PC-200/PC-300

8-Outlet Networked Energy-Monitoring Power Conditioner, Switcher, and Surge Protector

Supplemental Guide

Crestron Electronics, Inc.

Contents

PC-200/PC-300: 8-Outlet Networked Energy-Monitoring Power Conditioner, Switcher, and Surge Protector

Introduction

The Crestron® PC-200 and PC-300 are 8-outlet power conditioners, switchers, and surge protectors that monitor energy usage and allow for networked outlet control in a single-space rack mount package. The eight outlets on the rear of the PC-200 can be controlled and monitored via a web browser interface, while the eight outlets on the rear of the PC-300 can be individually controlled and monitored via the built-in LCD display or a web browser interface. The configuration options for both devices are covered in this guide.

NOTE: The PC-200 and PC-300 are functionally similar. For simplicity within this guide, the term "power conditioner" is used except where noted.

For more information on the PC-200 and PC-300, refer to the PC-200/PC-300 DO Guide (Doc. 7837) at www.crestron.com/manuals.

Configuration via the Web Browser

Both the PC-200 and PC-300 can be configured using the web-based configuration utility. The configuration utility can be accessed from a web browser if the IP address of the power conditioner is known. Web browser access enables full control over the features of the power conditioner, including settings for the username and password, the IP address, system settings, outlets, event logs, and TLS settings. This access does not allow for firmware updates. For additional information, refer to "Accessing the Configuration Utility" below and "Navigating the Configuration Utility," starting on page 4.

NOTE: Use Crestron Toolbox™ software to access firmware updates and to modify the Ethernet settings and the IP table. This access also can create a connection between the power conditioner and a control system, allowing the power conditioner to be controlled with a Crestron Studio® software program or a SIMPL Windows program. For more information, refer to the embedded Crestron Toolbox help file.

NOTE: Most pages in the PC-200 and PC-300 web configuration utilities are identical. Any differences are noted in the text.

Accessing the Configuration Utility

To access the configuration utility from a web browser:

1. Start the web browser.
2. Enter the IP address of the power conditioner in the browser URL field using an HTTPS URL scheme (https://*xxx.xxx.xxx.xx*).

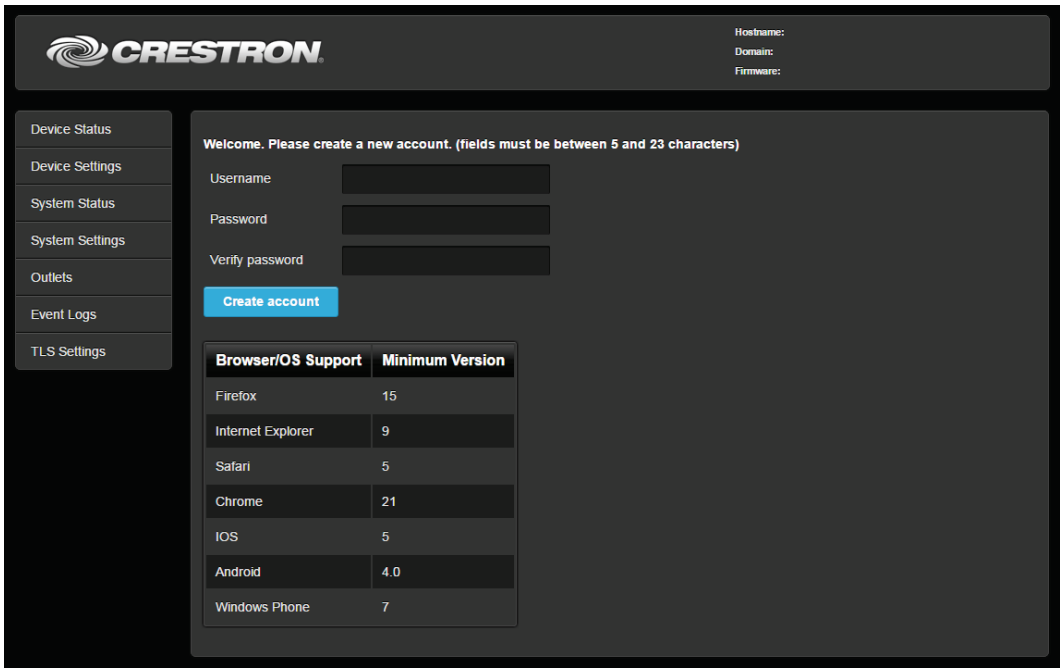
   NOTE: If the default web management port number of 443 has been changed, append the port number to the IP address by entering a colon followed by the new port number. If, for example, the IP address is 192.168.100.16 and the web management port number has been changed from 443 to 150, navigate to https://192.168.100.16:150.

   NOTE: For 48 hours after a firmware upgrade, the browser cache must be cleared after each login to the web-based configuration utility. If the cache is not cleared, the browser may not display the login page. Refer to the release notes for more details.

3. The configuration utility web server uses a self-signed certificate, which causes a browser warning to appear when loading the page. Authorize the certificate using the browser's process for certificate authorization to continue.
4. When the power conditioner configuration utility is accessed for the first time, the user is prompted to create a new account. Enter a username and password in the appropriate fields, and then reenter the password in the Verify password field.

   NOTE: Both the username and password are case sensitive.

Create New Account Page

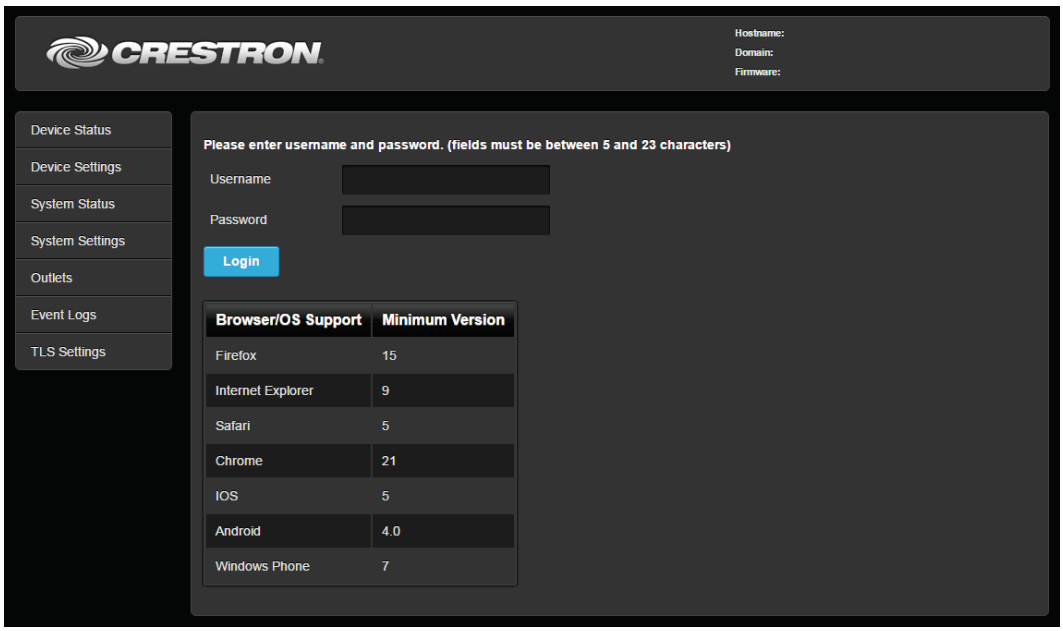


NOTE: The **Create New Account** page and the **Login** page list the minimum versions of browsers and operating systems that are supported by the web-based configuration.

5. Click **Create Account**.

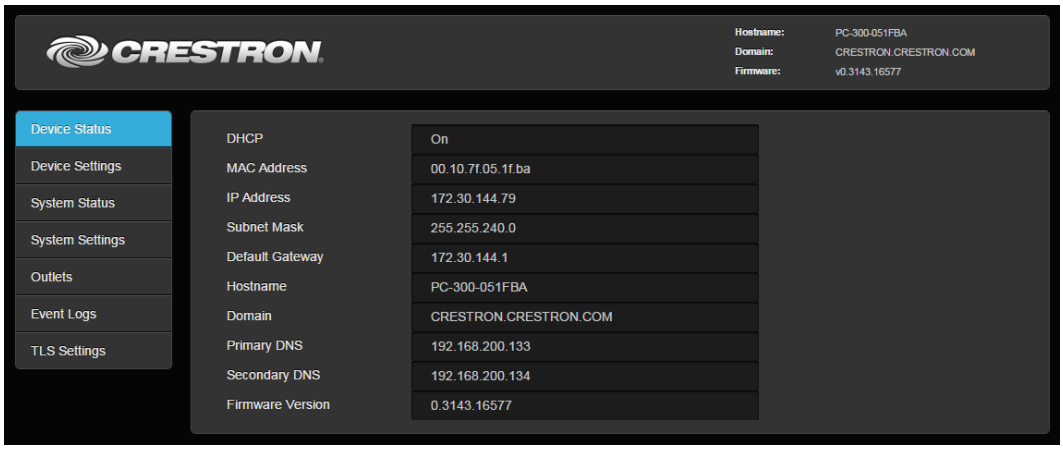
After a user account has been created, the **Login** page will display each time the configuration utility is accessed. Enter the corresponding username and password to log in to the utility.

Login Page



If the login is successful, the **Device Status** page (the utility's default page) displays.

Device Status Page (Default)



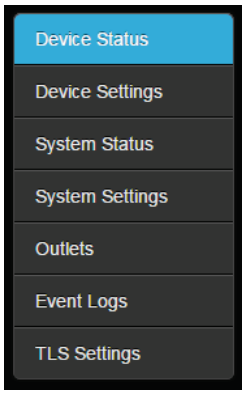
CAUTION: Do not lose the username or password for the configuration utility account. If the username or password is lost, the power conditioner must be restored to factory settings.

Navigating the Configuration Utility

Use the navigation menu on the left side of the page to navigate the configuration utility. The menu is always visible on the left side of the page, with the selected screen highlighted in blue. The menu provides seven selections:

- Device Status
- Device Settings
- System Status
- System Settings
- Outlets
- Event Logs
- TLS Settings

Navigation Menu

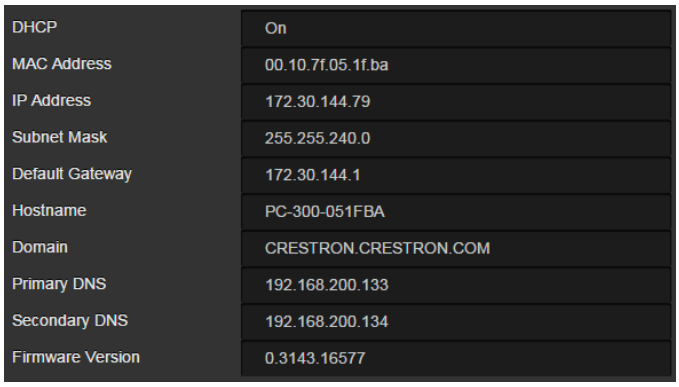


The **Device Status** page is the default page that appears upon logging in.

Device Status

Select **Device Status** from the navigation menu to display connection information about the power conditioner. The following image shows an example of a typical **Device Status** page. These settings are configured using the **Device Settings** page (refer to page 6).

Device Status Page



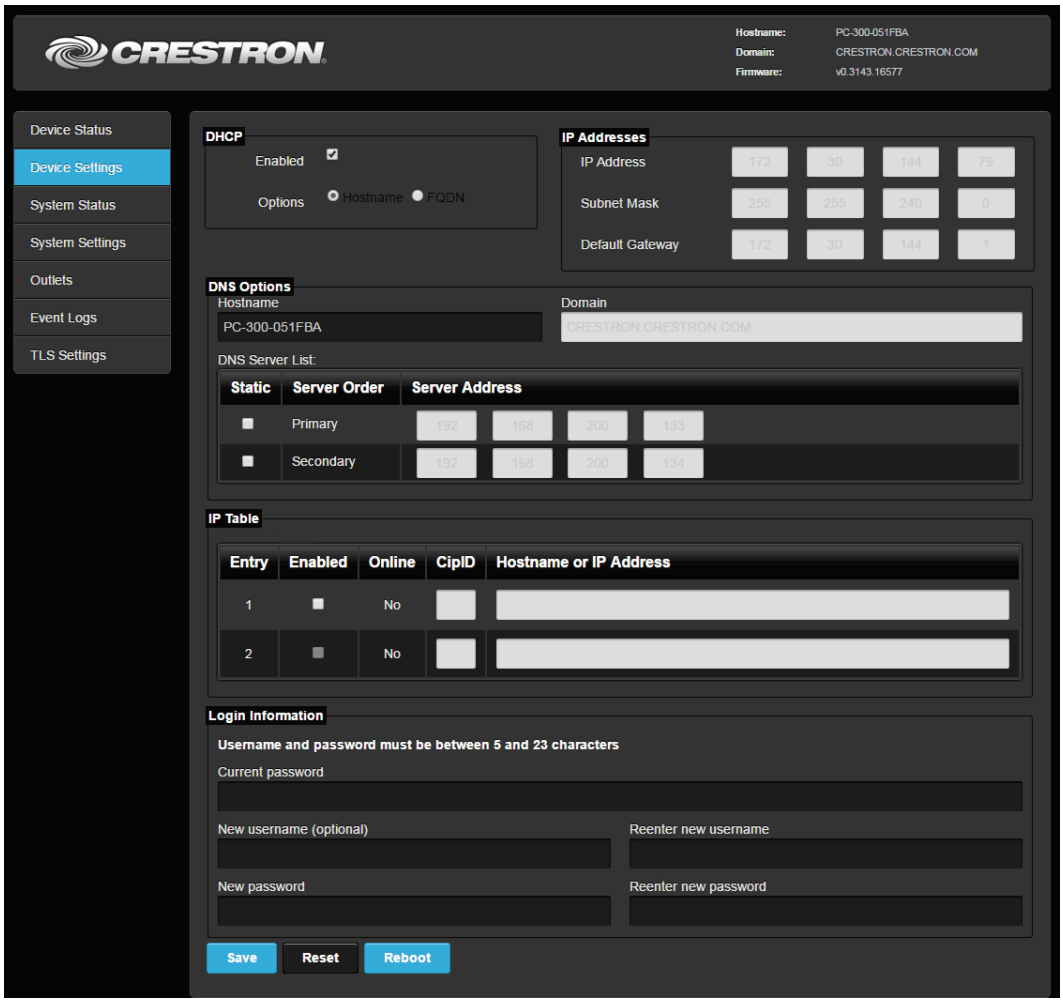
The **Device Status** page displays the following information:

- **DHCP:** Displays whether DHCP is turned on or off (The default setting is on.)
- **MAC Address:** Displays the unique MAC address assigned to each power conditioner
- **IP Address:** Displays the IP address assigned to the power conditioner (The default IP address is "0.0.0.0".)
- **Subnet Mask:** Displays the address code that determines the size of the network
- **Default Gateway:** Displays the address of the device that forwards Internet traffic from the local area network (LAN)
- **Hostname:** Displays the hostname of the power conditioner
- **Domain:** Displays the domain name set by DHCP or set by the user (There is no default value.)
- **Primary DNS:** Displays the DNS used to resolve the domain name to an IP address
- **Secondary DNS:** Displays the DNS used if the primary DNS fails
- **Firmware Version:** Displays the version of the firmware installed on the power conditioner

Device Settings

Select **Device Settings** from the navigation menu to make changes to the DHCP settings, the IP addresses, the DNS settings, the IP table, and login information or to reboot the power conditioner.

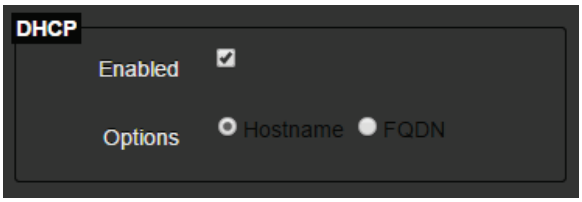
Device Settings Page



DHCP

The default configuration of the power conditioner allows its IP address to be assigned automatically by a DHCP (Dynamic Host Configuration Protocol) server on the local area network. If a DHCP server does not exist on the network and two minutes have elapsed since power was applied to the power conditioner, the IP address defaults to "0.0.0.0." Edit the DHCP settings in the **DHCP** section of the **Device Settings** page.

Device Settings - DHCP



The following options are available:

- **Enabled:** Toggles whether DHCP is enabled or not on the power conditioner

  If this check box is checked, an IP address is obtained from a DHCP server. If DHCP is enabled, IP does not function until a reply has been received from the server. Requests are broadcasted periodically by the power conditioner for an IP address. DHCP values can include the IP address, the subnet mask, and the default gateway.

  NOTE: If DHCP is enabled, users cannot manually change the IP address, the subnet mask, the default gateway, or the domain name.

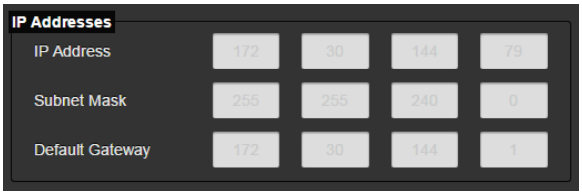
- **Options:** Sets whether to use a **Hostname** or a **FQDN** (fully qualified domain name)

Click **Save** at the bottom of the page to save the configuration. Click **Reset** to clear any pending changes.

IP Addresses

IP addresses can be configured manually only if DHCP is disabled. To configure manual IP settings, set an IP address and a subnet mask that are compatible with the network. Establishing a default gateway between the power conditioner and management sections that exist on another network segment may also be necessary. An IP address may be used for management access to the power conditioner over the network. Edit these settings in the **IP Addresses** section of the **Device Settings** page.

Device Settings - IP Addresses



The following IP address settings can be configured:

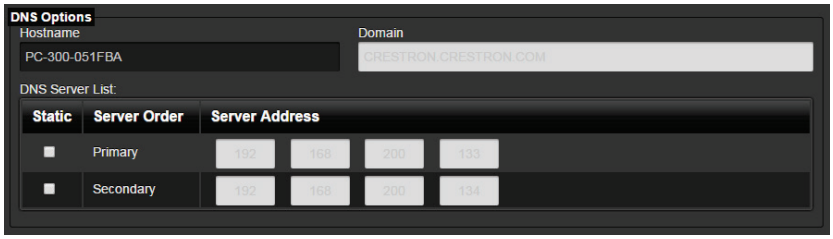
- **IP Address:** Address of the VLAN (virtual LAN) interface that is allowed management access (Valid IP addresses consist of four octets, 0 to 255, separated by periods; the default is "0.0.0.0".)
- **Subnet Mask:** This mask identifies the host address bits used for routing to specific subnets (The default is "255.255.255.0".)
- **Default Gateway:** The IP address of the gateway router between this device and management stations that exist on other network segments (The default is "0.0.0.0".)

Click **Save** at the bottom of the screen to save the configuration. The power conditioner must be restarted for the changes to take effect. Click **Reset** to clear any pending changes.

DNS Options

Use the **DNS Options** section of the **Device Settings** page to change the hostname, the domain name, and the primary and secondary DNS addresses.

Device Settings - DNS Options



The following settings can be configured:

- **Hostname:** Displays the hostname of the power conditioner
- **Domain:** Displays the fully qualified domain name consisting of the hostname and the DNS suffix
- **Primary DNS:** Sets the DNS (Domain Name Server) used to resolve the domain name to an IP address (The default is "0.0.0.0".)
- **Secondary DNS:** Sets the DNS used if the Primary DNS fails (The default is "0.0.0.0".)
- **Static:** Toggles whether DNS servers are automatically or manually added to the power conditioner

  If these check boxes are checked, DNS servers can be entered manually. If this option is not selected, the power conditioner uses DNS servers received using DHCP.

Click **Save** at the bottom of the page to save changes to these settings. The power conditioner must be restarted for the changes to take effect. Click **Reset** to clear any pending changes.

IP Table

Use the **IP Table** section of the **Device Settings** page to set up a connection between a control system and the power conditioner.

Device Settings - IP Table

The following settings can be configured or viewed:

- **Entry:** Specifies an entry number for the control system
- **Enabled:** Toggles whether or not control system access is enabled for the power conditioner

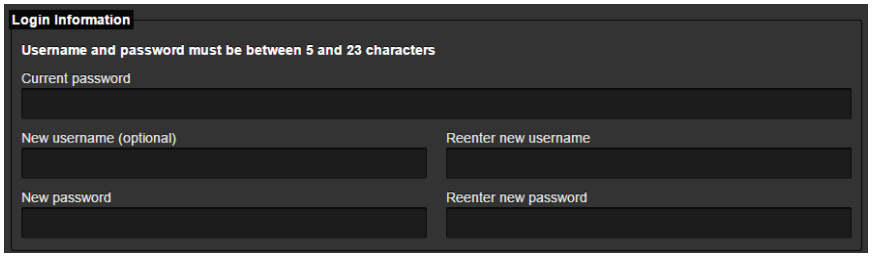
  If this check box is checked, the power conditioner will be able to connect to the control system specified in the corresponding **Hostname or IP Address** field.
- **Online:** Indicates whether the control system is online ("Yes" indicates that the control system is online, while "No" indicates that it is not.)
- **CipID:** Sets the CIP ID associated with the control system in hexadecimal notation (Valid values range from 0x03 to 0xFE.)
- **Hostname or IP Address:** Sets the hostname or IP address of the control system to be accessed

Click **Save** at the bottom of the page to save changes to these settings. The power conditioner must be restarted for the changes to take effect. Click **Reset** to clear any pending changes.

Login Information

Configure username and password settings in the **Login Information** section of the **Device Settings** page.

Device Settings - Login Information



NOTE: Both the username and password are case sensitive.

To change the username, enter a new username into both username fields. The two fields must match, and the proposed username must be between 5 and 23 characters long.

To change the password, enter a new password into both password fields. The two fields must match, and the proposed password must be between 5 and 23 characters long.

Click **Save** to save changes to the username and password. After the new username or password is saved, the connection to the power conditioner is reset, and it must be restarted. Click **Reboot** and log in using the new login information. Attempting to change any other settings before restarting the power conditioner results in an error message. Click **Reset** to clear any pending changes.

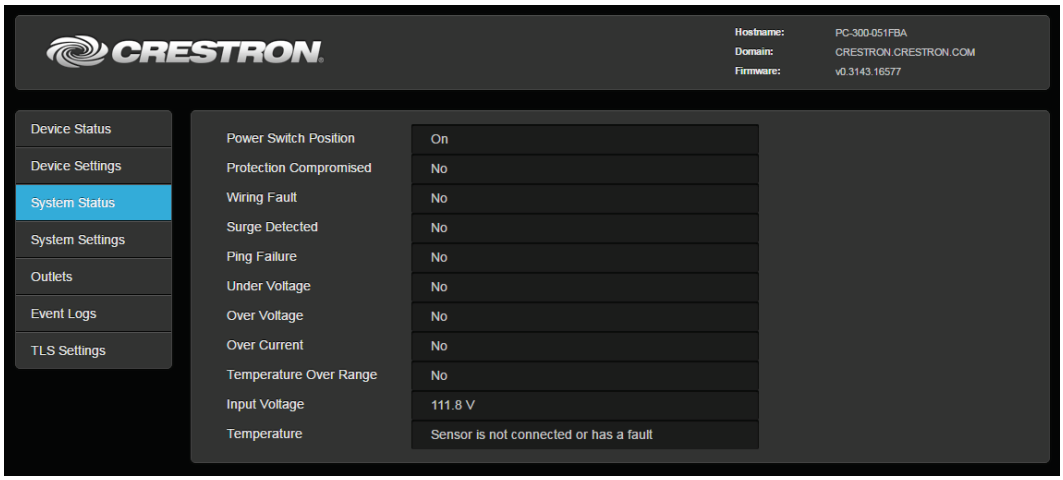
Reboot

The **Device Settings** page contains a **Reboot** button to restart the power conditioner remotely.

System Status

Select **System Status** from the navigation menu to display system information about the power conditioner. The following illustration shows an example of a typical **System Status** page. These settings are configured using the **Systems Settings** page (refer to page 11).

System Status Page



The **System Status** page displays the following information:

NOTE: This page updates automatically every ten seconds.

- **Power Switch Position:** Displays whether the front panel switch is set to on or off
- **Protection Compromised:** Displays whether or not surge protection on the power conditioner has been compromised
- **Wiring Fault:** Displays whether or not there is a fault in the power conditioner's wiring
- **Surge Detected:** Displays whether or not a power surge is detected by the power conditioner
- **Ping Failure:** Displays whether or not there has been a ping monitor failure during an attempt to access a connected device
- **Under Voltage:** Displays whether or not the voltage level on the ac input has gone under the set limit
- **Over Voltage:** Displays whether or not the voltage level on the ac input has gone over the set limit
- **Over Current:** Displays whether the current level on the ac outputs has gone over the set limit
- **Temperature Over Range:** Displays whether or not the power conditioner temperature has gone over the set limit
- **Input Voltage:** Displays the current input voltage level
- **Temperature:** Displays the current power conditioner temperature (in Celsius and Fahrenheit)

The System Status page shows whether any of the power conditioner's device limits have been exceeded or if a surge has been detected. Refer to the following operational notes regarding device limits for more information.

- Once a surge is detected, the SIMPL Windows signal and the web page status remain active until either the front panel switch is cycled or the "Cycle all outlets" signal is activated. Surge events will continue to be entered into the event log as they occur.
- If the voltage level drops below the undervoltage cutoff point, the hysteresis needed to restore operation is calculated using the following algorithm, which is based on the last system load current value ("amps" in the algorithm) that is recorded immediately before an undervoltage event forces a shutdown:

  Hysteresis = MAX (4, amps x 0.4 + 1)

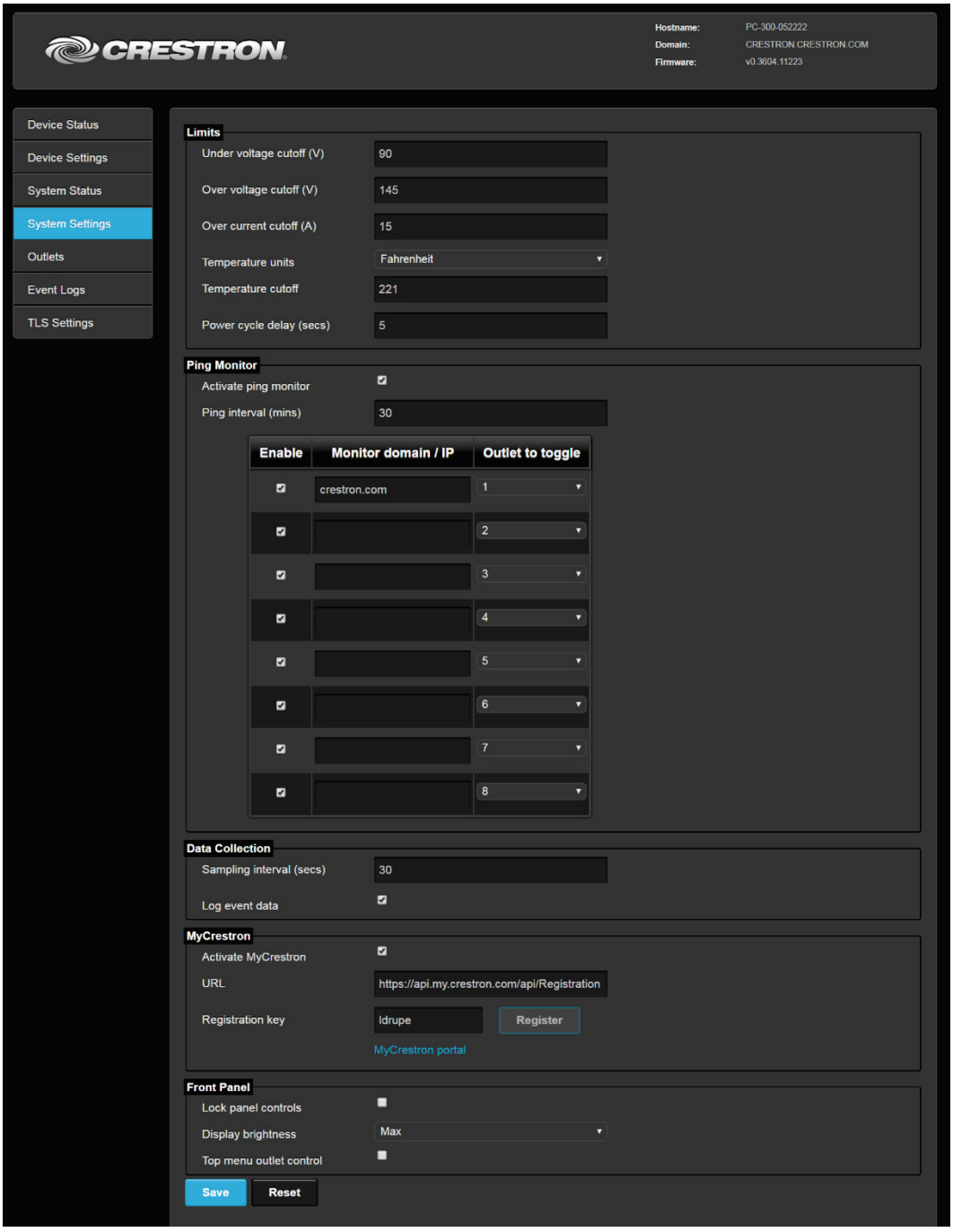
  Higher loads require more hysteresis to compensate for the voltage drop when the system is switched back on. Using this algorithm, the undervoltage hysteresis is constrained to a range between 4 V and 7 V depending on the load current, and it is calculated as the larger of the two possible values in the algorithm (4 V or [amps x 0.4 + 1] V). For example, if the load current value is recorded at 12 amps prior to the undervoltage event, the undervoltage hysteresis needed to restore operation is calculated as 12 x 0.4 + 1 = 5.8 V.

  If the undervoltage cycles four times within 15 seconds, the power conditioner stops attempting to automatically power back on, as there is insufficient headroom between the line voltage and the configured undervoltage cutoff. Reset the power conditioner by cycling the front panel switch.
- The overvoltage setting has a 4.5 V hysteresis. If the voltage level exceeds the overvoltage cutoff point, power to the controlled outlets is switched off until the input voltage is at least 4.5 V less than the overvoltage cutoff.
- Once an overcurrent condition occurs, the power conditioner remains in shutdown mode until the front panel switch is cycled.
- Once a temperature overrange condition occurs, the temperature must drop two degrees Celsius below the temperature cutoff setting before power is restored to the controlled outlets.

System Settings

Select **System Settings** from the navigation menu to make changes to the device limits, the ping monitor settings, the data collection settings, and the front panel settings (PC-300 only). The **System Settings** page can also be used to register the power conditioner with the MyCrestron Dynamic DNS service.

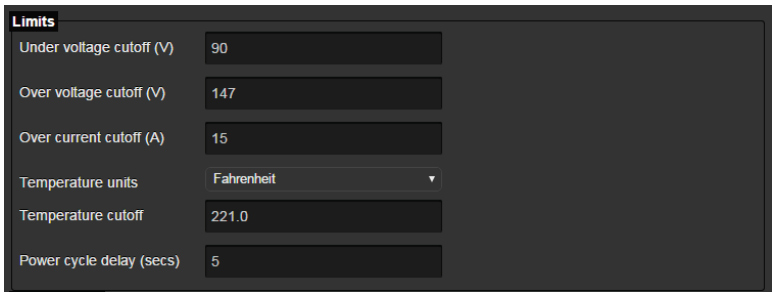
System Settings Page (PC-300)



Limits

Use the **Limits** section of the **System Settings** page to set various system limits for the power conditioner.

System Settings - Limits



The following settings can be configured:

- **Under voltage cutoff (V):** Sets the undervoltage cutoff in volts (The power conditioner shuts off power to the ac outputs when the ac input voltage is detected to have gone under this number.)
- **Over voltage cutoff (V):** Sets the overvoltage cutoff in volts (The power conditioner shuts off power to the ac outputs when the ac input voltage is detected to have gone over this number.)
- **Over current cutoff (A):** Sets the overcurrent cutoff in amperes (The power conditioner shuts off if the combined amperes of the ac outputs are detected to have gone over this number.)
- **Temperature units:** Selects the unit of measurement for the power conditioner temperature (Celsius or Fahrenheit)
- **Temperature cutoff**: Sets the temperature cutoff in the selected unit of measurement (The power conditioner shuts off if its temperature is detected to have gone over this number.)
- **Power cycle delay (secs):** Sets the duration that the power to an outlet cycles off before powering back on in seconds

Click **Save** at the bottom of the page to save the configuration. Click **Reset** to clear any pending changes.

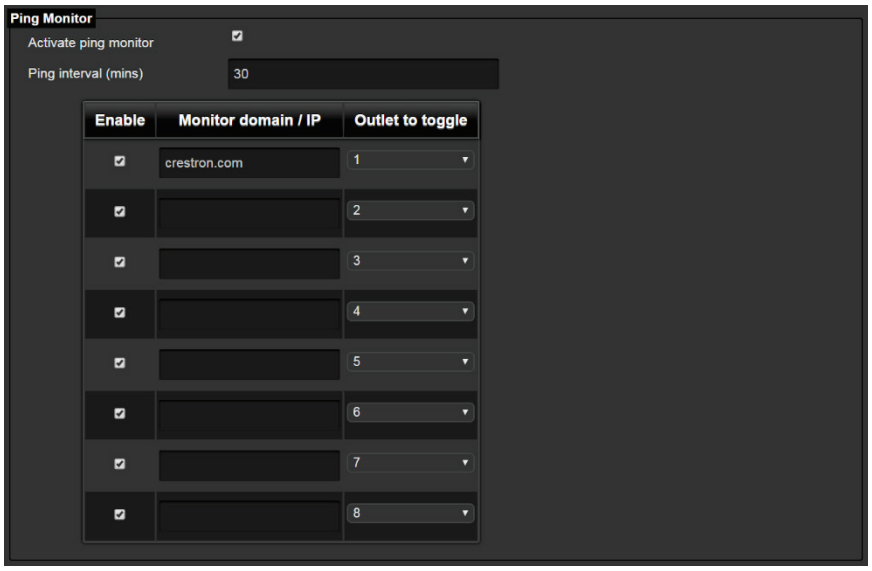
Ping Monitor

Use the **Ping Monitor** section of the **System Settings** page to configure the ping monitor settings for the power conditioner. For the PC-300, each of the eight outlets can be assigned to ping a different device domain/IP. For the PC-200, outlets 1–6 can be assigned to ping a different device domain/IP.

When activated, the ping monitor pings the device connected to a chosen outlet and waits for a response. During every interval, up to four ping attempts are made. If the device does not respond after four attempts, the power is cycled for the associated outlet, which forces a reboot of the hardware that has locked up or become otherwise unresponsive.

NOTE: The ping monitor is temporarily inactive when the associated outlet is switched off manually.

System Settings - Ping Monitor (PC-300)



The following settings can be configured:

- Activate ping monitor: Toggles whether or not the power conditioner's ping monitor is enabled

  If this check box is checked, the power conditioner pings the chosen device's domain name or IP address at a set interval.

- Ping interval (mins): Sets the polling interval between pings in minutes
- Enable: Toggles whether or not ping monitoring is enabled for the outlet selected in the Outlet to toggle column
- Monitor domain / IP: Sets the device hostname or IP address of the device selected for ping monitoring
- Outlet to toggle: Selects the rear outlet of the power conditioner to ping

Click Save at the bottom of the screen to save the configuration. Click Reset to clear any pending changes.

Data Collection

Use the Data Collection section of the System Settings page to configure the data collection settings for the power conditioner.

System Settings - Data Collection

The following settings can be configured:

- Sampling interval (secs): Sets the sampling interval between when event logs are recorded in seconds (The Log event data option must be selected.)
- Log event data: Toggles whether or not data logging is enabled on the power conditioner

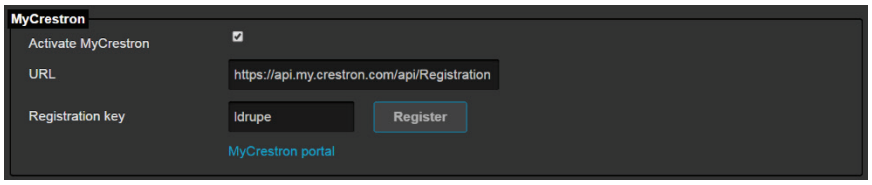
If this check box is checked, the power conditioner logs event data. For more information, refer to "Event Logs" on page 19.

Click **Save** at the bottom of the page to save the configuration. Click **Reset** to clear any pending changes.

MyCrestron

Use the **MyCrestron** section of the **System Settings** page to register the power conditioner with the MyCrestron Dynamic DNS service.

System Settings - MyCrestron



The following settings can be configured

- **Activate MyCrestron:** Toggles whether or not the MyCrestron service is enabled for the power conditioner
- **URL:** Provides a registration URL for registering the device with a MyCrestron account
- **Registration key:** Provides a registration key that is used to register the device with a MyCrestron account

Click **Register** to generate a registration key if one is not provided in the **Registration key** text box.

Additionally, click **MyCrestron portal** to open the MyCrestron portal and to complete the device registration process. For more information on registering the power conditioner with MyCrestron, refer to "Appendix B: Registering the Device with MyCrestron," starting on page 40.

Front Panel (PC-300 Only)

Use the **Front Panel** section of the **System Settings** page to configure the front panel settings for the PC-300.

System Settings - Front Panel

The following settings can be changed:

- **Lock panel controls:** Toggles whether or not the front panel controls of the PC-300, including the LCD display, are locked
- **Display brightness:** Selects the brightness of the front LCD display (Max, Dim, and Off)

- **Top menu outlet control:** Toggles whether or not the **Outlets** menu option, which enables outlet power control, is added to the main menu of the device's LCD display

  For more information on this menu option, refer to page 34.

Click **Save** at the bottom of the screen to save the configuration. Click **Reset** to clear any pending changes.

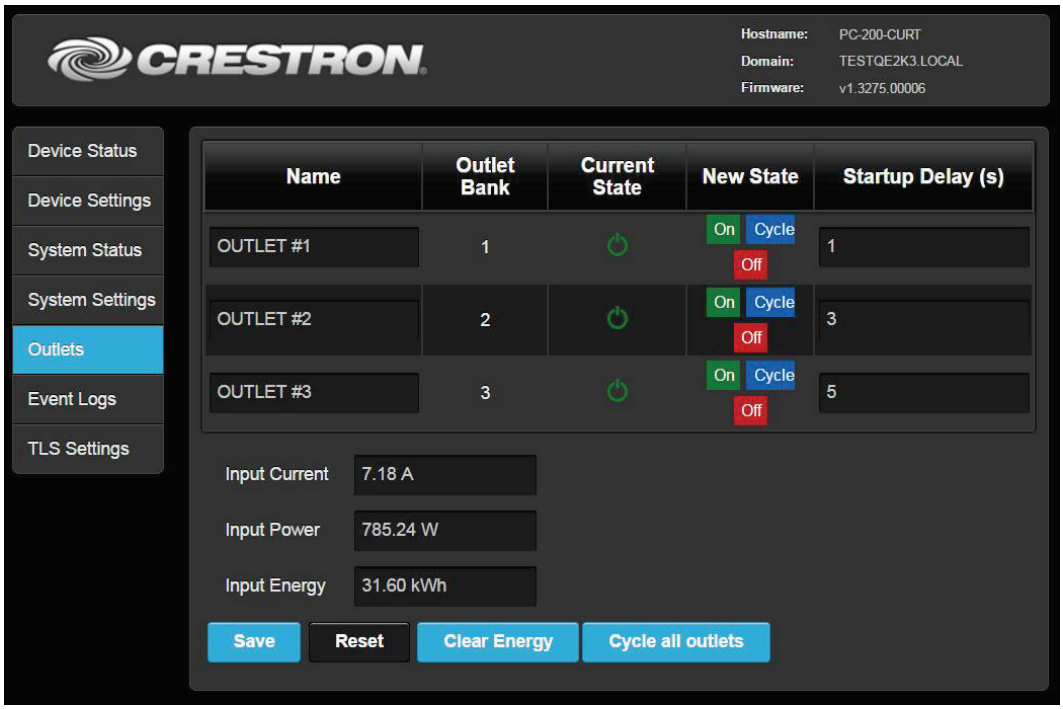
Outlets

Select **Outlets** from the navigation menu to name, to monitor, and to activate/deactivate the outlets on the power conditioner. The **Outlets** page differs between the PC-200 and the PC-300. These differences are described in the following sections.

Outlets (PC-200)

The **Outlets** page for the PC-200 provides options to control and monitor the rear outlets per outlet bank.

Outlets Page (PC-200)



Information about the outlet banks is displayed in a table format. The following settings can be changed or viewed:

NOTE: The front outlet is always powered on and cannot be controlled like the rear outlet banks.

- **Name:** Sets a user-defined name for the selected outlet bank (15-character limit)
- **Outlet Bank:** Displays the outlet bank number that corresponds with the outlet bank on the device

- **Current State:** Displays the power status of the selected outlet bank (A green power icon () displays if the outlet is powered on, while a red "X" icon () displays if the outlet is powered off.)
- **New State:** Provides options for controlling the power of the rear outlet banks

  Click one of the following options to control the power status of the selected outlet bank:

  - **On:** Powers the selected outlet bank on
  - **Cycle:** Cycles the selected outlet bank's power off and then back on

    NOTE: Use the Power cycle delay setting described on page 13 to set the duration that the power cycles off before powering back on.

  - **Off:** Powers the selected outlet bank off
- **Startup Delay (s):** Sets the time that it takes for the selected outlet to receive power after the device is powered on in seconds

Click **Save** at the bottom of the screen to save the configuration. Click **Reset** to clear any pending changes.

The following settings are also available:

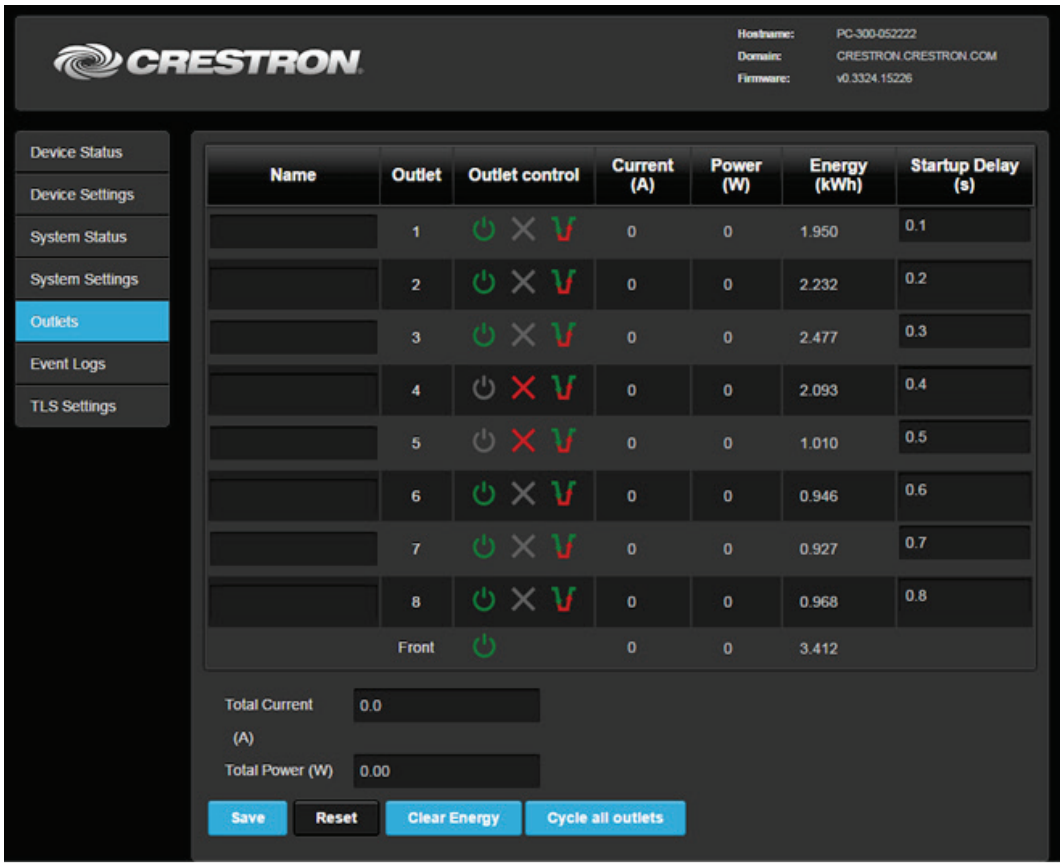
- **Input Current:** Displays the combined current level of all outlet banks in amperes
- **Input Power:** Displays the combined power level of all outlet banks in watts
- **Input Energy:** Displays the combined energy level of all outlet banks in kilowatt hours
- **Clear Energy:** When clicked, clears the energy readings for all outlets
- **Cycle all outlets:** When clicked, cycles the power for all outlet banks

  The device powers the outlet banks off for the time specified in the **Power cycle delay** setting (refer to page 13), and then powers the outlet banks back on using the **Startup Delay** times specified on this page.

Outlets (PC-300)

The **Outlets** page for the PC-300 provides options to individually control and monitor the rear outlets.

Outlets Page (PC-300)



Information about the outlets is displayed in a table format. The following settings can be changed or viewed:

NOTE: The front outlet is always powered on and cannot be controlled like the rear outlets.

- **Name:** Sets a user-defined name for the selected outlet (15-character limit)
- **Outlet:** Displays the outlet number that corresponds with the outlet number on the device
- **Outlet Control:** Displays the power status of the selected outlet (A green power icon (⏻) displays if the outlet is powered on, while a red "X" icon (✕) displays if the outlet is powered off.)

  Additionally, the power icons can be used to control the power of the rear outlets. Click one of the following icons to the control the power status of the selected outlet:

  - ⏻ **(On):** Powers the selected outlet on
  - ✕ **(Off):** Powers the selected outlet off
  - **(Cycle):** Cycles the selected outlet's power off and then back on

NOTE: Use the Power cycle delay setting described on page 13 to set the duration that the power cycles off before powering back on.

- **Current (A):** Displays the current level of the selected outlet in amperes
- **Power (W):** Displays the power level of the selected outlet in watts
- **Energy (Wh):** Displays the energy level of the selected outlet in kilowatt hours
- **Startup Delay (s):** Sets the time that it takes for the selected outlet to receive power after the device is powered on in seconds

Click **Save** at the bottom of the screen to save the configuration. Click **Reset** to clear any pending changes.

The following settings are also available:

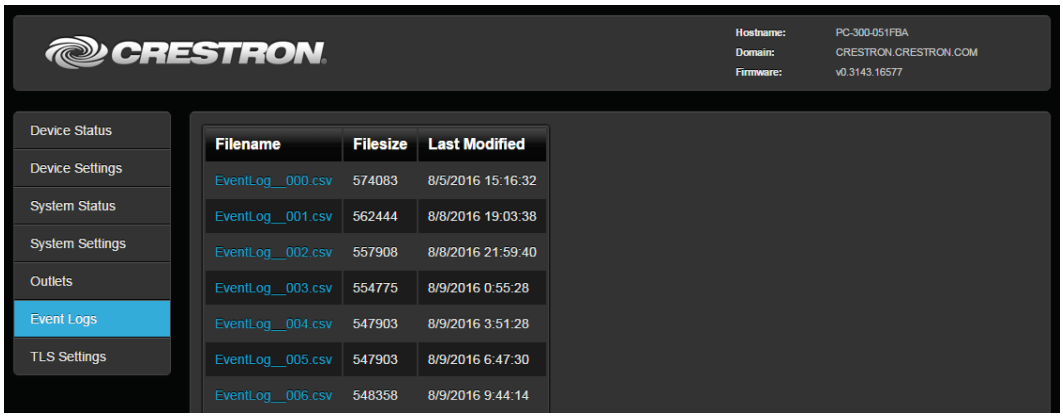
- **Total Current (A):** Displays the combined current level of all outlets in amperes
- **Total Power (W):** Displays the combined power level of all outlets in watts
- **Clear Energy:** When clicked, clears the energy readings for all outlets
- **Cycle all outlets:** When clicked, cycles the power for all outlets

  The device powers the outlets off for the time specified in the **Power cycle delay** setting (refer to page 13), and then powers the outlets back on using the **Startup Delay** times specified on this page.

Event Logs

Select **Event Logs** from the navigation menu to access the power conditioner's event logs if event logging is activated. For more information on activating event logging, refer to "Data Collection" on page 14.

Event Logs Page



Event logs are recorded at a set interval by the power conditioner as .csv files that can be viewed in a spreadsheet program. The **Event Logs** page contains a list of event logs with the following information:

- **Filename:** Displays the file name of the selected event log (Click the file name to download the corresponding .csv file to the computer.)
- **Filesize:** Displays the file size of the selected event log (in bytes)

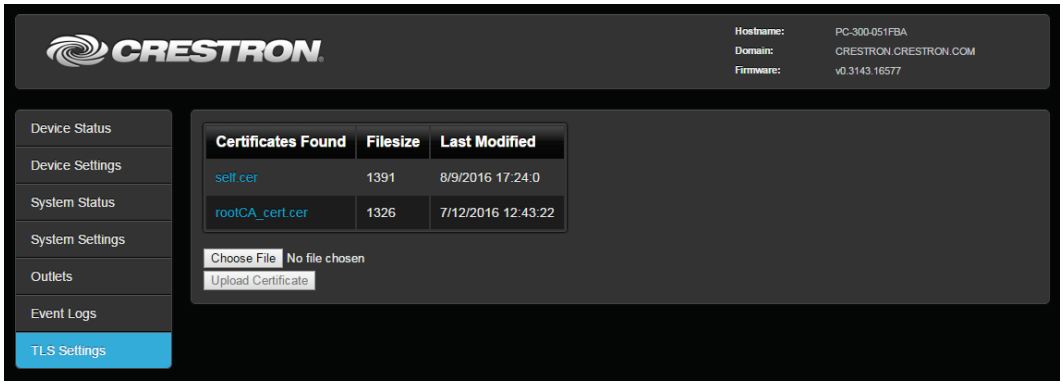
- **Last Modified:** Displays the date and time (in MM/DD/YYYY hh:mm:ss format) that the selected event log was last modified

NOTE: Event logs can be customized further using the SIMPL Debugger program in Crestron Toolbox. For more information on using SIMPL Debugger, refer to the embedded Crestron Toolbox help file.

TLS Settings

Select **TLS Settings** from the navigation menu to load and view the power conditioner's security certificates.

TLS Settings Page



Click **Choose File** to choose a certificate file to upload to the power conditioner. Once a file is selected, click **Upload Certificate** to upload that certificate file to the power conditioner.

NOTE: The selected file must be in a valid TLS (Transport Layer Security) certificate file format (such as a .cer file).

The **TLS Settings** page contains a list of uploaded certificates with the following information.

- **Certificates Found:** Displays the file name of the selected certificate (Click the file name to download the corresponding certificate to the computer.)
- **Filesize:** Displays the file size of the selected event log (in bytes)
- **Last Modified:** Displays the date and time (in MM/DD/YYYY hh:mm:ss format) that the selected certificate was last modified

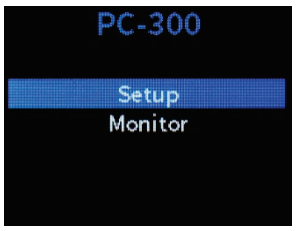
Configuration via the LCD Display (PC-300)

Settings for the PC-300 can also be configured using the PC-300's Nav Pad and LCD display on the front of the unit.

To access the LCD display's setup screens, complete the following steps:

1. Power on the PC-300. The **PC-300** screen displays (this is the display's default screen).

   PC-300 Screen

2. Select **Setup**. The **PassCode** screen displays.

   PassCode Screen

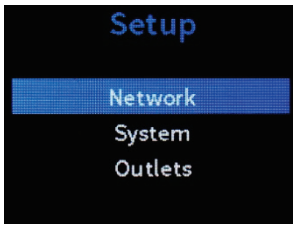
   

3. The default passcode is "0000." Press the center button on the Nav Pad to enter the code.

   NOTE: For security purposes, creating a new passcode is strongly recommended. Navigate to **Setup** > **System** > **Passcode** to create a new passcode, which is explained in more detail on page 32.

4. The **Setup** screen displays.

   Setup Screen

Use the LCD display setup screens to configure various settings for the PC-300. The **Setup** screen is divided into three sections:

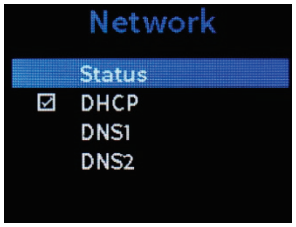
- **Network:** Configures the network connection settings
- **System:** Configures various system settings
- **Outlets:** Controls the status and the start-up delay settings of the rear outlets

Press up or down on the Nav Pad to highlight a desired selection, and then press the center button of the Nav Pad to make that selection. Press HOME at any time to return to PC-300 screen. Press BACK at any time to return to the previous screen.

Network

Select Network from the Setup menu to make changes to the DHCP settings, the control system connection settings, and the DNS server settings. This screen can also be used to view the network status.

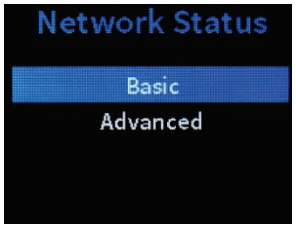
Network Screen



Network Status

Select Status from the Network menu to display the Network Status screen.

Network Status Screen

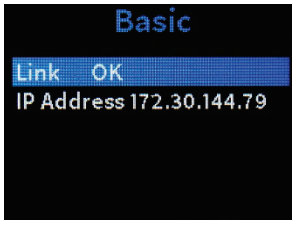


This screen provides connection information about the PC-300. Select Basic to view basic connection status information or select Advanced to see more comprehensive connection status information.

Basic

Select Basic from the Network Status menu to display the Basic status screen.

Basic Screen



The **Basic** screen displays the following information:

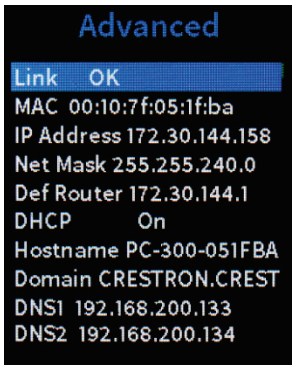
- **Link:** Shows the status of the Ethernet network
- **IP Address:** Displays the IP address assigned to the PC-300 (The default IP address is "0.0.0.0".)

Press **BACK** to return to the previous screen.

Advanced

Select **Advanced** from the **Network Status** menu to display the **Advanced** status screen.

Advanced Screen



The **Advanced** screen displays the following information:

- **Link:** Shows the status of the Ethernet network
- **MAC:** Displays the unique MAC address assigned to the PC-300
- **IP Address:** Displays the IP address assigned to the PC-300 (The default IP address is "0.0.0.0".)
- **Net Mask:** Displays the address code that determines the size of the network
- **Def Router:** Displays the address of the device that forwards Internet traffic from the local area network
- **DHCP:** Displays whether DHCP is on or off (The default setting is on.)
- **Hostname:** Displays the hostname of the PC-300
- **Domain:** Displays the domain name set by DHCP or set by the user (There is no default value.)
- **DNS1:** Displays the primary DNS used to resolve the domain name to an IP address
- **DNS2:** Displays the secondary DNS used if the primary DNS fails

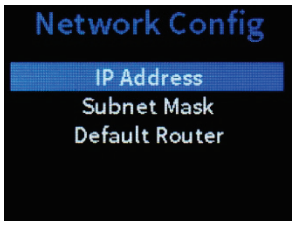
Press **BACK** to return to the previous screen.

DHCP/Network Configuration

The default configuration of the device allows its IP address to be assigned automatically by a DHCP (Dynamic Host Configuration Protocol) server on the local area network. If a DHCP server does not exist on the network and two minutes have elapsed since power was applied to the device, the IP address of the PC-300 defaults to "0.0.0.0."

Select **DHCP** from the **Network** menu to toggle whether DHCP is on or off. A check mark next to the **DHCP** menu option indicates that DHCP is turned on (the default setting). If DHCP is turned off, the **Network Config** screen displays.

Network Config Screen



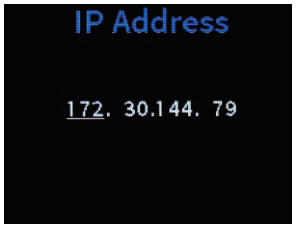
Use the following menu options to manually configure the PC-300's connection settings when DHCP is turned off.

NOTE: The PC-300's hostname and domain name can be configured only through the Text Console program in Crestron Toolbox.

IP Address

Select **IP Address** from the **DHCP Off** menu to display the **IP Address** screen.

IP Address Screen



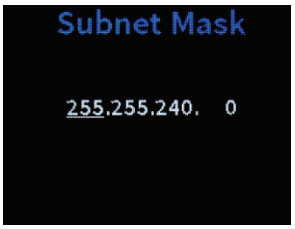
Use this screen to enter an IP address of the VLAN (virtual LAN) interface that is allowed management access.

- Press up or down on the Nav Pad to set the octets of the IP address.
- Press left or right on the Nav Pad to move the cursor between octets.
- Press the center button on the Nav Pad to save the new IP address and to return to the previous screen.
- Press **BACK** to cancel and to return to the previous screen.

Subnet Mask

Select **Subnet Mask** from the **DHCP Off** menu to display the **Subnet Mask** screen.

Subnet Mask Screen



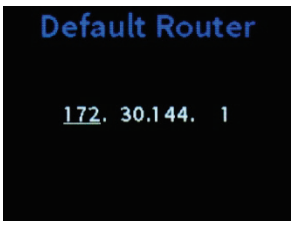
Use this screen to enter a subnet mask address for the PC-300. This mask identifies the host address bits used for routing to specific subnets.

- Press up or down on the Nav Pad to set the octets of the subnet mask.
- Press left or right on the Nav Pad to move the cursor between octets.
- Press the center button on the Nav Pad to save the new subnet mask and to return to the previous screen.
- Press **BACK** to cancel and to return to the previous screen.

Default Router

Select **Default Router** from the **DHCP Off** menu to display the **Default Router** screen.

Default Router Screen



Use this screen to enter the IP address of the gateway router between the PC-300 and management stations that exist on other network segments.

- Press up or down on the Nav Pad to set the octets of the default router.
- Press left or right on the Nav Pad to move the cursor between octets.
- Press the center button on the Nav Pad to save the new default router and to return to the previous screen.
- Press **BACK** to cancel and to return to the previous screen.

DNS 1

Select DNS 1 from the Network menu to display the DNS 1 screen.

DNS 1 Screen

Use this screen to set the primary DNS used to resolve the domain name to an IP address.

- Press up or down on the Nav Pad to set the octets of the DNS.
- Press left or right on the Nav Pad to move the cursor between octets.
- Press the center button on the Nav Pad to save the new DNS and to return to the previous screen.
- Press BACK to cancel and to return to the previous screen.

DNS 2

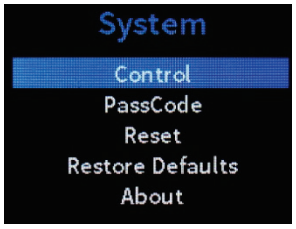
Select DNS 2 from the Network menu to display the DNS 2 screen.

Use this screen to set the DNS used to resolve the domain name to an IP address if the primary DNS fails. The secondary DNS is set the same way that DNS 1 is set.

System

Select System from the Setup menu to make changes to the system settings. This screen can also be used to set a new passcode, to reset the PC-300, to restore all settings to their default values, and to view information about the PC-300.

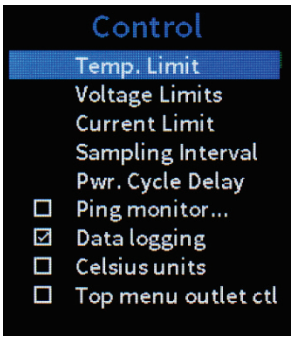
System Screen



Control

Select **Control** from the **System** menu to display the **Control** menu screen.

Control Screen



This screen configures various system settings for the PC-300, including temperature limits, voltage limits, current limits, sampling intervals, and power cycle delay times. This screen also enables or disables ping monitoring, data logging, Celsius units, and the top menu outlet control.

Temperature High Limit

Select **Temp. Limit** from the **Control** menu screen to display the **Temperature High Limit** screen.

Temperature High Limit Screen

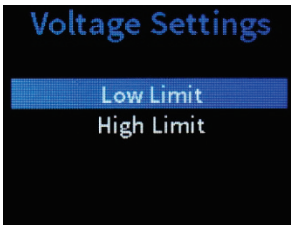
Use this screen to set the temperature cutoff in the selected unit of measurement. The PC-300 shuts off if its temperature is detected to have gone over this number.

- Press the up and down buttons on the Nav Pad to select the temperature cutoff value.
- Press the center button on the Nav Pad to save the new temperature cutoff and to return to the previous screen.
- Press **BACK** to cancel and to return to the previous screen.

Voltage Settings

Select **Voltage Limits** from the **Control** menu screen to display the **Voltage Settings** screen.

Voltage Settings Screen



Select **Low Limit** to set the undervoltage cutoff for the device in volts. The PC-300 shuts off power to the ac outputs when the ac input voltage is detected to have gone under this number.

Select **High Limit** to set the overvoltage cutoff for the device in volts. The PC-300 shuts off power to the ac outputs when the ac input voltage is detected to have gone over this number.

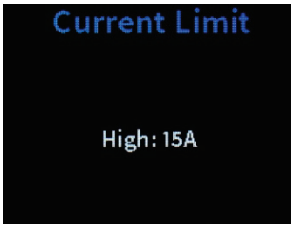
Voltage Limit Screen

- Press the up and down buttons on the Nav Pad to select the voltage cutoff value.
- Press the center button on the Nav Pad to save the new voltage cutoff and to return to the previous screen.
- Press **BACK** to cancel and to return to the previous screen.

Current Limit

Select **Current Limit** from the **Control** menu screen to display the **Current Limit** screen.

Current Limit Screen



Use this screen to set the overcurrent cutoff, in amperes. The PC-300 shuts off if the combined amperes of the AC outputs are detected to have gone over this number.

- Press the up and down buttons on the Nav Pad to set the current cutoff value.
- Press the center button on the Nav Pad to save the new current cutoff and to return to the previous screen.
- Press BACK to cancel and to return to the previous screen.

Sampling Interval

Select **Sampling Interval** from the **Control** menu screen to display the **Sampling Interval** screen.

Sampling Interval Screen

Use this screen to set the sampling interval between the times event logs are recorded, in minutes and/or seconds. (The **Data logging** option on the **Control** screen must be selected.)

- Press the left and right buttons on the Nav Pad to select between minutes and seconds.
- Press the up and down buttons on the Nav Pad to select a sampling interval, set in 5-second increments. (The minimum is 5 seconds.)
- Press the center button on the Nav Pad to save the new sampling interval and to return to the previous screen.
- Press BACK to cancel and to return to the previous screen.

Power Cycle Delay

Select **Pwr. Cycle Delay** from the **Control** menu screen to display the **Power Cycle Delay** screen.

Power Cycle Delay Screen

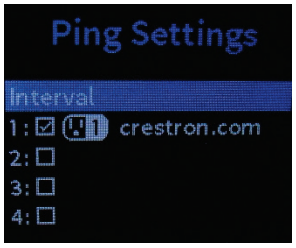
Use this screen to set the duration that an outlet cycles off before powering back on, in minutes and/or seconds.

- Press the left and right buttons on the Nav Pad to select between minutes and seconds.
- Press the up and down buttons on the Nav Pad to select a power cycle delay time, set in 5-second increments. (The minimum is 5 seconds.)
- Press the center button on the Nav Pad to save the new power cycle delay time and to return to the previous screen.
- Press BACK to cancel and to return to the previous screen.

Ping Monitoring

On the Control menu screen, a check mark next to the Ping monitoring option indicates that ping monitoring is enabled. If Ping monitoring is selected after being disabled, the Ping Settings screen displays.

Ping Settings Screen

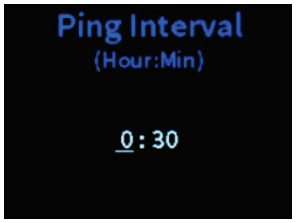


Use the following settings to configure the ping monitoring function.

Ping Interval

Select Interval from the Ping Settings menu to display the Ping Interval screen.

Ping Interval Screen



Use this screen to set the polling interval between pings for all outlets (in hours and/or minutes).

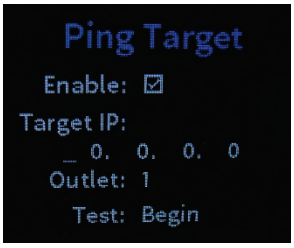
- Press the left and right buttons on the Nav Pad to select between hours and minutes.
- Press the up and down buttons on the Nav Pad to select a ping interval time (set in 5-minute increments, minimum is 5 minutes).
- Press the center button on the Nav Pad to save the new ping interval and to return to the previous screen.
- Press BACK to cancel and to return to the previous screen.

Ping Target

On the **Ping Interval** menu screen, use up and down on the Nav Pad to select an outlet, and then press the center button to select that outlet.

A check mark next to an outlet indicates that ping monitoring for that outlet is enabled. If **Ping monitoring** is selected after being disabled, the **Ping Target** screen for that outlet displays.

Ping Target Screen



Use this screen to adjust the ping monitoring settings for the selected outet:

- **Enable:** Press the center button on the Nav Pad to enable or disable ping monitoring for the selected outlet. A checked box indicates that ping monitoring is enabled.
- **Target IP:** Use the Nav Pad to set the IP address of the device selected for ping monitoring:
  - Press up or down on the Nav Pad to set the octets of the IP address.
  - Press left or right on the Nav Pad to move the cursor between octets.
- **Outlet:** Press up or down on the Nav Pad to select a different outlet to use with the ping monitoring settings.
- **Test:** Press the center button on the Nav Pad to test the ping monitor. The **Test** field displays whether or not a successful connection has been made to the monitored device's IP address.
- Press **BACK** to return to the previous screen.

Data Logging

On the **Control** menu screen, a check mark next to the **Data logging** option indicates that data logging is enabled. For more information on data logging, refer to page 14.

Celsius Units

On the **Control** menu screen, a check mark next to the **Celsius units** option indicates that the temperature of the PC-300 is displayed in Celsius units.

Top Menu Outlet Control

On the **Control** menu screen, a check mark next to the **Top menu outlet ctl** option indicates that the **Outlets** menu option is accessible from the main menu of the LCD display. For more information on this menu option, refer to page 34.

PassCode

Select **PassCode** from the **System** menu to display the **PassCode** screen.

PassCode Screen

Use this screen to create a new four-digit passcode for accessing the **Setup** menu of the LCD display.

- Use the left and right buttons on the Nav Pad to select a digit to change.
- Use the up and down characters on the Nav Pad to browse the list of possible digits.
- Press the center button on the Nav Pad to enter the new passcode.
- Press **BACK** to cancel and to return to the previous screen.

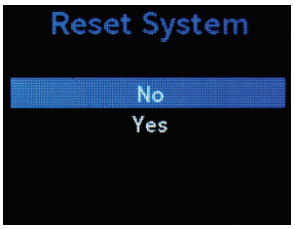
Once a passcode is entered, the **Confirm PassCode** screen displays. Reenter the passcode created with the **New Passcode** screen to confirm and to save the passcode. Press **BACK** to cancel and to return to the previous screen.

Confirm PassCode Screen

Reset System

Select **Reset** from the **System** menu to display the **Reset System** screen.

Reset System Screen



Use this screen to perform a factory reset. Select **Yes** to reset the system. A screen asking **Are You Sure?** displays. Select **Yes** again to confirm the change or **No** to cancel.

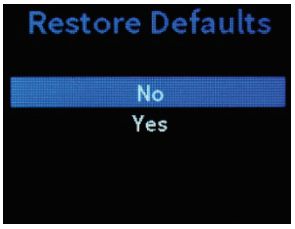
Select **No** or press **BACK** to cancel and to return to the previous screen.

CAUTION: Resetting the system will reset all device, system, and outlet settings for the PC-300. The device firmware will also be restored to its factory version.

Restore Defaults

Select **Restore Defaults** from the **System** menu to display the **Restore Defaults** screen.

Restore Defaults Screen



Use this screen to restore all system, device, and outlet settings on the PC-300 to their default states.

Select **Yes** to restore the default settings. A screen asking **Are You Sure?** displays. Select **Yes** again to confirm the change or **No** to cancel.

Select **No** or press **BACK** to cancel and to return to the previous screen.

About

Select **About** from the **System** menu to display the **About** screen. This screen displays the firmware version and the panel number. Press **BACK** to return to the previous screen.

About Screen

Outlets

Select **Outlets** from the **Setup** menu to switch the outlets on or off and to set the startup delay for each outlet.

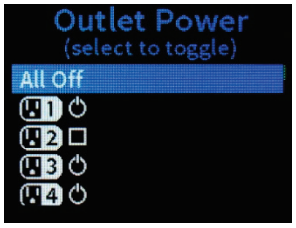
Outlets Screen

NOTE: If the **Top menu outlet ctl** option is enabled, this menu option will also be available from the display's main menu, and accessing this option will not require entering a passcode.

Outlet Power

Select **Switch On/Off** from the **Outlets** menu to display the **Outlet Power** screen.

Outlet Power Screen



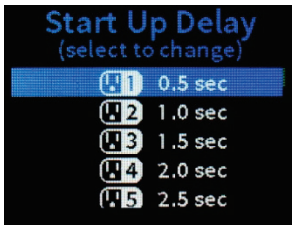
Use this screen to power the PC-300's rear outlets on or off. Use up and down on the Nav Pad to select an outlet, and then press the center button to toggle the power for that outlet. A power symbol ( ) indicates that the outlet is powered on, while an empty check box indicates that the outlet is powered off.

Select **All Off/On** to power all rear outlets off or on at the same time. Press **BACK** to return to the previous screen.

Start Up Delay

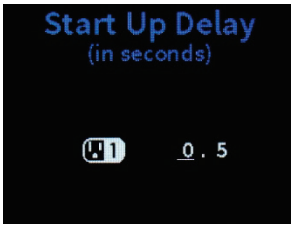
Select **Delay** from the **Outlets** menu to display the **Start Up Delay** screen.

Start Up Delay Screen



Use this screen to set the time that it takes for the selected outlet to receive power after the PC-300 is powered on (in seconds). Use up and down on the Nav Pad to select an outlet, and then press the center button to select that outlet. An individual Start Up Delay screen displays.

Start Up Delay Screen (for Outlet 1)



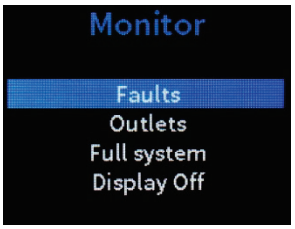
- Use the left and right buttons on the Nav Pad to select a digit to change.
- Use the up and down characters on the Nav Pad to browse the list of possible digits.
- Press the center button on the Nav Pad to enter the new start up delay time.
- Press BACK to cancel and to return to the previous screen.

Monitoring via the LCD Display (PC-300)

In addition to configuring the PC-300, the LCD display can also be used to monitor the status of the device and the outlets. A passcode is not required to access these screens.

To access the LCD display's setup screens, select Monitor from the PC-300 home menu. The Monitor menu screen displays.

Monitor Screen



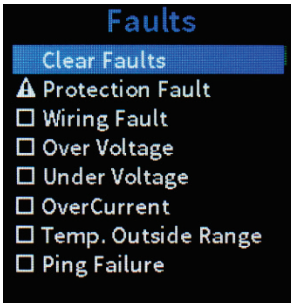
Use the LCD display to monitor device faults, outlet data, and the system sensor readings. There also is a control to turn the LCD display on or off.

Press up or down on the Nav Pad to highlight the desired selection, and then press the center button of the Nav Pad to make that selection. Press HOME at any time to return to PC-300 screen. Press BACK at any time to return to the previous screen.

Faults

Select Faults from the Monitor menu to display the Faults screen.

Faults Screen



Use this screen to determine whether any device faults have been tripped. A caution symbol (⚠) indicates that a fault has been tripped, while an unchecked box indicates that the fault has not been tripped. For more information on customizing device fault ranges, refer to page 11 for using the web configuration utility or page 27 for using the LCD display.

- Protection Fault: Displays whether surge protection on the device has been compromised
- Wiring Fault: Displays whether there is a fault in the PC-300's wiring
- Over Voltage: Displays whether the voltage level on the ac input has gone over the set limit
- Under Voltage: Displays whether the voltage level on the ac input has gone under the set limit

- OverCurrent: Displays whether the current level on the ac outputs has gone over the set limit
- Temp. Outside Range: Displays whether the device temperature has gone over the set limit
- Ping Failure: Displays whether there has been a ping monitor failure during an attempt to access a connected device

Select Clear Faults to reset any fault sensors that have been tripped. A screen asking Are You Sure? displays. Select Yes to confirm the change or No to cancel.

Press BACK to return to the previous screen.

The Faults screen also shows whether any of the PC-300's device limits have been exceeded or if a surge has been detected. Refer to the following operational notes regarding device limits for more information.

- Once a surge is detected, the SIMPL Windows signal and the web page status remain active until either the front panel switch is cycled or the "Cycle all outlets" signal is activated. Surge events will continue to be entered into the event log as they occur.
- If the voltage level drops below the undervoltage cutoff point, the hysteresis needed to restore operation is calculated using the following algorithm, which is based on the last system load current value ("amps" in the algorithm) that is recorded immediately before an undervoltage event forces a shutdown:

  Hysteresis = MAX (4, amps x 0.4 + 1)

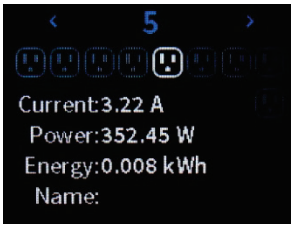
  Higher loads require more hysteresis to compensate for the voltage drop when the system is switched back on. Using this algorithm, the undervoltage hysteresis is constrained to a range between 4 V and 7 V depending on the load current, and it is calculated as the larger of the two possible values in the algorithm (4 V or [amps x 0.4 + 1] V). For example, if the load current value is recorded at 12 amps prior to the undervoltage event, the undervoltage hysteresis needed to restore operation is calculated as 12 x 0.4 + 1 = 5.8 V.

  If the undervoltage cycles four times within 15 seconds, the power conditioner stops attempting to automatically power back on, as there is insufficient headroom between the line voltage and the configured undervoltage cutoff. Reset the power conditioner by cycling the front panel switch.
- The overvoltage setting has a 4.5 V hysteresis. If the voltage level exceeds the overvoltage cutoff point, power to the controlled outlets is switched off until the input voltage is at least 4.5 V less than the overvoltage cutoff.
- Once an overcurrent condition occurs, the PC-300 remains in shutdown mode until the front panel switch is cycled.
- Once a temperature overrange condition occurs, the temperature must drop two degrees Celsius below the temperature cutoff setting before power is restored to the controlled outlets.

Outlets (Monitoring)

Select **Outlets** from the **Monitor** menu to display the Outlets screen.

Outlets Screen (for Outlet 5)



Use the left and right buttons on the Nav Pad to navigate between the eight outlets (the number of the selected outlet is displayed on the top of the screen). The following information is displayed for each outlet:

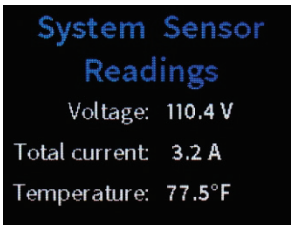
- **Current (A):** Displays the current level of the selected outlet in amperes
- **Power (W):** Displays the power level of the selected outlet in watts
- **Energy (Wh):** Displays the energy level of the selected outlet in kilowatt hours
- **Name:** Displays the user-defined name of the outlet, which can be set using the Web configuration utility (Refer to page 16 for more information on naming outlets.)

Press **BACK** to return to the previous screen.

System Sensor Readings

Select **Full System** from the **Monitor** menu to display the **System Sensor Readings** screen.

System Sensor Readings Screen



Use this screen to view the following system status information:

- **Voltage:** Displays the current input voltage level in volts
- **Total current:** Displays the combined current level of all outlets in amperes
- **Temperature:** Displays the current device temperature, in the chosen unit of measurement

Press **BACK** to return to the previous screen.

Appendix A: Restoring the Device to Factory Defaults

In the event that the power conditioner must be restored to its factory default settings, the front panel buttons can be used to initiate the restore. The front panel button sequences for restoring the PC-200 and PC-300 are provided below.

CAUTION: These sequences restore all system, device, and outlet settings on the PC-200 and PC-300 to their default values. Any saved configurations are deleted, and the device firmware reverts to the factory version.

NOTE: Device restore can also be initiated on the PC-300 using the front panel LCD display. For more information, refer to page 33.

- PC-200: Rapidly press the Setup button five times (less than 300ms between each press).
- PC-300: Press the Nav Pad buttons in the following sequence: Up, Right, Down, Left, Up, Select, Up, Right, Down, Left, Up, Select. Then, confirm the restore on the LCD display using the Nav Pad.

NOTE: The power conditioner's file system is not affected by a system restore, so any security certificates loaded onto the power conditioner are not deleted. However, SSL (Secure Sockets Layer) is disabled on the power conditioner after a restore. To enable SSL after a restore, open the Text Console tool in Crestron Toolbox, and then type `ssl self -r` into the command line if the original key and self-signed certificate are going to be used. If a CA signed certificate was used, type `ssl ca` into the command line along with the password used to encrypt the private key (if applicable).

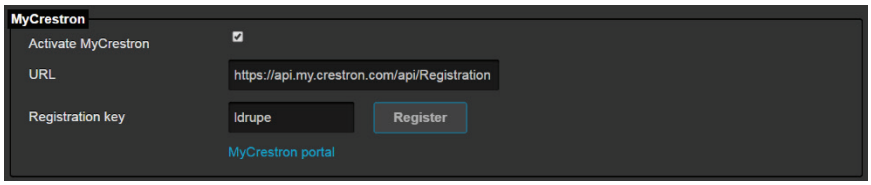
Appendix B: Registering the Device with MyCrestron

The PC-200 and PC-300 can be used as remote power solutions via the MyCrestron Dynamic DNS service. Once the power conditioner has been registered with a MyCrestron account, the power conditioner can be controlled and monitored from a mobile device directly through the MyCrestron portal.

Use the following procedure to register the power conditioner with a MyCrestron account:

1. Log in to the web configuration utility using the procedures described in "Accessing the Configuration Utility," starting on page 2.
2. Select **Device Status** from the navigation menu. Copy or note the device MAC address that is displayed.
3. Select **System Settings** from the navigation menu, and then scroll down to the **MyCrestron** section.

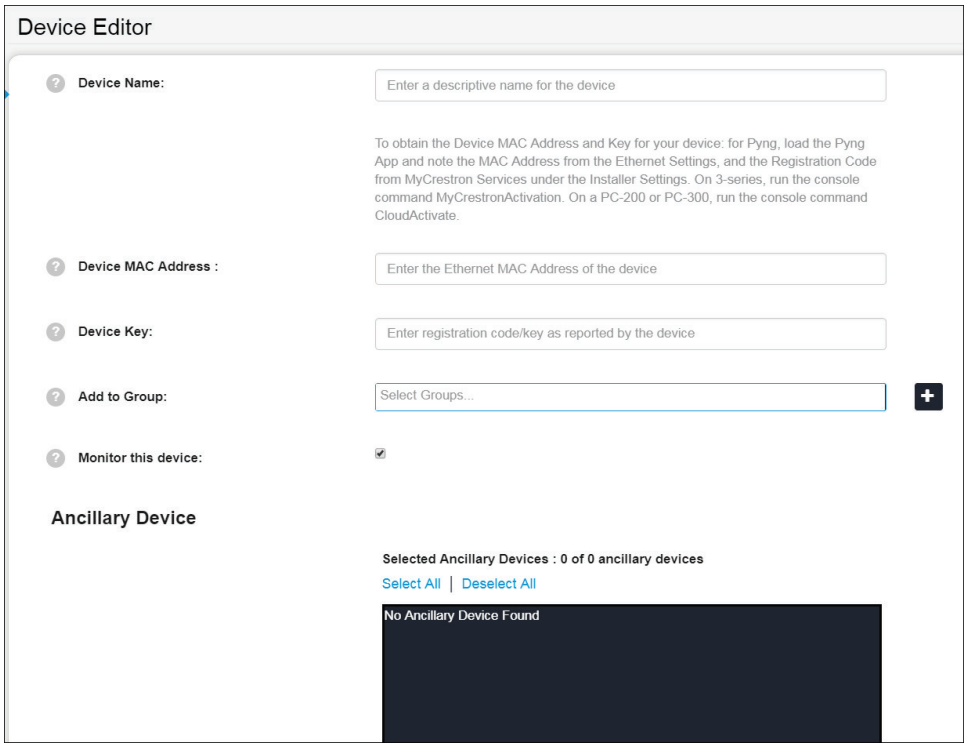
   System Settings - MyCrestron

   a. Fill the **Activate MyCreston** check box if it is not already checked, and then click **Save** at the bottom of the **System Settings** screen.

   b. Copy or note the registration key provided in the **Registration key** text field. If no registration key is displayed, click **Register** to generate a new registration key.
4. Click **MyCrestron portal** to load the MyCrestron portal page. Log in to the MyCrestron account using the appropriate credentials.
5. Select **Devices** from the navigation menu, and then click **Add Device** at the top left of the page. The **Device Editor** page displays.

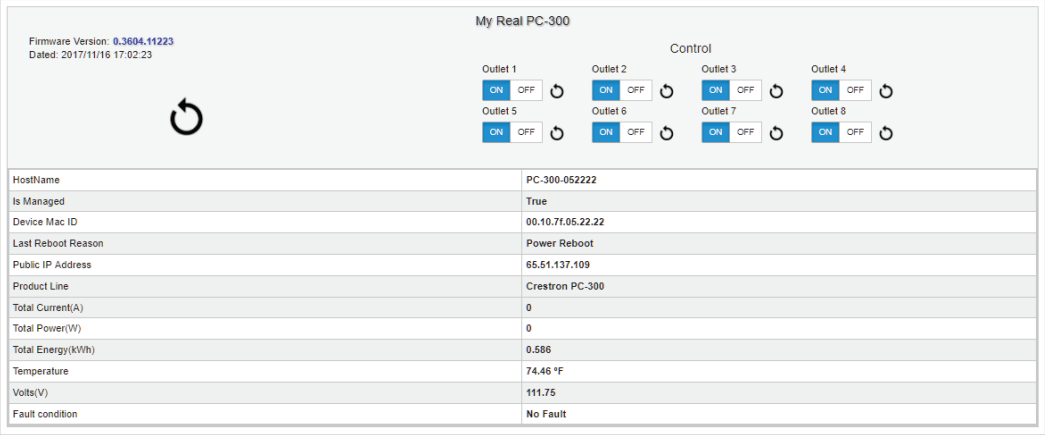
MyCrestron Portal - Device Editor



6. Enter the following information in the appropriate fields:
   a. **Device Name:** Enter a descriptive name for the power conditioner.
   b. **Device MAC Address**: Enter the power conditioner's MAC address that was obtained in step 2.
   c. **Device Key:** Enter the registration key that was obtained in step 3b.
   d. **Add to Group:** Add the power conditioner to a new or existing device group.
   e. **Monitor this device:** Check this box to monitor the power conditioner remotely.
7. Click **Save** at the top left of the page. If the power conditioner was successfully registered, it displays on the **Device List** page after a few minutes have elapsed.

Once the power conditioner is registered, select it from the **Device List** page to view device settings and to toggle and cycle outlet power. The device settings page for a PC-300 is shown on the following page as an example.

MyCrestron Portal - PC-300 Device Settings



HostName	PC-300-052222
Is Managed	True
Device Mac ID	00.10.7f.05.22.22
Last Reboot Reason	Power Reboot
Public IP Address	65.51.137.109
Product Line	Crestron PC-300
Total Current(A)	0
Total Power(W)	0
Total Energy(kWh)	0.586
Temperature	74.46 °F
Volts(V)	111.75
Fault condition	No Fault

Each of the controllable outlets is displayed under the **Control** section. Click **On** or **Off** to toggle the power on or off, respectively, for a chosen outlet. Click the cycling button ( ) next to an outlet to cycle the power for that outlet.

Additionally, click the larger cycling button ( ) near the top left of the page to cycle the power for all controlled outlets.

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