

Release Notes

Metered, Switched, Metered-by-Outlet, and Metered-by-Outlet with Switching Rack PDUs

Released: February 2016

Applicable Rack PDUs:

- AP88XX Metered Rack PDU
- AP89XX Switched Rack PDU
- AP84XX Metered-by-Outlet Rack PDU
- AP86XX Metered-by-Outlet with Switching Rack PDU

Affected Revision Levels

Component	File	Details
APC Operating System	apc_hw05_aos_640.bin	Network Management Card Operating System & TCP/IP Stack for Hardware Platform v05
Rack PDU2 Application	apc_hw05_rpdu2g_640.bin	Switched/Metered Rack PDU2
PowerNet® Application	powernet415.mib	PowerNet SNMP Management Information Base (MIB)

For details on upgrading the firmware, see the User Guide on the APC website, www.apc.com.

Schneider Electric Device IP Configuration Wizard

The Device IP Configuration Wizard is a Windows application designed specifically to remotely configure the basic TCP/IP settings of Network Management Cards. The Wizard runs on Windows® 2000, Windows 2003, Windows Vista, Windows XP, Windows 7, Windows Server 2008, Windows 8 and Windows 2012. This utility supports cards that have firmware version 3.X.X or higher and is for IPv4 only.

The Wizard is available as a free download from the APC web site at www.apc.com:

1. Go to www.apc.com/tools/download and select '**Software Upgrades > Wizards and Configurators**' from the '**Filter by Software/Firmware**' drop-down list
2. Click '**Submit**' to view the list of utilities available for download.
3. Click on the '**Download**' button to download the '**Device IP Configuration Wizard**'.

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New Features

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Security enhancements:

- TLS 1.2 protocol now supported.
- Minimum protocol selection in INI, CLI and Web interface. It is now possible to select the minimum protocol that will be used. For example, if you select TLS v1.1, SSLv3 and TLS 1.0 protocols will be disabled.
- Removed use of RC4 ciphers (except for use in SMTP SSL/TLS authentication).
- Self-signed certificate is now signed with SHA-256 hashing algorithm.
- Diffie-Hellman (DH) Prime Key size now 2048 bits.
- OpenSSH 6.7+ support.

Added FQDN DHCP Option 81 to information provided by NMC via DHCP.

In CLI, if the device is configured to require strong passwords, the criteria for strong passwords are now shown when changing the password.

Simplified the top-level, scrolling LCD screens to reduce the number of screens while highlighting important information. Some data (e.g., phase information) was moved into submenu screens.

Datalog maximum size will now automatically adjust when units are added or removed from a Network Port Sharing group. The upper limit is still 1000 entries as before, but groups with a large number of metered outlets can force a lower upper limit.

Fixed Issues

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The SNMPv1 "communityString" OID allows 15 characters but should allow 16.

Web UI menus may display incorrectly if multiple users are navigating the web UI.

Fixed an issue with the device being inaccessible through HTTP or HTTPS.

Fixed an issue where the "Next NPS Update" time was displaying incorrectly in the web UI.

Fixed an issue causing high IPv4 latency or response time.

Fixed an issue where .csf files uploaded via SCP could be incorrectly processed.

Fixed an issue where the network status LED might show an incorrect color or blink pattern when no network connection is available.

Improved performance when a large number of outlets or outlet groups are controlled simultaneously.
Fixed a telnet disconnection issue occurring after controlling multiple outlets at the same time.
Fixed an issue where attempting to "Cancel Pending Commands" on an outlet group would not cancel some commands.
Fixed a reboot issue when enabling EnergyWise in a Network Port Sharing group with four AP86xx series units
In the web UI, on the bank configuration page, units in a Network Port Sharing group will now correctly display the drop-down box to allow selection of a different PDU in the group.
Fixed an outlet permission issue with RADIUS outlet users in a Network Port Sharing group.
Fixed an issue in Network Port Sharing groups where firmware auto-updates to guest units with AOS 6.3.2 were significantly delayed when the guest units had no network connection.

Known Issues

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The NMC Upgrade utility supports ASCII characters only for username and password.
When upgrading from 5.0x systems, if NTP (network time protocol) is not enabled, the NMC clock will need to be set manually.
The following fields do not accept UTF-8 characters (they accept ASCII only): <ul style="list-style-type: none"> - any numeric field (only Arabic numbers are accepted) - the Datalog FTP Server name.
The following warning events do NOT cause the Network Management Card to send an SNMP trap: <ul style="list-style-type: none"> - System: Detected an unauthorized user attempting to access the FTP interface. - System: Password Changed
The device and outlet user privileges in the CLI are not consistent with the device and outlet user privileges in the Web interface.
In the Web interface, the Primary and Secondary RADIUS servers accept invalid IP address values.
In the Config.ini: the SystemDateTime Server keys return strange values when long strings are applied.
There are different Date Formats on the NMC General/About page.
The Config.ini keywords "LinkDisplay" and "LinkName" in the [SystemLinks] section accept a NULL value.
The Trap receiver NMS settings incorrectly allow for a NULL entry.

<p>The SNMP v1 and v3 Community Access Addresses incorrectly allow for a NULL entry.</p>
<p>The SNMP v1 Trap Community Name incorrectly accepts values greater than the max of 15 and NULL.</p>
<p>The Syslog Server address incorrectly accepts a NULL entry.</p>
<p>RPDU may warmstart during periods of large network activity.</p>
<p>Configuring a fourth email recipient may cause the following event, "System: Email: Could not mail, queue full."</p>
<p>When HTTPS is enabled, Config.ini and SSL certificate upload through the web interface may fail.</p>
<p>File transfers using SCP do not work properly with WinSCP client.</p>
<p>Certain SSL certificates generated by third party Certificate Authorities do not import or upload to the NMC. The only working solution is to use the APC Security Wizard to create both the CA and SSL certificate.</p>
<p>When configuring a firewall rule through the web interface, it become active even when the firewall is not enabled.</p>
<p>Setting the Syslog IP address to the IPv6 loopback address causes the device to reboot and make the application firmware not load.</p>
<p>Several issues have been identified when upgrading the AOS from v5.x.x to v6.x.x. It is important to review Knowledge Base (KBase) FA176047 prior to upgrading Rack PDUs.</p>
<p>Selecting the "Launch Log in New Window" button on the Data Log web page will sometimes launch a new window with no data records, only column headers.</p>
<p>The data log will sometimes fill to the maximum allowed number of entries when it has been configured to a value less than the maximum.</p>
<p>Should a user attempt to configure a phase's Overload Alarm with a value that is above the maximum load value, configuration errors in Near Overload and Low Load Warning values will not be reported on the screen. These entries will be rejected along with the Overload Alarm entry, but notification will not be put on the screen for those fields.</p>
<p>In a Network Port Sharing group, if a unit has an active alarm upon startup and the unit changes its display ID, the alarm may remain in the active alarm list even after the alarm condition clears.</p>
<p>If a breaker is tripped on an AP84xx or AP86xx SKU with two outlet banks (AP8441, AP8453, AP8641, AP8653), outlets 9 through 16 may report incorrect measurements.</p>
<p>A complete config.ini upload to a Rack PDU in a Network Port Sharing group may take a long time. For example, for a Rack PDU in a Network Port Sharing group with three other Rack PDUs, it may take 30 minutes to complete.</p>

A unit in a Network Port Sharing group with a letter in the seventh or eighth positions of its serial numbers may generate a communication lost alarm upon upgrading from 6.1.0 or earlier to 6.3.3 or later. This alarm may be cleared and should not repeat in future upgrades.

Phase and Bank load alarm thresholds are now limited to the ratings of the Rack PDU. If a user had previously set threshold values higher than the rated values, the thresholds will remain above the rated values and there may be errors in the appearance of the web UI. To resolve the errors, users can perform a "Reset to Defaults" or set the thresholds below the Rack PDU ratings.

A unit with over 24 switched outlets (such as AP8965X671) may show a load reading on phase L1, even with no load connected on outlets. This is due to the number of outlet relays drawing power from the input phase.

Miscellaneous

Recovering from a Lost Password

See the User Guide on the website, www.apc.com for instructions on how to recover from a lost password.

Event Support List

To obtain the event names and event codes for all events supported by a currently connected APC device, first retrieve the config.ini file from the RPDU.

To use FTP to retrieve config.ini from a configured RPDU:

1. Open a connection to the RPDU, using its IP Address:

```
ftp > open <ip_address>
```
2. Log on using the Administrator user name and password.
3. Retrieve the config.ini file containing the settings of the RPDU:

```
ftp > get config.ini
```

The file is written to the folder from which you launched FTP.

In the config.ini file, find the section heading [EventActionConfig]. In the list of events under that section heading, substitute 0x for the initial E in the code for any event to obtain the hexadecimal event code shown in the user interface and in the documentation. For example, the hexadecimal code for the code E0033 in the config.ini file (for the event "System: Configuration change") is 0x0033.

PowerNet MIB Reference Guide

NOTE: The MIB Reference Guide, available on the Network Management Card CD and on the website www.apc.com, explains the structure of the MIB, types of OIDs, and the procedure for defining SNMP trap receivers. For information on specific OIDs, use a MIB browser to view their definitions and available values directly from the MIB itself. You can view the definitions of traps at the end of the MIB itself (the file powernet415.mib downloadable from the website, www.apc.com).

MD5 and SHA-1 Hash Signatures

File	MD5	SHA-1
apc_hw05_aos640_rpdu2g640_bootmon108	8b8a3c57242fa3b4ef60d5771d9e6bf1	9c6a66ce6ec063c2d98dcd8417a499de9cf50f6

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