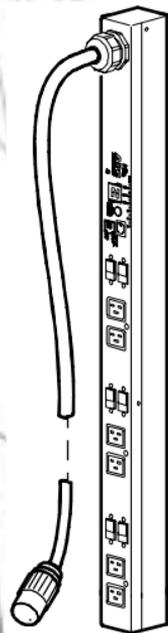


User's Guide

Command Line Interface

for Switched Rack PDUs



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Product Capabilities

Features

Scripting

The Command Line Interface (CLI) for American Power Conversion (APC®) Switched Rack PDUs enables you to create scripts for automated operation. The existing text-based control console interface to Switched Rack PDUs is difficult to use for scripting because it is menu-driven. APC will support both interfaces.



Note

The CLI is not supported by APC Metered Rack PDUs

PDU features not supported by the CLI

The Web, control console, and SNMP interfaces for Switched Rack PDUs support the following features that do not have corresponding CLI commands:

- Configuration for scheduling
- Configuration of synchronized outlet groups
- Advanced outlet control commands, such as **sequenced on**
- Event logging, event actions, and other features that are provided through the APC AOS firmware module and that you use for monitoring through the Web interface and control console.



To configure features for which there are not corresponding CLI commands, see “System Requirements” on page 2 and “uploadini” on page 31.

Integration with APC Rack KVM products

You can use the CLI to create scripts to automate the management of your Switched Rack PDUs through the following APC Rack Keyboard, Video, Mouse (KVM) products.

- AP5401
- AP5405
- AP5456

System Requirements

Firmware version required

To use the Command Line Interface, your Switched Rack PDU must be running firmware version 2.7.0 for the AOS firmware module and 2.7.3 for the application firmware module.

Rack PDUs required

You can use the command line interface only with APC Switched Rack PDUs.

Exporting an .ini File

You can configure all parameters of a Switched Rack PDU (including those for which there are not specific CLI commands) by using the CLI to transfer an .ini file to that PDU. The CLI uses XMODEM to perform the transfer. However, you cannot read the current .ini file through XMODEM.



See “uploadini” on page 31.

Using the Commands

How to Enter CLI Commands

Capitalization in commands and arguments

Commands are valid in lowercase, uppercase, or mixed case, but arguments are case-sensitive unless specified otherwise.

Editing in the CLI

The BACK SPACE key deletes the most recently entered character of the current command string. No other editing function is available during command entry.

The CLI does not retain a command history. You cannot retrieve previously entered commands.

The Space character as command delimiter

The CLI uses one Space character (ASCII 0x20) as the delimiter between commands and arguments; extra Space characters are ignored.

Quotation marks and the reverse slant

Use quotation marks (ASCII 0x22) and the reverse slant (\: decimal code 92) as follows:

- For both input and output, enclose in quotation marks any string value that begins or ends with spaces or contain commas or semicolons.
- Do not use traditional escape sequences (the reverse slant followed by a lowercase alphabetic character or by one or more numeric characters) preceding special characters within strings. The CLI does not recognize such escape sequences, and the resulting error causes the entire keyword and value pair to be ignored.
- If an argument value contains a quotation mark or reverse slant, it must be preceded by a reverse slant only as its escape character. For example, this command adds the user "John Doe" to the local database:

```
adduser \"John Doe"
```

- If an input string contains a quotation mark or reverse slant, enclose the string in quotation marks. For example, this command adds the user pdu\\device to the local database:

```
adduser "pdu\\device user"
```

- Optionally, you can use quotation marks to enclose any argument value.

Command Error Codes

Format

The CLI reports all errors in the following format:

E[0-9][0-9][0-9]: *Error message*

The CLI reports all successful command operations with the message OK, followed by the output of the command.

The CLI command error codes enable scripted operations to detect error conditions reliably without having to match error message text.

Codes

Code	Message Text	Notes
E100	Command does not exist.	
E101	Invalid command arguments.	The arguments supplied are too few, too many, the wrong type, etc.
E102	User already exists.	
E103	User does not exist.	
E104	User does not have access to this command.	
E200	Input error.	A command that prompts for required user input, such as a password, did not receive that input within three minutes.

CLI Online Help

Use the help command to do the following:

- Obtain information about the purpose and syntax of a specified command.
- Check whether a command exists. If the command you specify is not a valid CLI command, the message `Command does not exist` is displayed.
- List the commands that are available to you, based on your account type.

Logging On and Off

Logging On

User Name and Password

If you are not using a KVM, configure the administrator user name and password through the Web or control console interface of the PDU.

If you are using a KVM, configure the administrator user name and password in the KVM configuration file `/etc/pm.APCPDU`. The default for both is `apc`. The `pm.APCPDU` file is saved to non-volatile memory when you save your configuration. The `-c` option is then appended to the configured password automatically to log you on to the CLI when you log on to the PDU.

Log-on procedure

To log on to the CLI:

1. Connect to the Switched Rack PDU through Telnet, through SSH version 1 or 2, or serially.
2. At the **User Name** prompt, enter your user name.
3. At the **Password** prompt, enter your password (followed by a space and `-c` if you are not using a KVM), and press ENTER.

Responses to successful and failed log-on

When you attempt to log on to the CLI:

- If the user name and password you entered are valid and the CLI is available, you are logged on to the CLI. The prompt `APC>` is displayed.
- After three consecutive unsuccessful log-on attempts, the Switched Rack PDU prevents further attempts for two minutes.
- If the CLI is unavailable, the Switched Rack PDU application layer does not start, i.e., the `-c` option does not work.
- If you log onto the CLI, and the application firmware of the Switched Rack PDU has not finished initializing, the CLI displays the following message and logs you off.

```
The Switched Rack PDU is still
initializing. Please try again later.
```

- If the administrator password is configured incorrectly (does not meet the PDU criteria for a valid password) in the KVM `pm.APCPDU` configuration file, the Switched Rack PDU prevents further log-on attempts for 150 seconds. Correct the password configuration before trying to log on again.

Logging Off

Log-off procedure

To log off from the CLI, use one of the following commands: `exit`, `logout`, `logoff`, `quit`, or `bye`.

Automatic log-off

You will be logged off automatically in the following circumstances:

- If the **inactivity logout** time of the Switched Rack PDU (3 minutes by default, or a configured time of 1 to 10 minutes) expires without keyboard input or input through the mouse within the CLI interface. Movement of the mouse pointer or clicking the mouse without actual input does not restart the timer for inactivity logout.
- If the value **yes** is configured for the option **logoutAfterCommandComplete** in the KVM **pm.APCPDU** configuration file, and the CLI completes executing the command that you entered. The default for this option is **no**. A value of **yes** provides maximum availability of the text-based interface to other users.
- If your connection to the Switched Rack PDU is through Telnet or SSH version 1 or 2, and there is a log-on serially to the Switched Rack PDU CLI to execute a command. Serial access to the CLI always has priority over remote access.

Command Syntax

Characters and Fonts

Item	Explanation
Italic	Variables, such as <i>outlet_number</i> , are italicized.
	A vertical line between items enclosed in brackets [] or braces {} indicates that the items are mutually exclusive; you cannot use more than one of the items.
[]	Brackets enclosing an item or series of items indicates that the item or series is optional. Any item not enclosed in brackets or braces is required.
{ }	Braces enclosing two or more items, separated by the vertical line character, indicate that the items are mutually exclusive but that you must use one of the items. Any item not enclosed in braces or brackets is required.
	Large braces have the same meaning as braces {}, but items are “stacked” on separate lines within the large braces to simplify complex syntax.
...	Ellipses following a variable item indicate that additional items of the same type can follow.
All other characters	All unitalicized text and all punctuation marks are to be entered literally.

Syntax Examples

Italic text with no brackets or braces.

```
adduser user_name
```

For the **adduser** command, you **must** specify the name of the user to add (indicated in the syntax by the variable *user_name*).

Braces and vertical line

```
pducoldstartdelay {time|never}
```

For the **pducoldstartdelay** command, you **must** enter either a time in seconds (*time*) that the PDU waits to apply power to its outlets or enter *never* to specify that the outlets will never turn on automatically when power is applied to the PDU.

Brackets and ellipses

```
assign outlet|range[,outlet|range...] user_name
```

For the **assign** command, you must specify at least one outlet or range of outlets and the user name of the outlet user to which the outlets are being assigned. Brackets indicate that you can optionally specify another outlet or range to assign to that user, and the ellipses indicates that, optionally, you can specify additional outlets or ranges in the same format.

Large braces

```
on { all  
  outlet|range[,outlet|range...] }
```

For the **on** command, you must enter one of the following:

- The literal value **all** (to turn on all outlets)
- A comma-delimited list that can include outlets specified by name or number, or ranges of outlet numbers.

Command Reference

User Management Overview

Types of users who can access the CLI

The CLI is accessible to three of the four user types supported by the Switched Rack PDU:

- The administrator has unrestricted access.
- The device manager (device-only user) can view status and configure most settings, including all settings of all outlets.
- An outlet user can control and configure only those outlets assigned to that user

The read-only user has no access to the CLI.

Authentication of users

Direct access: When a user attempts to log on to the CLI directly, that user's credentials are compared with the local user database or are sent to a RADIUS server for validation, according to the authentication method configured for the PDU. If the credentials are successfully validated, the user is granted access, with permissions appropriate to the user type.

Access through a KVM: An administrator can use the Power Management feature of the KVM device to manage users and their access to outlets. Because these user accounts are separate from those created in the CLI of the PDU, in this case the KVM is responsible for authentication and outlet access permissions.

User Management Commands

adduser

Syntax:

adduser *user_name*

Description: Add an outlet user to the local database. Until an outlet user is explicitly assigned access to specific outlets, that user, by default, has no outlet access.

Access: Administrator only.

Parameter:

<i>user_name</i>	One to ten printable ASCII characters.
------------------	--

Output Format:

OK

Password: *password*

Re-enter password: *password*

User name and password set for user
user_name.

Error Messages: E101, E102, E104

assign**Syntax:**

```
assign outlet|range[,outlet|range...] user_name
```

Description: Grant access to specified outlets to a user configured in the local database. (Outlet permissions for RADIUS-defined users can be configured only at the RADIUS server.)

Access: Administrator only

Parameters:

<i>outlet</i>	An outlet number.
<i>range</i>	A range of outlet numbers, with a hyphen separating the starting number from the ending number.
<i>user_name</i>	A user configured in the local database.

Example: Grant access to outlets 1, 2, 3, 5, and 7 to the outlet user whose user name is john_reynolds.

```
assign 1-3,5,7 john_reynolds
```

Output Format (for the preceding example):

OK

1: Outlet assigned to john_reynolds.

2: Outlet assigned to john_reynolds.

3: Outlet assigned to john_reynolds.

5: Outlet assigned to john_reynolds.

7: Outlet assigned to john_reynolds.

Error Messages: E101, E103, E104

deluser**Syntax:**

```
deluser user_name
```

Description: Delete an outlet user from the local database.

Access: Administrator only.

Parameter:

<i>user_name</i>	One to ten printable ASCII characters.
------------------	--

Output Format:

OK

User name deleted.

Error Messages: E101, E103, E104

passwd

Syntax:

```
passwd|password [user_name]
```

Description: To be prompted to change your password, omit *user_name*. As an administrator, specify a user name to be prompted to change that user's password. A password must be one to ten printable ASCII characters. You must change RADIUS-authenticated passwords at the RADIUS server.

Access: All three account types, to change the logged-on user's password. Administrator only, to change another user's password.

Parameter:

<i>user_name</i>	A user configured in the local database.
------------------	--

Output Format:

OK

Password: *password*

Re-enter password: *password*

Password set for *user_name*.

Error Messages: E101, E103, E104, E200

unassign**Syntax:**

```
unassign outlet|range[,outlet|range...] user_name
```

Description: Remove access to specified outlets from a user configured in the local database. (Outlet permissions for RADIUS-defined users can be removed only at the RADIUS server.)

Access: Administrator only

Parameters:

<i>outlet</i>	An outlet number.
<i>range</i>	A range of outlet numbers, with a hyphen separating the starting number from the ending number.
<i>user_name</i>	A user configured in the local database.

Example:

Remove access to outlets 1, 2, 3, 5, and 7 from the outlet user whose user name is john_reynolds.

```
unassign 1-3,5,7 john_reynolds
```

Output Format (for the preceding example):

OK

- 1: Outlet no longer assigned to john_reynolds.
- 2: Outlet no longer assigned to john_reynolds.
- 3: Outlet no longer assigned to john_reynolds.
- 5: Outlet no longer assigned to john_reynolds.
- 7: Outlet no longer assigned to john_reynolds.

Error Messages: E101, E103, E104

whoami**Syntax:**

```
whoami
```

Description: Display the user name of the active user.

Access: All three account types with CLI access.

Parameters: None.

Output Format:

OK

```
active_user's_name
```

Outlet Overview

Access to outlets

An administrator or an outlet user can use all the CLI outlet commands to manage outlets, but an outlet user can use these commands to manage only the outlets to which he or she has been granted access. (An administrator grants access through the CLI **assign** command or through the Web or control console interfaces of the Switched Rack PDU.)

Synchronized outlet groups

You can use the **outletgroups** command to list synchronized outlet groups that are defined on the Switched Rack PDU.

You cannot create, modify, or manage synchronized outlet groups through the CLI, except by using the **uploadini** command. You must be an administrator to use that command.



See “uploadini” on page 31.



See also

To create, modify, or manage synchronized outlet groups through the Web interface of the Switched Rack PDU, see the *Switched Rack PDU User's Guide*, available on the CD you received with the PDU and on the APC Web site (www.apc.com).

Outlet Commands

off

Syntax:

```
off { all
    outlet|range[,outlet|range...] }
```

Description: Turn off one or more outlets. If you specify more than one outlet, the outlets will turn off approximately at the same time. However, for close synchronization, outlets must be configured as part of a synchronized outlet group.

Parameters:

<i>all</i>	The value all turns off all outlets of the Switched Rack PDU. This value is not case-sensitive.
<i>outlet</i>	An outlet name or number. If you specify a name that contains a Space character, you must enclose the name in quotation marks.
<i>range</i>	A range of outlet numbers, with a hyphen separating the starting number from the ending number.

Example:

```
off 1,5-7
```

Output Format (for the preceding example):

OK

- 1: Database Server: Outlet turned off.
- 5: Disk Array PS 1: Outlet turned off.
- 6: Disk Array PS 2: Outlet turned off.
- 7: Disk Array PS 3: Outlet turned off.

Example:

```
off "Web Server"
```

Output Format (for the preceding example):

OK

- 2: Web Server: Outlet turned off.
- 3: Web Server: Outlet turned off.

Error Messages:

E101, E104

on**Syntax:**

```
on { all
    outlet|range[,outlet|range...] }
```

Description: Turn on one or more outlets. If you specify more than one outlet, the outlets will turn on approximately at the same time. However, for close synchronization, outlets must be configured as part of a synchronized outlet group.

Parameters:

<i>all</i>	The value all turns on all outlets of the Switched Rack PDU. This value is not case-sensitive.
<i>outlet</i>	An outlet name or number. If you specify a name that contains a Space character, you must enclose the name in quotation marks.
<i>range</i>	A range of outlet numbers, with a hyphen separating the starting number from the ending number.

Example:

```
on 1,5-7
```

Output Format (for the preceding example):

```
OK
```

```
1: Database Server: Outlet turned on.
```

```
5: Disk Array PS 1: Outlet turned on.
```

```
6: Disk Array PS 2: Outlet turned on.
```

```
7: Disk Array PS 3: Outlet turned on.
```

Example:

```
on "Web Server"
```

Output Format (for the preceding example):

```
OK
```

```
2: Web Server: Outlet turned on.
```

```
3: Web Server: Outlet turned on.
```

Error Messages:

```
E101, E104
```

outletgroups**Syntax:**

```
outletgroups
```

Description: List the outlet synchronization groups defined on the Switched Rack PDU. If synchronization of outlets among PDUs is enabled, command output also includes information on those devices.

Parameters: None.

Output format:

group_name:

IP_address_of_local_PDU Outlets: *number, number...*

IP_address_of_remote_PDU Outlets: *number, number...*

group_name:

IP_address_of_local_PDU Outlets: *number, number...*

IP_address_of_remote_PDU Outlets: *number, number...*

Example:

Outlet Grp A:

149.205.6.131 Outlets: 2, 4, 5

149.205.6.133 Outlets: 2, 8

Outlet Grp B:

149.205.6.131 Outlets: 1

149.205.6.166 Outlets: 1

Error Messages: E101

poweroffdelay**Syntax (to read the power-off delay):**

```
poweroffdelay [outlet|range][,outlet|range...]
```

Syntax (to set the power-off delay):

```
poweroffdelay outlet|range[,outlet|range...] time|never
```

Description: Set or read the power-off delay (the time in seconds that the PDU waits after a command is issued before it restores power to an outlet). If you do not specify any outlets, the power-off delay settings of all outlets to which you have access are read. To set the power-off delay, you must specify one or more outlets.

Parameters:

<i>outlet</i>	An outlet name or number. If you specify a name that contains a space character, you must enclose the name in quotation marks.
<i>range</i>	A range of outlet numbers, with a hyphen separating the starting number from the ending number.
<i>time</i>	The power-off delay in seconds to set for the specified outlets.
never	Sets the specified outlets to remain on. This value is not case-sensitive.

Output Format, reading power-off delay:

OK

outlet_number: *outlet_name*: Power off delay is *time* seconds.

Output Format, setting power-on delay:

OK

outlet_number: *outlet_name*: Setting power off delay to *time* seconds.

Error Messages: E101, E104

powerondelay**Syntax (to display the power-on delay):**

```
powerondelay [outlet|range][,outlet|range...]
```

Syntax (to set the power-on delay):

```
powerondelay outlet|range[,outlet|range...] time|never
```

Description: Set or read the power-on delay (the time in seconds that the PDU waits after a command is issued before it restores power to an outlet). If you do not specify any outlets, the power-on delay settings of all outlets to which you have access are read. To set the power-on delay, you must specify one or more outlets.

Parameters:

<i>outlet</i>	An outlet name or number. If you specify a name that contains a space character, you must enclose the name in quotation marks.
<i>range</i>	A range of outlet numbers, with a hyphen separating the starting number from the ending number.
<i>time</i>	The power-on delay in seconds to set for the specified outlets.
<i>never</i>	Sets the specified outlets to remain off. This value is not case-sensitive.

Output format, reading power-on delay:

OK

outlet_number: *outlet_name*: Power on delay is *time* seconds.

Output format, setting power-on delay:

OK

outlet_number: *outlet_name*: Setting power on delay to *time* seconds.

Error Messages: E101, E104

reboot**Syntax:**

```
reboot { all
        outlet|range[,outlet|range...] }
```

Description: Remove and then restore power to one or more outlets. The CLI does not wait for the **reboot** command to complete before providing output and re-displaying the CLI prompt (**APC>**). If you specify more than one outlet, the outlets will turn off and on approximately at the same time. However, for close synchronization, outlets must be configured as part of a synchronized outlet group.

Parameters:

<i>all</i>	The value all removes and then restores power to all outlets of the Switched Rack PDU. This value is not case-sensitive.
<i>outlet</i>	An outlet name or number. If you specify a name that contains a Space character, you must enclose the name in quotation marks
<i>range</i>	A range of outlet numbers, with a hyphen separating the starting number from the ending number.

Example:

```
reboot 1,5-7
```

Output Format (for the preceding example):

```
OK
```

```
1: Database Server: Outlet rebooting.
5: Disk Array PS 1: Outlet rebooting.
6: Disk Array PS 2: Outlet rebooting.
7: Disk Array PS 3: Outlet rebooting.
```

Example:

```
reboot "Web Server"
```

Output Format (for the preceding example):

```
OK
```

```
2: Web Server: Outlet rebooting.
3: Web Server: Outlet rebooting.
```

Error Messages: E101, E104

rebootduration**Syntax (to read the reboot duration):**

```
rebootduration [outlet|range][,outlet|range...]
```

Syntax (to set the reboot duration):

```
rebootduration outlet|range[,outlet|range...]:time
```

Description: Set or read the reboot duration (the time in seconds that an outlet will remain off before restarting). If you do not specify any outlets, the reboot duration settings of all outlets to which you have access are read. To set the reboot duration, you must specify one or more outlets.

Parameters:

<i>outlet</i>	An outlet name or number. If you specify a name that contains a space character, you must enclose the name in quotation marks.
<i>range</i>	A range of outlet numbers, with a hyphen separating the starting number from the ending number.
<i>time</i>	The reboot duration in seconds to set for the specified outlets.

Output format, reading reboot duration:

OK

outlet_number: *outlet_name*: Reboot duration is *time* seconds.

Output format, setting reboot duration:

OK

outlet_number: *outlet_name*: Setting reboot duration to *time* seconds.

Error Messages: E101, E104

status

`status outlet|range[,outlet|range...]`

Description: Reads the status (ON or OFF) of outlets that you specify from among the outlets assigned to you. A trailing asterisk (*) after the status in the output indicates that a control action is pending.

Parameters:

<i>outlet</i>	An outlet name or number. If you specify a name that contains a space character, you must enclose the name in quotation marks.
<i>range</i>	A range of outlet numbers, with a hyphen separating the starting number from the ending number.

Output Format:

OK

outlet_number:outlet_status:outlet_name

Example:

`status 1,5-7`

OK

1:ON:Database Server

5:OFF*:Disk Array PS 1

6:OFF*:Disk Array PS 1

7:OFF*:Disk Array PS 1

Error Message: E101

Switched Rack PDU Commands

current

Syntax:

current

Description: Displays the total current draw in amps.



The Switched Rack PDU does not track its total current draw.

Note

Parameters: None.

Access: All three account types with access to the CLI.

Output format, single-phase and banked PDUs:

OK

currentA

Output format, 3-phase PDUs: T

OK

1: *currentA*

2: *currentA*

3: *currentA*

Error Message: E101

list

Syntax:

list

Description: When the administrator or device manager (device-only user) uses the command:

- If the current user was authenticated by RADIUS, the output lists all RADIUS-defined users, all users in the local database, and the outlets assigned to each through RADIUS.
- If the current user was not authenticated by RADIUS, the output lists only the users in the local database and the outlet numbers assigned to each through the CLI or the Switched Rack PDU user interface.

When the current user is an outlet user, the output lists only that user and the user's assigned outlets, defined by the method that authenticated that user.

Access: Administrator, device manager, and outlet user.

Parameters: None.

Output Format:

OK

user: outlet_number, outlet_number...

Output Examples:

In the following example, the current user (the administrator) and the outlet user were authenticated through the local database.

OK

Local: admin: 1,2,3,4,5,6,7,8

Local: carlos_sanchez: 1,5,6,7

In the following example, the current user (an outlet user) was authenticated through the local database.

OK

Local: carlos_sanchez: 1,5,6,7

In the following example, the current user (an outlet user) was authenticated through RADIUS.

OK

Radius: VSAOutlet: 1,2,3

In the following example, the current user (the device manager) was authenticated through RADIUS, and the outlet user was authenticated through the local database.

OK

Local: device: 1,2,3,4,5,6,7,8

Radius: RadDevice: 1,2,3,4,5,6,7,8

Local: ingrid_kohl: 1,5,6,7

Error Message: E101

lowloadwarning**Syntax (to read the low-load warning threshold):**lowloadwarning [*phase_number*]**Syntax (to set the low-load warning threshold):**lowloadwarning *phase_number current***Description:** Set or read the low-load warning threshold.**Parameters:**

<i>phase_number</i>	The number (1, 2, or 3) of the phase whose low-load warning threshold will be read or set. The default is 1.
<i>current</i>	The threshold, in amps, to set for the phase specified as <i>phase_number</i> .

Access: Administrator or device manager (device-only user).**Output format, reading the low-load warning threshold:**

OK

Low load warning threshold is *currentA*.**Output format, setting the low-load warning threshold:**

OK

Setting low load warning threshold for *phase_number* to *currentA*.**Error Messages:** E101, E104**name****Syntax:**name *outlet new_name***Description:** Assign a name to an outlet or a system name to the Switched Rack PDU.**Access:** Administrator or device manager (device-only user).**Parameters:**

<i>outlet</i>	An outlet number or, to specify the system name of the Switched Rack PDU, the string <code>master</code> (not case-sensitive).
<i>new_name</i>	A name to assign to the outlet or, if <code>master</code> was specified as <code>outlet</code> , the system name to assign to the Switched Rack PDU. The name can be up to 23 printable ASCII characters. If the name contains one or more spaces, you must enclose the name in quotation marks.

Output Format:

OK

outlet: Setting name to *new_name***Error Message:** E101

nearoverloadwarning**Syntax (to read the nearoverload alarm threshold):**nearoverloadwarning [*phase_number*]**Syntax (to set the nearoverload warning threshold):**nearoverloadwarning *phase_number current***Description:** Set or read the near-overload warning threshold.**Parameters:**

<i>phase_number</i>	The number (1, 2, or 3) of the phase whose near-overload warning threshold you want to read or set. The default is phase 1.
<i>current</i>	The threshold, in amps, to set for the phase specified as <i>phase_number</i> .

Access: Administrator or device manager (device-only user).**Output format, reading the near-overload alarm threshold:**

OK

Near overload warning threshold is *current*A.**Output format, setting the near-overload alarm threshold:**

OK

Setting near overload warning threshold for *phase_number* to *current*A.**Error Messages:** E101, E104

overloadalarm**Syntax (to read the overload alarm threshold):**overloadalarm [*phase_number*]**Syntax (to set the overload alarm threshold):**overloadalarm *phase_number current***Description:** Set or read the overload alarm threshold.**Parameters:**

<i>phase_number</i>	The number (1, 2, or 3) of the phase whose overload alarm threshold you want to read or set. The default is phase 1.
<i>current</i>	The threshold, in amps, to set for the phase specified as <i>phase_number</i> .

Access: Administrator or device manager (device-only user).**Output format, reading the overload alarm threshold:**

OK

Overload alarm threshold for *phase_number* is *currentA*.**Output format, setting the overload alarm threshold:**

OK

Setting alarm threshold for *phase_number* to *currentA***Error Messages:** E101, E104

overloadrestriction**Syntax to read the overload restriction:**overloadrestriction [*phase_number*]**Syntax to set the overload restriction:**overloadrestriction *phase_number setting*

Description: When the overload restriction is set to **on**, the command prevents outlets from turning on while the overload alarm threshold is violated.

- To read the current setting, omit *setting* in the command line.
- To change the current setting, include the phase number and the new value for *setting* (**on** or **off**) in the command line.

Access: Administrator and device manager (device-only user).

Parameters:

<i>phase_number</i>	The number (1, 2, or 3) of the phase whose overload restriction setting you want to read or set. If you omit the phase number when reading the setting, the command by default reads the setting for phase 1.
<i>setting</i>	The available settings, on and off , are not case-sensitive.

Output Format when reading the setting:

OK

Overload restriction is *setting* for *phase_number*.**Output Format when changing the setting:**

OK

Setting overload for *phase_number* to *setting*.**Error Messages:** E101, E104

pducoldstartdelay**Syntax (to read the cold-start delay):**

pducoldstartdelay

Syntax (to set the cold-start delay):pducoldstartdelay {*time*|never}

Description: Set or read the PDU cold-start delay (the time that the Switched Rack PDU delays applying power to the outlets after AC power has been applied to the Switched Rack PDU).

Access: Administrator and device manager (device-only user)

Parameters:

<i>time</i>	The cold-start delay in seconds to set for the Switched Rack PDU. Allowed values are 0 through 300.
never	Sets the Switched Rack PDU to keep its outlets turned off after power is applied until the outlets are explicitly turned on by the on command.

Output format, reading the cold start delay:

OK

PDU_name: PDU coldstart delay is *time* seconds.**Output format, setting the cold start delay:**

OK

PDU_name: Setting PDU coldstart delay to *time* seconds.**Error Messages:** E101, E104**power****Syntax:**

power

Description: Reads the total power usage of the Switched Rack PDU in watts and volt-amps.

Parameters: None.

Access: All three user types with access to the CLI.

Output Format:

OK

*power_in_volt-amps*VA*power_in_watts*W**Error Message:** 101

General Management Commands

exit

Syntax:

{exit|logout|logoff|quit|bye}

Description: Exit from the CLI interface.

Parameters: None.

Output Format:

OK

Bye.

Error Message: E101

help

Syntax:

help|? [*command*]

Description: Obtain help on CLI commands

Parameter:

<i>command</i>	The name of the command for which help will be provided. If you omit <i>command</i> , the output consists of a list of all the CLI commands available and applicable to your account type.
----------------	--

Output format: command-specific help:

OK

command_syntax

help_text

Output format: list of available commands:

OK

command: command: command: command

Error Message: E101

reset_defaults_pdu

Syntax:

reset_defaults_pdu

Description: Resets only the configuration parameters specific to the Switched Rack PDU and its outlets to their default settings.

Access: Administrator only

Parameters: None.

Output Format:

OK

Resetting PDU and outlet configurations to defaults.

Error Messages: E101, E104

uploadini**Syntax:**

uploadini

Description: Upload an INI file, using XMODEM, when you are accessing the CLI through a serial connection. After the upload completes:

- If there are any system or network changes, the user interface of the Switched Rack PDU restarts, and you must log into the CLI again.
- If you selected a baud rate for the file transfer that is not the same as the default baud rate for the Switched Rack PDU, you must reset the baud rate to the default to reestablish communication with the PDU.

Access: Administrator and device manager (device-only user).

Parameters: None.

Output Format:

In the following output format, user input is in bold, and additional instructions, which are not displayed on the screen, are in italic.

OK

```
-----
Perform file transfer via XMODEM-CRC?
Enter 'YES' to continue or <ENTER> to cancel:
YES
```

```
----- File Transfer Baud Rate-----
      1- 2400
      2- 9600
      3- 19200
      4- 38400
```

> **2**

Change baud rate to 9600 and press <ENTER>...

Press ENTER now.

In the terminal program (such as HyperTerminal) browse to and select the .ini file to transfer and, if requested, select XMODEM as the transfer protocol. The following output is displayed:

```
Start XMODEM-CRC Transfer Now!
CCC
```

```
-----
1536 bytes have successfully been transmitted.
```

If you selected a baud rate other than the default 9600 for the transfer, reset the baud rate to the default after the transfer.

Error Message: E101

ver

Syntax:

ver

Description: Displays information about the Switched Rack PDU and its configuration.

Access: All three user types with access to the CLI.

Parameters: None.

Output Format:

OK

APC OS *AOS_firmware_version*

Switched Rack PDU *PDU_firmware_version*

Model: *model_number*

Outlets: *number_of_outlets*

Max Current: *maximum_load_currentA*

Input Type: *phase_configuration*



Note

The variable *phase_configuration* in the preceding output format is Single, Banked, or 3 Phase.

Error Message: E101

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