specify the type of data encryption and decryption used. Supported types include DES, AES, or None.
- Click the **OK** button.

Using the Settings, SNMP (Local) Page to Add SNMP Trap Receivers

The Power Master+ Local module supports SNMP traps. Users can set a maximum of 10 receivers to receive trap messages. Both SNMPv1 and v3 are supported. The TRAP receivers you set are notified when configured Events occur.

SNMP Trap Receivers

Name ▾	SNMP Version ▾	IP Address ▾	Community/User ▾	Test
No records found				
DELETE EDIT ADD				

1. Click **Setting, SNMP**.
The Setting, SNMP page appears.
2. Scroll down to the SNMP Trap Receivers section of the page.
3. Click the **ADD** button.
The Add SNMP Trap Receivers screen appears.
4. Select the **Active** check box to enable the recipient.
5. Use the **Name** field to provide a recipient name.
6. Use the **SNMP Version** field to select SNMPv1 or SNMPv3.
7. Use the **IP Address** field to enter the IP address for the recipient.



NOTE

If the IP is set as 255.255.255.255, the trap message is a broadcast message.

8. Use the **Community/User Name** field to enter the community for SNMPv1 or the user name for SNMPv3.
9. Click the **Test** button to send the trap message with the current settings and confirm it works as intended.
10. Click the **OK** button.

Using the Settings, SNMP (Local) Page to Edit SNMP Trap Receivers

The Power Master+ Local module supports SNMP traps. Users can set a maximum of 10 receivers to receive trap messages. Both SNMPv1 and v3 are supported. The TRAP receivers you set are notified when configured Events occur.

SNMP Trap Receivers

Name	SNMP Version	IP Address	Community/User	Test
No records found				
DELETE EDIT ADD				

1. Click **Setting, SNMP**.
The Setting, SNMP page appears.
2. Scroll down to the SNMP Trap Receivers section of the page.
3. Click the row to select a single SNMP Trap Receiver from the list.
4. Click the **EDIT** button.
The Edit SNMP Trap Receiver screen appears.
5. Modify the fields as desired. For more information about the SNMP Trap Receiver fields, see [Using the Settings, SNMP \(Local\) Page to Add SNMP](#) Trap Receivers on page 54.
6. Click the **OK** button.

Using the Settings, SNMP (Local) Page to Delete SNMP Trap Receivers

The Power Master+ Local module supports SNMP traps. Users can set a maximum of 10 receivers to receive trap messages. Both SNMPv1 and v3 are supported. The TRAP receivers you set are notified when configured Events occur.

SNMP Trap Receivers

Name	SNMP Version	IP Address	Community/User	Test
No records found				
DELETE EDIT ADD				

1. Click **Setting, SNMP**.
The Setting, SNMP page appears.
2. Scroll down to the SNMP Trap Receivers section of the page.
3. Click the row to select a single SNMP Trap Receiver from the list.
4. Click the **DELETE** button.

Configuring Security

Viewing and Configuring the Power Master+ Secret Phrase

The Secret Phrase is used to create secure network communications between the Power Master+ Local and Remote modules on your workstation and the UPS. The default phrase is:

powermaster.encryption.key

You can configure the Secret Phrase from the following locations:

- The Settings, Security Page in Local and Remote modules of Power Master+.

- The System, Authentication Page in the CIPCARD Network Card option web interface.

For more information, refer to the UPS-SC600 CIPCARD Network Card Option User Manual (100-00098) at www.legrandav.com.

**NOTE**

The Secret Phrase configured in the Remote module and the UPS must match. The following screenshot shows the System, Security, Authentication Page in the CIPCARD Network Card option.

The screenshot displays the 'UPS Remote Management' web interface. At the top, there is a header with the title 'UPS Remote Management' and a navigation bar with links: 'Summary', 'UPS', 'Log', 'System' (highlighted), and 'Help'. A status bar at the top right indicates 'Administrator login from 192.168.1.100 [Logout]'. On the left, a sidebar menu lists various settings: 'General', 'Security' (selected), 'Authentication', 'Local Account', 'RADIUS Configuration', 'LDAP Configuration', 'Session Control', 'Network Service', 'Notification', 'Reset/Reboot', and 'About'. The main content area is titled 'Authentication' and contains two sections: 'Login Authentication' and 'Software Authentication'. Under 'Login Authentication', there are five radio button options: 'Local Account' (selected), 'RADIUS , Local Account', 'RADIUS Only', 'LDAP , Local Account', and 'LDAP Only'. Under 'Software Authentication', there is a 'Secret Phrase' field containing the text 'powermaster.encryption.key'. At the bottom of this section are 'Apply' and 'Reset' buttons.

Using the Settings, Security Page to Import SSL Certificates

The browser on the workstation connected using the Power Master+ web interface serves the SSL certificate. The certificate proves to the browser that the provider believes that it has issued a certificate to the owner of the Power Master+. The SSL Certificates section allows users to import your own SSL certificate and the SSL Certificate displays the date and result of the last time the SSL certificates were imported.

**NOTE**

Applying for a certificate from a certificate provider is subject to a provider fee.

1. Click **Setting, Security**.
The Setting, Security page appears.
2. Click the **IMPORT** button.
The SSL Certificates Wizard appears.
3. Upload the SSL certificate file.
4. Enter the Key Passphrase and Key store Password.
5. Click the **IMPORT** button.

Using the Settings, Security Page to Add an Imported SSL Certificate to the Trust List

A certificate trust list is a pre-defined list of SSL certificates signed by a trusted entity. A certificate trust list on Power Master+ is used to identify the certificate authority on other system devices.



NOTE

Communication between Local and Remote modules is lost while importing a new SSL certificate.

For example, while the Remote module connects with the Local module and imports a new SSL certificate, the workstation is unable to interact with the Local module. You must manually add the Remote module's certificate to the trust list on the Local module. Then the Local module considers the Remote's SSL certificate valid.

Example steps for adding the certificate into the trust list on Remote and Local modules:

1. On the Remote module, place the SSL certificate (with a.crt file extension) in the following workstation folder:

<Local_installation_directory>/jre/lib/security

2. Open the command prompt and switch to the same directory by entering:

cd <Local_installation_directory>/jre/lib/security

3. Press **Enter**.

4. Enter the following command to add the certificate to the trust list:

**<Local_installation_directory>/jre/bin/keytool.exe -import -
trustcacerts -file <cert_name>.crt -alias<alias_name> -
keystorecacerts**

5. Press **Enter**.

The system prompts you for an add certificate password.

6. Enter **change it** as the add certificate password.

7. Press **Enter**.

8. Enter **y** to confirm.

9. Press **Enter**.

10. Restart the Local service to reload and apply the updated trust list.

For more information, see "How do I restart the Power Master+ service?" in [Troubleshooting](#) on page 77.



NOTE

- When first accessing the system, you are prompted to change the trust list password for security purposes.
- **Local_installation_directory** is the directory where the Power Master+ Local installation located.
- The **cert_name** is the filename of the certificate file.
- The **alias_name** is the alias for the certificate available in the trust list.
- The aforementioned steps are applicable to the interactions between Power Master+ software.

Configuring SNMP on the Remote Module

**NOTE**

Content in this section only applies to the Remote module.

The Remote establishes communication and access device information via SNMPv1 and SNMPv3. Configure the SNMP Port and enable v1 and v3 versions on the Remote module the same way as described for the Local module. For more information, see [Using the Settings, SNMP \(Local\) Page to Configure the Port and Enable Versions](#) on page 52.

Using the Settings, SNMP (Remote) Page to Configure the Port and Enable Versions

1. Click **Setting, SNMP**.
The Setting, SNMP page appears.
2. Use the **SNMP Local Port** text field to enter the desired port number. The default port is 161.
3. Select the **SNMPv1** check box to enable the service.
4. Select the **SNMPv3** check box to enable the service.
5. Click the **APPLY** button.

Using the Settings, SNMP (Remote) Page to Edit SNMPv1 and SNMPv2 Profiles

SNMP v1 and v3 profiles on the Remote module are almost modified the same way as described for the Local module. For more information, see [Using the Settings, SNMP \(Local\) Page to Edit SNMPv1 Profiles](#) on page 52 and [Using the Settings, SNMP \(Local\) Page to Edit SNMPv3 Profiles](#) on page 53.

The main differences between the Remote and Local module configuration for SNMP profiles include the following:

1. The SNMP Community setting. The Remote module uses the community to authenticate communication with your UPS and access information on it. Typically, UPS settings default to having either a private community with write permission or a public community with read only permission. The community used by the Remote module must have a minimum of read permission for basic operation of the CIPCARD Network Card option. When the community has write permission, the Remote module can complete some configuration tasks automatically.

If permission limitations prohibit the Remote module from completing these tasks, you must manually configure the CIPCARD Network Card option web interface. For more information, refer to the following topics in the UPS-SC600 CIPCARD Network Card Option User Manual (100-00098) at www.legrandav.com.

- Using the System, Network Service, SNMPv1 Service Page to Enable and Edit an SNMPv1 User
- Using the System, Network Service, SNMPv1 Service Page to Enable and Edit an SNMPv3 User
- Using the UPS, Bank (Outlet) Control Page
- Using the System, Notification, Trap Receivers Page

- For SNMPv3, the User Name, Authentication Protocol, Authentication Key, and Privacy Protocol settings must be matched in both the Remote module and the CIPCARD Network Card option.

For more information, refer to the UPS-SC600 CIPCARD Network Card Option User Manual (100-00098) at www.legrandav.com.

**NOTE**

If you have firewall software installed, configure the settings to allow access through port 3052 (UDP/TCP), port 53568 (TCP), port 162 (UDP) and port 53566 (UDP). The communication between the CIPCARD and Power Master+ (Local and Remote modules) can only be established with those ports open.

Understanding Advanced Configurations

Importing and Exporting Profile Settings

You can import and export profile settings on both the Local and Master modules. The feature is helpful for both profile backup and quickly deploying settings to multiple workstations.

When your Local and Master module configuration is complete, you can export the profile from that workstation, and then import it onto other workstations to apply the settings instantly.

**NOTE**

Local and Remote module profile settings from one workstation may only be applied onto the corresponding module on another machine.

- Click **Setting, Advanced**.

The Setting, Advanced Page appears.

LOCAL

- Shutdown Events
- Notifications
- Notification Channels
- Recipients

ADVANCED

Command Test

TEST

Using Energy Event Command Scripts

When the Remote module establishes communication with your UPS, it can execute commands in response to events.

1. Click **Setting, Advanced**.
2. The Setting, Advanced Page appears and lists events that can be set to perform command execution. For each event, please refer to the details shown under the Event column.

- SNMP
- Security
- Advanced**
- Network Configurations
- Import and Export Profile Settings

Energy Event Command Scripts

Active	Urgency	Event	Command	Duration	Delay
☐	!	Battery capacity is critically low		< 1 sec.	Instant
☐	!	Local communication lost in a power event		< 1 sec.	Instant
☐	⚠	Utility power failure		< 1 sec.	Instant
☐	⚠	Local communication lost		< 1 sec.	Instant
☐	⚠	Battery test incomplete		< 1 sec.	Instant
☐	i	Battery replacement recommended		< 1 sec.	Instant
☐	i	Shutdown initiated		< 1 sec.	Instant
☐	i	Battery is fully charged		< 1 sec.	Instant

When an event occurs, the Power Master+ software can initiate a computer shutdown sequence. The severity of each event is marked by a symbol in the Urgency column. Severe level (!) indicates users must be alerted and the computer shut down to avoid an improper shutdown. Warning level (⚠) indicates a warning and users should be notified when it occurs. If a warning condition persists, a system shutdown may be imminent. Information level (i) indicates the state of the UPS or that the utility power condition has changed.

Use the following fields to configure events to trigger a commands.

3. Select the corresponding **Active** check box to execute the event.
4. Use the **Command** field to select the file for execution when the event is triggered.



NOTE

Create and save custom Shell scripts with a **.cmd** file extension and store them in the **extcmd** folder under the Power Master+ installation directory on your workstation. When done correctly, the script names appear as Command field options.

5. Use the **Duration** field to set an estimated time for the command to complete. If the event requires the computer to shut down, this delay provides time for commands and scripted actions to complete before the shutdown is initiated.
6. Use the Delay field to offset the time until the command is executed.



NOTE

If the event completes before the set delay time, the command for the event and the corresponding event are not executed.

7. Click the **APPLY** button.

Understanding Energy Event Command Script Environment Variables

The following environment variables can be placed in external commands to identify which event and at what stage it should be executed. For more information, see [Using Energy Event Command Scripts](#) on page 60.

- **%EVENT_STAGE%:** Indicates what stage of firing event to execute the commands. When an event first happens, it enters the OCCUR stage and the assigned commands will be executed. When an event is ended, the variable will be FINISH and the assigned commands will be executed.
- **%EVENT%:** Indicates which event is fired to execute the commands.
- **%EVENT_CONDITION%:** Indicates which the detailed event condition of a firing event.
- **%MODULE_NO%:** Indicates which UPS module on a firing event. This variable is used on Modular UPS models.

The following table lists all details of %EVENT% and %EVENT_CONDITION% variables.

%EVENT%	%EVENT_CONDITION%	Event Name
BATTERY_CRITICAL_LOW		Battery capacity is critically low.
ENTER_BYPASS		Enters bypass mode.
BATTERY_EXHAUSTED		Battery has been depleted.
EMERGENCY_OFF		EPO is active.
BATTERY_FULL		Battery is fully charged.
SHUTDOWN		Shutdown initiated.
BYPASS_FAILURE		Bypass power source has failed.
CAPACITY_INSUFFICIENT		Insufficient inverter capacity.
LOSS_REDUNDANT		Not enough power redundancy modules.
ABNORMAL		UPS input abnormality.
	NO_NEUTRAL	No neutral input.
	WIRING_FAULT	Site wiring fault.
FATAL_ABNORMAL (NOTE: This variable must also come with an %EVENT_CONDITION% variable.)		UPS fatal internal abnormality.
	OUTPUT_OVERLOAD	Output is overloaded.
	BYPASS_OVERLOAD	Bypass is overloaded.

%EVENT%	%EVENT_CONDITION%	Event Name
	MODULE_OVERLOAD	Module is overloaded.
	SHORT_CIRCUIT	Output circuit short.
	MODULE_RECTIFIER_OVERHEAT ¹	Module rectifier is overheated.
	MODULE_INVERTER_OVERHEAT ¹	Module inverter is overheated.
	MODULE_INVERTER_PROTECTED ¹	Module inverter is protected.
	BATTERY_REVERSED	The polarity of battery is reversed.
	BYPASS_SEQUENCE_ERROR	The phase sequence of bypass is wrong.
COMMUNICATION_FAILURE (NOTE: This variable must also come with an %EVENT_CONDITION% variable.)	LOST_IN_LOCAL	Local communication lost.
	LOST_IN_NETWORK ³	Network communication lost.
FAULT (NOTE: This variable must also come with an %EVENT_CONDITION% variable.)	GENERIC_FAULT	UPS is faulty.
	BYPASS_FAN_FAULT	Bypass fan is faulty.
	BYPASS_FAULT	Bypass is faulty.
	MODULE_RECTIFIER_FAULT ¹	Module rectifier is faulty.
	MODULE_INVERTER_FAULT ¹	Module inverter is faulty.
	MODULE_FAN_FAULT ¹	Module fan is faulty.
NO_BATTERY		Batteries are not present.
RUNTIME_INSUFFICIENT		Available runtime is insufficient.
UTILITY_FAILURE		Utility power failure.

%EVENT%	%EVENT_CONDITION%	Event Name
URGENT_COMMUNICATION_FAILURE (NOTE: This variable must also come with an %EVENT_CONDITION% variable.)	LOST_IN_LOCAL	Local communication lost in a power event.
	LOST_IN_NETWORK	Network communication lost in a power event.
RUNTIME_WILL_EXHAUST		Remaining runtime will be exhausted.
OUTPUT_WILL_STOP		The output power is going to stop soon.
POWER_LOST		Power supply redundancy has been lost.

Configuring the Network

Understanding Host IP Configuration

Access the Power Master+ web interface using the default URL as explained in [Accessing the Power Master+ Web Interface](#) on page 11. You can assign an IP, if desired.



NOTE

When your workstation with Power Master+ installed has multiple IP addresses, you can choose one of them for the web interface.

Understanding HTTPS

You can change the Power Master+ security level and port, if desired.

- Use the **HTTPS Secure** field to force HTTPS connections to the web interface.
- Use the **HTTPS Port** field to specify the port for HTTPS connections. The default port is 53568.

The security level goes into effect after you make the change. The web interface pages are temporarily unavailable after restarting your server when making this change.

With HTTPS security enabled, the standard browser warning appears considering the connection as risky. You can continue to the web interface by ignoring the warning page. You may also acquire and correctly install an SSL certificate produced by a commercial certificate providers or any trusted certificate authority to keep the browser warning from appearing.

If you have an SSL certificate and wish to install it, see [Using the Settings, Security Page to Import SSL Certificates](#) on page 56.

Understanding Event Details



NOTE

- The events shown vary based on Local or Remote module access.
- If a workstation using the Remote module has a redundant power supply, the events related to power supply are affected. Please refer to the “Remaining runtime will be exhausted” event for further clarification.

Event Description	Event Explanation
Battery capacity is critically low.	Battery capacity is critically low, and power could be lost immediately. Configure the Low Battery Threshold on your UPS. For more information, refer to “Using the UPS, Configurations Page” in the UPS-SC600 CIPCARD Network Card Option User Manual at www.legrandav.com.
Local communication lost in a power event.	Communication with device has been lost during a power event. Communication between the Local and the UPS using a USB cable has been lost during a power failure.
Batteries are not present.	Batteries are not present. The UPS cannot provide battery power in this condition.
Available runtime is insufficient.	There is insufficient runtime for Power Master+ to perform a complete shutdown based on the current configuration, even if the battery is 100% charged. An excessive load or long shutdown time may cause this event. Avoid this event by reducing some UPS load or configuring a more accurate shutdown time.
Enters bypass mode.	Entering bypass mode, battery power protection will no longer be provided.
Utility power failure.	Utility power failure, battery power will be supplied.

Event Description	Event Explanation
Remaining runtime will be exhausted.	Based on current configuration settings, the remaining battery runtime will be insufficient unless a shutdown of the connected computer executed immediately. Please save your work and power down immediately. When the UPS switches to battery mode due to a power event, the battery power is supplied to the Local workstation and all Remote workstations in order to shut down completely. If battery power consumption continues, the remaining runtime will be exhausted. Local and all Remote computers should start a shutdown procedure immediately. The Local workstation postpones the shutdown until the Remote workstations completes their shutdown procedures. If the remaining runtime is insufficient for the Local workstation to perform a complete shutdown prior to the UPS turning off, the Remote workstations shut down first to ensure sufficient time for the Local workstation to shut down completely.  NOTE • This event usually indicates that the Local and Remote workstations risk losing battery power. They are provided a 2-minute shutdown window to avoid crashing due the UPS turning off. • If the Remote workstation has redundant power, this event is only triggered after the computer loses all redundant power supplies and is running on non-redundant power. For example, if a Remote workstation has a redundant power policy of 1+1, then this event will only happen when only one power supply is operating, and its remaining runtime will be exhausted.
Battery test is processing.	A battery test is active in order to verify that battery power can be provided normally.
Output voltage is being boosted.	Output voltage is being boosted from a lower level. The UPS is receiving utility power with low voltage and raising the voltage to a proper level for operating the connected equipment.
Output voltage is being bucked.	Output voltage is being bucked from a higher level. The UPS is receiving utility power with high voltage and is lowering the voltage to a proper level for operating the connected equipment.

Event Description	Event Explanation
Estimation initiated.	Estimation was initiated and the battery runtime will be evaluated. This process will last until battery power is exhausted.
A schedule has initiated.	A schedule has been initiated; the system may be shutdown.
Battery is fully charged.	Battery is fully charged.
Shutdown initiated.	Shutdown process initiated, the system will shut down or hibernate soon.
ECO Mode is active.	The UPS has entered ECO mode. The UPS switches to bypass and starts to monitor whether the utility voltage and utility frequency is in range of the thresholds.
Battery has been depleted.	The battery charge is depleted, output power will stop.
EPO is active.	EPO was activated; the UPS output power was turned off immediately. EPO (Emergency Power Off) is intended to allow the administrator to have a method of immediately turning off output power from the UPS.
Bypass power source has failed.	Power input from the bypass source is out of regular range or is experiencing a black out. UPS will shut down; Bypass mode will not be activated.
Insufficient inverter capacity.	There was not enough capacity in the inverter for the UPS to switch from bypass mode to line mode.
Not enough power redundancy modules.	The internal modules used for redundancy in this UPS have either exceeded their capacity or have failed. The fault-tolerance of this UPS has been reduced or eliminated. Power redundancy provides additional protection against failures of UPS modules. If one module has a fault, the other module will take over. This event will occur when the load consumption are exceeded to use extra power that belong to redundant power, some UPS modules are faulty or manual shutdown.
UPS input abnormality.	UPS is working abnormally due to one or more power conditions as follows: • No neutral input. There is no neutral wire connected. • Site wiring fault. The wiring is reversed or not grounded.

Event Description	Event Explanation
UPS fatal internal abnormality.	The UPS is experiencing one or more of the following fatal abnormalities; UPS may shut down or stop output power unexpectedly. • Output overload. Power consumption exceeds the power rating of UPS. If the overload is sustained, the UPS will shut off. • Bypass overload. Output is overloaded in bypass mode. • Module overload. One of the UPS modules has overloaded. If the UPS module overload is sustained, the UPS module will be shut down for protection. • Output short circuit. Output has short circuited; the UPS will stop supplying power. • Module rectifier overheating. The internal temperature of one rectifier module has exceeded the normal rating. • Module inverter overheating. The internal temperature of one inverter module has exceeded the normal rating. • Module inverter protected. A module inverter has been stopped for protection. The module inverter may be faulty or abnormal. • Reversed battery connection. The connection between UPS and battery has a reversed connection. • Bypass phase sequence error. The sequence of phases is different between utility and bypass.
Communication lost.	Communication between the UPS and computer has been lost in one of the following ways: • Local communication lost. Communication between the UPS and computer via USB cable cannot be established or was lost. • Network communication Lost. The software cannot establish communication with the UPS on the network or established network communication has been interrupted.

Event Description	Event Explanation
UPS is faulty.	UPS has an internal malfunction. The UPS may not be operating properly and will not be able to affect a proper shutdown. One of the causes may include: • Bypass Fan fault. • Bypass Fault. • Module Rectifier Fault. A rectifier module is faulty; this module will stop supplying output power. • Module Inverter Fault. An inverter module is faulty; this module will stop supplying output power. • Module Fan Fault. A fan module has malfunctioned. • Batteries are not present, and a schedule has initiated events which are only available in the Local module.

Additional Events Only Available from the Remote Module

Event Description (Remote Only)	Event Explanation (Remote Only)
The output power is going to stop soon.	Output power will stop due to power event or user command. The Remote will shut down the host computer.
Cannot establish network communication with Power Device.	Communication with the UPS has been lost. The Remote cannot establish communication with the UPS on the network or established communication has been interrupted.
Network communication lost with UPS in a power event.	Communication with the UPS has been lost during a power event. When the utility power becomes abnormal and the UPS is using the battery to supply power, loss of network communication between the Remote and the UPS causes the Remote to generate a critical priority event because it cannot respond to changes in the status of utility and battery power.
Power supply redundancy lost.	Power supply has been lost; computer can't be protected by redundant power. The Remote computer has redundant power supplies and all the redundant power supplies have become abnormal or network communication with the Remote has been lost.

Using the Reporting Pages

Using the Reporting, Event Logs Page

The Reporting, Event Logs page lets you view logs which record power event details on the Local or Remote modules. The logs can be analyzed to determine whether the system and the UPS are operating correctly.

POWERMASTER+ DASHBOARD UPS SETTING SETTING **REPORTING** HELP

LOCAL

- Event Logs
- Data Logs
- Energy Use

EVENT LOGS

Settings

Entry Expiration: Never

Max Records: 5000

Log to Windows Event Viewer? ☐

CANCEL APPLY

Filter

Dates: [] through []

Day: ☒ M ☒ Tu ☒ W ☒ Th ☒ F ☒ Sa ☒ Su ☒ All

Times (Hours): [] to []

Priority: ☒ Critical ☒ Warning ☒ Information

Event Category: ☒ System Event ☒ Power Event ☐ All Events

Records Per Page: 200

RESET APPLY

Event Logs

Page: < 1 > [] [] []

Date & Time	Event
2023-01-04 11:27:57 AM	Communication with the device has resumed.
2023-01-04 11:26:20 AM	Local communication with the device has been lost.
2023-01-04 11:26:19 AM	Shutdown process initiated.

Make the following selections on the Settings section of the screen.

1. Use the **Entry Expiration** drop-down to choose how long you wish to retain your log files.
2. Use the **Max Records** drop-down to choose the maximum number of events logs to be displayed.
3. Select the **Log to Windows Event Viewer** check box to additionally log events to Windows Event Viewer on your workstation.

Access the Event Viewer from Control Panel, Administration Tools, Event Viewer to review all events in the Application category of the Windows Logs directory.



NOTE

Event Viewer is only available on Windows operating systems. If the Event Viewer option is unavailable on your workstation's Windows installation, activate it by installing the Power Shell via Windows Update.

4. Click the **APPLY** button.

Logs appear in the Event Logs lower part of the screen based on the selections made.

Make the following selections on the Filter section of the screen.

Filter

Dates	01/03/2023 through 01/18/2023
Day	☒ M ☒ Tu ☒ W ☒ Th ☒ F ☒ Sa ☒ Su ☒ All
Times (Hours)	to
Priority	☒ Critical ☒ Warning ☒ Information
Event Category	☒ System Event ☒ Power Event All Events
Records Per Page	200

1. Use both **Date** fields to choose a range for the displayed events.
2. Select corresponding **Day** check boxes to restrict the results based on which day(s) of the week the event took place.
3. Use both **Time** drop-down fields to choose a range of hours for the displayed events.
4. Use the **Priority** check boxes to restrict the results based on Critical, Warning, and Information event priority.
5. Use the **Event Category** fields to restrict results based on System Event and Power Event. Use the All Events drop-down to select an event and restrict the logs shown based on it.
6. Use the **Records Per Page** drop-down to specify the number of records to show per page.
7. Click the **APPLY** button.

Logs appear in the Event Logs lower part of the screen based on the selections made.

Use the following fields on the Event Logs section of the screen.

POWERMASTER+ DASHBOARD UPS SETTING SETTING **REPORTING** HELP

LOCAL

- Event Logs
- Data Logs
- Energy Use

EVENT LOGS

Settings

Entry Expiration:

Max Records:

Log to Windows Event Viewer? ☐

Filter

Dates: through

Day: ☒ M ☒ Tu ☒ W ☒ Th ☒ F ☒ Sa ☒ Su ☒ All

Times (Hours): to

Priority: ☒ Critical ☒ Warning ☒ Information

Event Category: ☒ System Event ☒ Power Event

Records Per Page:

Event Logs

Page: < 1 >

Date & Time	Event
2023-01-04 11:27:57 AM	Communication with the device has resumed.
2023-01-04 11:26:20 AM	Local communication with the device has been lost.
2023-01-04 11:26:19 AM	Shutdown process initiated.

- Click the **Previous** and **Next** buttons on the upper right corner of the event log list to navigate additional pages of log results.
- Click the **Refresh** button  to update the log results based on the current filter options and page settings.
- Click the **Save** button  on the upper right corner of the event log list to export log results in either CSV or PDF format. The exported file is saved into the default download directory of your browser.
- Click the **Delete** button  on the upper right corner of the event log list. Click the DELETE button on the confirmation and all of the event logs are then immediately removed from the system.



NOTE

Log deletions are permanent and cannot be recovered.

Using the Reporting, Data Logs Page



NOTE

Content in this section only applies to the Local module.

The Reporting, Data Logs page lets you view logs based on UPS status.

POWERMASTER+ DASHBOARD UPS SETTING SETTING **REPORTING** HELP

LOCAL

- Event Logs
- Data Logs**
- Energy Use

DATA LOGS

Settings

Enabled ☒

Entry Expiration Never

Recording Interval 10 min.

Max Records 5000

CANCEL APPLY

Filter

Dates through

Day ☒ M ☒ Tu ☒ W ☒ Th ☒ F ☒ Sa ☒ Su ☒ All

Times (Hours) to

Records Per Page 200

RESET APPLY

Data Logs

Page: 1

Date & Time	Input Voltage(V)	Output Voltage(V)	Input Frequency(Hz)	Output Frequency(Hz)
2023-01-04 10:52:17 AM	235.2	229.6	50.0	49.9
2023-01-04 10:47:03 AM	0	229.9	0	50.0

Make the following selections on the **Settings** section of the screen.

1. Select the **Enabled** check box to have the Local module start recording intervals of UPS data log entries.
2. Use the **Entry Expiration** drop-down to choose how long you wish to retain your log files.
3. Use the **Recording Interval** drop-down to choose the time (in minutes) the Local module repeatedly records the UPS status.
4. Use the **Max Records** drop-down to choose the maximum number of events logs to be displayed.
5. Click the **APPLY** button.

Logs appear in the Data Logs lower part of the screen based on the selections made.

Make the following selections on the Filter section of the screen.

Filter

Dates through

Day ☒ M ☒ Tu ☒ W ☒ Th ☒ F ☒ Sa ☒ Su ☒ All

Times (Hours) to

Records Per Page

1. Use both **Date** fields to choose a range for the displayed logs.
2. Select corresponding **Day** check boxes to restrict the results based on which day(s) of the week the log(s) took place.
3. Use both **Time** drop-down fields to choose a range of hours for the displayed log(s).
4. Use the **Records Per Page** drop-down to specify the number of records to show per page.
5. Click the **APPLY** button.

Logs appear in the Data Logs lower part of the screen based on the selections made.

Use the following fields on the Data Logs section of the screen.

POWERMASTER+ DASHBOARD UPS SETTING SETTING **REPORTING** HELP

LOCAL

- Event Logs
- Data Logs**
- Energy Use

DATA LOGS

Settings

Enabled ☒

Entry Expiration

Recording Interval

Max Records

Filter

Dates through

Day ☒ M ☒ Tu ☒ W ☒ Th ☒ F ☒ Sa ☒ Su ☒ All

Times (Hours) to

Records Per Page

Data Logs

Page:

Date & Time	Input Voltage(V)	Output Voltage(V)	Input Frequency(Hz)	Output Frequency(Hz)
2023-01-04 10:52:17 AM	235.2	229.6	50.0	49.9
2023-01-04 10:47:03 AM	0	229.9	0	50.0

- Click the **Previous** and **Next** buttons on the upper right corner of the event log list to navigate additional pages of log results.

- Click the **Refresh** button  to update the log results based on the current filter options and page settings.
- Click the **Save** button  on the upper right corner of the event log list to export log results in either CSV or PDF format. The exported file is saved into the default download directory of your browser.
- Click the **Delete** button  on the upper right corner of the event log list. Click the DELETE button on the confirmation and all of the event logs are then immediately removed from the system.

**NOTE**

- Log deletions are permanent and cannot be recovered.
- The date and time displayed in the Date & Time column of the log results indicates the local time on the corresponding hosted computer. This time may be different from the time on your workstation.

Using the Reporting, Energy Use Page

**NOTE**

Content in this section only applies to the Local module.

This page presents the information such as the amount of power, cost, and equivalent carbon emission that the UPS system consumes in a period of time. The cumulative amount of power consumed by a UPS system in a period of time is denoted as Pm. Users can setup the cost per kWh, denoted as Rp, in the Settings Page. Carbon emission per kWh, denoted as Rc, is also shown in the Settings Page. Finally, the system calculates and presents the power consumption cost denoted as Cp and the equivalent carbon emission, denoted as Ec, based on the following formulas:

$$C_p = P_m * R_p \text{ and } E_c = P_m * R_c$$

POWERMASTER+ DASHBOARD UPS SETTING SETTING **REPORTING** HELP

LOCAL

- Event Logs
- Data Logs
- Energy Use**

ENERGY USE

Settings

Cost Per kWh

CO₂ Emitted per kWh

kWh Cost History

Date Range	Cost Per kWh
2023-01-04 through Today	\$ 0.12

Metrics

Dates through

Average Daily Energy Use	0 kWh
Total Energy Use	0 kWh
Average Daily Energy Cost	\$ 0
Total Energy Cost	\$ 0
Average Daily CO ₂ Emission	0 kg
Total CO ₂ Emission	0 kgs

Configuring Reporting, Energy Use Settings

In this section, user can set the average rate of power consumption and carbon emission by selecting the country. Power costs vary by country; therefore, the Energy Cost and equivalent carbon emission are different. By selecting country, users can set up the average rate of power consumption and carbon emission. The rate of carbon emissions also changes by time, users can update the carbon emission per kWh.

- **Cost Per kWh:** Select the country the UPS is located in.
- **CO2 Emitted per kWh:** The weight of equivalent emitted carbon when one kWh power is consumed and the unit of measurement.

kWh Cost History

Because the rate of power consumption can vary over time, users can assign rates for different periods of time. Associated costs of historical periods will show in the table and user can edit or delete selected data. When rates are updated, the information displayed in the Metric section will also be updated.

kWh Cost History	
Date Range	Cost Per kWh
2023-01-04 through Today	\$ 0.12
DELETE EDIT	

Metrics

- **Dates:** Set the time consumption period to read.
- **Average Daily Energy Use:** Displays the average energy consumption according to the selected time period.
- **Total Energy Use:** Displays the cumulative energy consumption according to the selected time period.
- **Average Daily Energy Cost:** Displays the average energy cost according to the selected time period.
- **Total Energy Cost:** Displays the cumulative cost according to the selected time period.
- **Average Daily CO2 Emission:** Displays the average carbon emission according to the selected time period.
- **Total CO2 Emission:** Displays the equivalent carbon emission according to the selected time period.

Viewing Web Browser Information

The top-right corner of Power Master+ user interface shows the installation location, account information and provides language selection.

sedxyf006 [192.168.168.71] Log Out  Change Password 

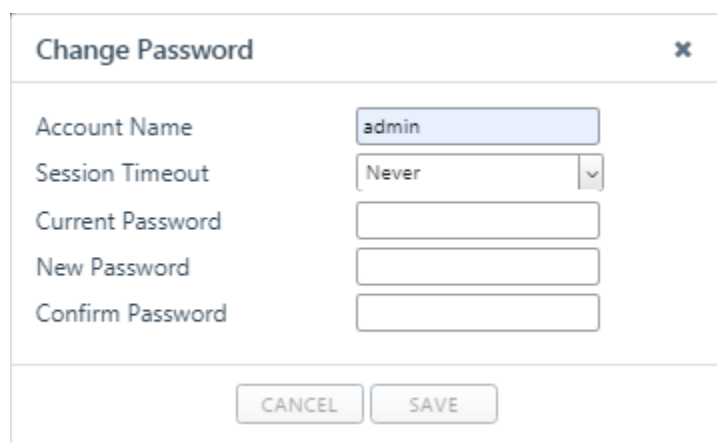
ENGLISH ▼

Viewing the Power Master+ Installation Location

The name and IP of the computer that is installed with the Power Master+ is displayed.

Using the Account Information Section

The Account Information section is used to change the Power Master+ login account information, including account name, password, and the duration of login session.



A dialog box titled "Change Password" with a close button (X) in the top right corner. It contains five input fields: "Account Name" (with "admin" entered), "Session Timeout" (with a dropdown menu showing "Never"), "Current Password", "New Password", and "Confirm Password". At the bottom, there are two buttons: "CANCEL" and "SAVE".

Changing the Account Name or Password

1. Enter the password in the Current Password field.
2. Enter a new account name in the Account Name field if you want to change account name. Account name must be alphanumeric (0-9, A-Z and a-z).
3. If you want to change password, enter a new password in the New Password field and enter the new password again in the Confirm Password field to confirm.
4. Click the **SAVE** button.

Understanding Session Timeout Options

Session Timeout is the option which determines the duration of the session after the login. If the page isn't accessed during this period and remains inactive, users will be logged out automatically. Users will need to login again.

Choosing the User Interface Language

Choose the language in which Power Master+ is displayed.

Troubleshooting

1. I cannot access the Power Master+ web interface after complete installation.

Please follow the below steps resolve the problem:

- Make sure that there is no other application utilizing port3052 (UDP/TCP) and port 53568 (TCP). Use a command prompt with the command “netstat -o” to obtain information about which ports are used by which programs.
- Ensure the Power Master+ service is running on the hosted computer. If the service is stopped, restart the service, and then try again in the same way.
- Make sure the port3052 (UDP/TCP) and port 53568 (TCP) on the hosted computer are not blocked by a firewall.
- Make sure the URL in the address field of the browser for a remote computer is correct.

2. I have installed the Power Master+ Local on my computer, but the Local cannot establish communication with the UPS.

- Make sure the USB cable is secured and properly connected to both the UPS and your workstation.

3. The Remote cannot establish communication with the UPS.

The lack of communication may be caused by the following conditions:

- The network communication between the Remote computer and the UPS is down.
- The device network address is configured improperly.
- The authentication settings are configured improperly.

Follow the steps below to resolve the problem:

- Verify the device network address is correct.
- Verify the network configuration in the device is correct. Use the Power Device Network Utility tool to configure the device network configuration.
- Verify the settings on the Setting, Security page are correct and match the settings on the UPS. For more information, see [Configuring Security](#) on page 55.
- Verify the port on the Setting, Security page is matched if establishing communication with the Local module.
- Check the network status of the UPS and the Remote module.
- Verify firewall settings. Port 3052 (UDP/TCP), port 53568 (TCP), port 161 (UDP), port 162 (UDP), and port 53566 (UDP) should be unblocked. The Remote module communicates with the UPS and Local module using these ports.

4. **The battery test failed.**

- Replace the batteries if the batteries have used over 3 years.
- Contact Legrand for assistance and replace the batteries if the battery test still fails.

5. **The Power Master+ installation failed.**

If the installation file came from the company website, it may have downloaded incompletely or become corrupt. Download the installation file again.

6. **The shutdown occurs earlier than expected time.**

It may be caused by the following conditions:

- When batteries have been used for a long time, they are unable to reach a full charge. Check to see if the output load is too high. A high load on the UPS will cause the batteries to discharge faster and the remaining runtime quickly decrease. Disconnect some load from the UPS to reduce the load in order to extend the runtime.
- Verify that the batteries are fully charged. If the capacity is too low, please charge the batteries to full capacity.

7. **Pages cannot be displayed after I set up another port number in the Setting, Security, Network page.**

The port that was set up in the Setting, Security page may be occupied by other applications or services. This indicates that the pages can't be accessed through the assigned port.

8. **Inability to Shutdown NAS during Power Failure.**

When using sshpass tool cannot shut the NAS down during power failure, the version of the sshpass tool may be 1.04.

The sshpass tool whose version is 1.04 will result in inability to shutdown NAS. You must check whether the version of the sshpass tool is 1.04. If the version is 1.04, you must change another version.

9. **The Power Master+ installation file's digital signature is not valid.**

This may be caused by the operating system not supporting the SHA-256 signature the installation file uses. Please use these steps to resolve the problem on specific Windows versions as follows:

- On Windows 8.1, Windows 8, Windows 7, Windows Server 2012, or Windows Server 2008 R2, please update the Windows via Windows Update to support SHA-256 signatures.
- On the version earlier than Windows 7 or Windows Server 2008 R2, please click **Allow** or **Run** when security warning dialog appeared after the installation file is opened.

Frequently Asked Questions

1. **If multiple computers are connected to a single UPS, how do I determine which computer to install the Local or the Remote module on to ensure each computer can be shut down properly in event of power outage?**

The computer that is connected to the UPS with a USB cable should install the Local, and the remaining ones should install the Remote.

2. **After the Power Master+ installation is complete, how do I access the web interface?**

Select the Start, All programs, Power Master+, Power Master+ Local (or Power Master+ Remote) for local use. You can also enter the URL, http://hosted_computer_IP_address:3052/local, http://hosted_computer_IP_address:3052/remote, in the address field of the web browser from a remote computer.

3. **Which operating systems are supported by Power Master+ software? And which browser supports them?**

For more information, see [Introduction](#) on page 6.

4. **What is the difference of the NCL (Non-Critical Load) outlet and CL (Critical Load) outlet? Which equipment should connect to NCL outlet or CL outlets?**

The NCL outlets are only available on specific UPS models and are designed to be powered off early to maximize the battery runtime for the CL outlets. Non-critical equipment such as redundant equipment, monitors, or other non-critical equipment should be connected to the NCL outlets to be powered off early. This will maximize the battery runtime for critical equipment such as servers on the CL outlets.

5. **The UPS/Load page allows users to establish communication with the Remote by assigning the Remote's IP address. Are there other ways to establish communication?**

Communication can be established by assigning the Local's IP address on the Device Network Address section on the POWER CONFIGURATION page in the Remote.

6. **How can I make Power Master+ run a program when a particular event has occurred?**

Create a .cmd file and save it into the extcmd folder of Power Master+ installation folder. Then write a command to run your own programs into this script file. Please refer to the default.cmd in the extcmd folder to write your own script.

7. **I am not sure what the IP address of the UPS is. How can I obtain the correct IP address?**

Use the CIPCARD Network Card option software to access the web interface for the card and obtain the IP address of your UPS. For more information, refer to the UPS-SC600 CIPCARD Network Card Option User Manual (100-00098) at www.legrandav.com.

8. How do I uninstall Power Master+?

On Windows, go to Start, Control Panel, Add or Remove Programs. Click the Change/Remove button of Power Master+ to uninstall the program.

9. How can I receive a notification when a power condition has cleared?

When a power condition clears, it will broadcast a notification and also run the command file. A custom script can be created for events. The script can utilize the environment variable `EVENT_STAGE` to compare the key `OCCUR` to identify an event that has occurred or `FINISH` to identify an event that has cleared.

10. What network protocol is used in Power Master+?

SNMP is used on communications between the Remote module and your UPS with a CIPCARD Network Card option. HTTP and HTTPS are used between the Local and the Remote modules.

11. What the network ports are used by Power Master+?

Port 3052 (UDP/TCP), port 53568 (TCP), port 161 (UDP), port 162 (UDP) and port 53566 (UDP).

12. How do I ensure that the SNMP settings between the Remote module and the UPS are properly setup?

To receive the trap notification from the UPS all the time, follow steps to verify the SNMP settings:

- Open the Network, Trap Notification page on the UPS web interface and the Setting, Security page on the Remote module.
- Confirm that the IP address of the Remote module can be found on the Network, Trap Notification page of the UPS web interface. If the IP address can be searched, skip the next step.
- If the IP address of the Remote could not be found, click the Trap Receiver shortcut of the Network, Trap Notification page to enter the Trap Configuration page. Enter the required data to add a new trap receiver.
- If the IP address of the Remote could be found, verify the SNMP settings are matched.

13. How do I determine that if my computer is using hibernation or not?

If the operating system is Windows 7, Windows Server 2008, Windows 8, Windows 10, Windows Server 2012, or Windows Server 2016 please follow the below steps to enable the hibernation.

- Open the Command Prompt dialog box.
- Use the `commandpowercfg.exe -hibernate` onto enable the hibernation.

14. How do I restart the Power Master+ service?

On Windows: Restart the service from Power Master+ Service, Services, Administrative Tools in the Control Panel.

15. I cannot add the new SSL certificate into the trust list.

It's likely that duplicate alias names are in the trust list is preventing the certificate from being added.

Use the following steps to remove the certificate with the duplicate alias name from the trust list:

- a. Open a command prompt and switch to the **<Local_installation_directory>/jre/lib/security** directory:
cd <Local_installation_directory>/jre/lib/security
- b. Run the following command to remove the certificate from the trust list:
<Local_installation_directory>/jre/bin/keytool.exe -delete -alias <alias_name> -keystorecacerts
- c. Enter **changeit** as the password for the certificate removal.
- d. Enter **y** to apply the certificate removal.
- e. Restart the Local service to reload the trust list and take effect. For more information, see "How do I restart the Power Master+ service?" in [Troubleshooting](#) on page 77.

Warranty

For warranty information, refer to www.legrandav.com/policies/warranty_information.

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At Legrand AV Inc. we are always listening. Your comments are welcome.

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