

NetShelter™ Rack PDU Advanced



For NetShelter APDU10000 Series PDUs

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Affected Revision Levels

Component	Version	File
NetShelter Rack PDU Advanced Application	2.0.8	apc.fw
PowerNet® SNMP Management Information Base (MIB) Application	4.4.6 or later	powernet446.mib (or later)
	1.8	apc_cpdu_v1_8.mib

Device IP Configuration

1. Connect the ethernet cable to ETH0 Port or ETH1 port.
2. Enter the IP address assigned xxx.xxx.xxx.xxx , E.g.: **10.10.106.97** .
3. If the ETH0 port is connected to the DHCP server using a switch, the IP address for the port gets assigned by the server.

New Features

Network Improvements	Added support for IPV6 and DNS provided.
SNMP	<ul style="list-style-type: none"> Added DHCP and local address for IPV6 (with OID pduNamePlateIPV6Address). Added SNMP V3 Traps for IPV6 address. Added Hardware Version OID pduNamePlateHWVersion in pduNamePlateTable. Added OIDs to display Power Factor for Total PDUs and CBs. OIDs are pduUnitSTATUSPowerFactor and pduCircuitBreakerSTATUSPowerFactor. Added OID to display or configure USB status using pduUnitConfigUsb. Added OID to display or configure daisy chain state as QNA or RNA using pduUnitConfigDaisyChainState. Added OID to display or configure the status of Telnet feature [ON or OFF] using pduUnitConfigTelnet. Added OID to display or configure Power Share functionality [Enable or Disable] using pduUnitPsFunc. Added OID to displays Power Share support status from adjacent PDUs using pduUnitPsBackupProtection. Added OID to displays Power Share output status using pduUnitPsOutput. Added OID to display or configure sensors reset threshold value using pduExternalSensorConfigAlarmResetThreshold. Added OID to display or configure sensors state change delay value using pduExternalSensorConfigAlarmStateChangeDelay. Added OID to display or configure Aisle status as hot or cold using pduExternalSensorSTATUSAisle. Deprecated the following OIDs - pduUnitPsSupportUpstreamStatus & pduUnitPsSupportDownstreamStatus.
CLI/SSH	<ul style="list-style-type: none"> Password never expires option is available. Interface enables users to control and modify SNMP community strings. Added net redirect [on/off] to enable HTTP and HTTPS simultaneously. Allows Outlet Control by both outlet name and index. During firmware upgrade via FTPS, prompt messages for daisy chain configuration display "NODE PDUs" instead of "SLAVE PDUs." Implemented display of power command statuses for Node PDUs including CB, Phase and Outlet. Previously this command was implemented for Master PDU, now it works seamlessly for NODE PDUs also. Old and new syntax formats are acceptable.
Password Policy	<ul style="list-style-type: none"> Supporting all special characters/symbols from ASCII table for creating passwords.

New Features

Web User Interface (Web UI)	<ul style="list-style-type: none">• Enabled HTTP/HTTPS redirection.• Improved responsiveness of the Web UI for a better user experience.• Displayed PDU name on the dashboard's top band.• Implemented a secondary Radius server configuration.• Single page used for managing outlets and CBs.• Enabled configuring default settings for both the Master and Node PDUs.• Use Thresholds page to phase-wise set Active and Apparent power thresholds. Each phase also generates its own alarms.• Enabled LDAPS secured support and server authentication with a valid TLS certificate.• TLS 1.3 is upgraded for WEB UI, Redfish, FTPS and LDAPS [OPENSSL is used instead of TLS library].• SCP (Secure Copy Protocol) for secure file transfer from PDUs to other computers using valid credentials is implemented.• TELNET access to PDUs is implemented.
Syslog	<ul style="list-style-type: none">• Implemented OMB Syslog.• When a user specifies a DNS hostname for a PDU, the Syslog events page displays the hostname instead of the IP address.
Overall Improvements	<ul style="list-style-type: none">• Sensor realignment involves sequencing sensors based on their most recent detection or access.• Power parameters will now provide power factor information across all interfaces.• CBs tripping and Outlets power ON / OFF are optimized faster than the expected time.• TLS1.3 and certificate upload is supported in SMTP. (Both for Outlook and Gmail using Port 587)

Fixed Issues

SNMP	Inaccurate data is displayed by SNMP OID pduOutletSwitchedPropertiesInputPhaseLayout stands corrected.
DHCP	<ul style="list-style-type: none"> DHCP for transmission DHCP is constantly looking for new packets. It will now send the request within the specified time limit. DHCP will transmit DHCPdiscover packets continually. The DHCP local IP address is 192.168.0.1, and it broadcasts the connection to DHCP every 15 minutes.
CLI/SSH	<ul style="list-style-type: none"> NTP server addresses and time offsets now require only one valid primary address instead of two. The status information for RNA/QNA modes provided in the Master PDU is displayed correctly. CLI commands parameter error while powering ON / OFF Outlet No. 9 is resolved. Disabled the following SSH MAC weak algorithms umac-64, hmac-md5-etm, umac-64-etm. When SSH sessions are closed, the user gets locked out on all network interfaces. This issues is resolved.
File Transfer	Users with the Manager role have limited FTPS access while using the FTPS client server is resolved.
Web UI	<ul style="list-style-type: none"> All fields have a restricted boundary values. While adding data for all the fields under SNMPv1/v2, user can add the unique community strings for similar IP addresses.
SMTP	Memory leak issue that is causing the RAM to run out while using SMTP is fixed.
EEPROM	EEPROM overwrite/data corruption issue is resolved.
Energy	<ul style="list-style-type: none"> Power fluctuations that lead to incorrect energy accumulation in MTYPE/STYPE PDUs is corrected. After a new FW update, users may see an inaccurate energy value accumulated in the PDU; it is necessary to perform the <code>dbg energyclr all</code>.
Event Logs	<ul style="list-style-type: none"> Logs when downloaded either through Web UI or from the NMCs, now are display in corrected chronological order.

Known Issues

SNMP	The view bank (circuit breaker) measurements are not displayed through the SNMP . The 'pduCircuitBreakerSTATUSTable' OID provides the amperage and the load state. However, it does not provide voltage, active power, apparent power, and energy readings.
Web UI	The display of the active alarm information could be improved by showing the active alarm on the dashboard or changing the color of the corresponding icons on the web page.

Miscellaneous

Recovering from a Lost Password

1. Upload the default **conf.ini** using the USB
2. Press **Reset** pin and hold it for 20 seconds, the PDU will move back to the default settings. The default username and password are also restored.

Event Support List

To download the event log from:

1. Web UI - Open the web UI, select the page, and download the Event Log.
2. FTPS - Navigate to the **Log** folder and download the Event Log.
3. USB – Connect the USB and navigate to **USB MENU> Download> eventlog**.

PowerNet MIB Reference Guide

NOTE: The MIB Reference Guide, available 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 `powernet435.mib` downloadable from the website, www.apc.com).

Hash Signatures

Include the **MD5 Checksum** data of the current released files and add **apc.fw** as the firmware file.

MD5 Hash: a7de41bc0d86e1b2e29c84ee3bc2d4bb
SHA-1 Hash: c610864df53f80a0ea58c0404d2030904cd19972
SHA-256 Hash: 3ff6f78a6734545be59ed22c400b49cd6a603d91e397cb753ebb5b0609b555b5