CYBER POWER SYSTEMS, INC.

INTELLIGENT PDU FIRMWARE RELEASE NOTES

Applicable Products:

PDU31XXX, PDU41XXX, PDU71XXX, PDU81XXX, PDU34XXX, PDU44XXX, PDU74XXX, PDU84XXX

Version 1.3.6 (Release Date: Oct. 3, 2025)

    New Feature

    - Support sub board firmware upgrade via FTP.

    - Support firmware upgrade on PowerPanel Business (PPB).

    - Support Restful API.

    Feature Improved

    - Add event "Event counts have been cleared".

    - Adjust the unit of Energy from kWh to Wh.

    - Enable LDAP group configuration on Command Line Interface (CLI).

    - Enable IPv6 by default.

    - Expand SMTP server password length up to 127 characters.

    - Add a Radius Server timeout setting in the Command Line Interface (CLI).

    Bug Fixed

    - ATS outlet energy value is unavailable.

    - Certain display content on Web interface is incorrect.

    - Discrepancy in certain ATS alert conditions between the LCD and Web interface.

    - Bank 3 Load reading on the [Summary->ATS Status] webpage is incorrect.

    - Events containing outlet name are displayed incorrectly on Web interface after setting the outlet name via Command Line Interface (CLI).

    - A subtle noise may come from the buzzer.

    - Fails to set the schedule on Sunday via Command Line Interface (CLI).

    - Fails to set idle time via Command Line Interface (CLI).

    - Certain display content on Command Line Interface (CLI) is incorrect.

    - WOL outlet name on the [PDU/ATS->Wake on Lan->List] webpage is displayed incorrectly.

    - Hardware version on Daisy Chain guest [System->About] webpage is displayed incorrectly.

    - Login event is incorrectly logged as administrator when outlet user or viewer log in on Command Line Interface (CLI).

    - Time interval between status records become inconsistent after establishing an SSH connection or sending an email.

- SNMP request GETBULK is no longer accessible after exceeding the last OID in MIB.
- Fails to login through LDAP/RADIUS secondary server when a Domain Name System (DNS) resolution failure occurs on primary server.
- Fails to login through local account when a DNS resolution failure occurs on LDAP/RADIUS primary server.
- DNS no longer responds when DNS resolution failure occur on NTP server and other services at the same time.
- System reboots if an unexpected OID is used in SNMP GETBULK command.
- AutoPing action is not restored within the function of Restore Configuration.
- Sending multiple Syslog events at once may lead to failure of certain system functions.
- Enabling HTTPS with SSH already enabled may cause SSH to return a "connection refused" error.
- SNMPv3 trap Community is displayed incorrectly after adding an SNMPv3 trap on Command Line Interface (CLI).
- The Authentication Type in the "radius pri/sec show" command output of the Command Line Interface (CLI) is displayed incorrectly.
- Setting the IPv6 Syslog address before IPv4 causes the IPv4 server to miss syslogs.
- When the Radius server is unavailable, Local accounts cannot log in using the Local+Radius login method.
- Fails to establish an HTTPS connection with "TLS_DHE" ciphers.
- Fails to navigate to the webpage after updating accessory firmware when the HTTP/HTTPS port is not set to the default.
- Outlet user/Viewer account is able to upload files via Secure Copy Protocol (SCP)
- Bank 2 outlet index on [PDU/ATS->Wake on Lan->List->New/Edit] webpage is missing.
- Regular security updates on Web service.

Version 1.3.4 (Release Date: Feb. 27, 2025)
   New Feature
   - Support setting LDAP Authentication Mode with "Accredited User" and "By Logon User" and LDAP Authorization Mode with "By Group".
   Bug Fixed
   - Event counts of Bank 1 and Bank 2 Current Overload are incorrect.

- Voltage Transfer Range setting may be incorrect on the [ATS->Manager->Source] webpage when Nominal Voltage is set 240V.
- Data Log Graphing fails to function if Date Format is set "yyyy-mm-dd" and Graph Period is set "From time A to time B".
- The [Log->Status/Energy Records] webpage from Host may be misaligned after downloading Guest Status/Energy Records in Daisy Chain.

Version 1.3.3 (Release Date: Oct. 16, 2024)

New Feature

- Support AutoPing Recovery Action.
- Support outlet control for ATS series and Guest PDUs in daisy chain on PowerPanel Business (PPB).
- Support Deep PDU series, PDU3102X/PDU4102X/PDU7102X/PDU8102X, PDU31030/PDU41030/PDU71030/PDU81030, PDU3132X/PDU4132X/PDU7132X/PDU8132X, PDU31330/PDU41330/PDU71330/PDU81330.
- Support pagination functionality for event logs and status records.
- Support SNMP GetBulk Request.

Feature Improved

- Outlet LED turns yellow (originally white) when the Outlet low load threshold is reached.
- Expand the maximum input length of Syslog Server IP to 39 characters on [Log->Syslog] webpage.
- Expand the maximum input length of Primary/Secondary NTP Server IP to 39 characters on [System->General->Time] webpage.
- Support NTP and Syslog server IPv6 setting on Command Line Interface (CLI).
- Modify the "Date and Time" setting interface to calendar-style format and extend the setting range from 2015 to 2099.
- Adjust SMS Clickatell Service Function to meet the latest API method of Clickatell Server.
- Expand the field size of [System->General->Identification] to display more characters.
- Disable the Authentication Mode selector in [System->Security->LDAP Configuration] when LDAP Server Type is set to Active Directory.
- Disable SNMPv1 by default and enable SSH access to the console instead of Telnet by default for security vulnerability considerations.
- Expand the range of timeout minutes in [System->Security->Session Control] to allow up to 20 minutes.

- Force users to change different username/password upon logging in with default via the console interface.
- Modify copyright information.
- Support ssh-ed25519 hostkey algorithm from SSH Server for security vulnerability consideration.
- Expand the maximum input length of [System->Notification->SMS Service->Service Provider->Using HTTP GET] to 199 characters.
- Expand the maximum input length of [System->Identification->Location] to 127 characters.
- Expand the maximum length for accepted certificate file names to 127 characters.
- Disable the viewer account by default.
- Remove the CBC cipher and add support for the CTR Cipher in the SSH server.
- Display an error message instead of adding one year if a past time is added to the schedule.

Bug Fixed
- Event log is not recorded after source configuration change.
- Failed to set LDAP AD Domain on Command Line Interface (CLI).
- [PDU->EnergyWise] webpage mistakenly disappears when ATS is connected in daisy chain.
- Decimal point is not allowed to be set within host name.
- Sub FW version 0.0.0 mistakenly displays on the LCD among Monitored series.
- [System->Security->Local Configuration->Outlet User] webpage goes wrong if the outlet name contains backslash.
- SNMPv3 Allow Access setting fails to restore within the function of Restore Configuration.
- Loading event logs on Command Line Interface (CLI) would lead to unexpected reboot if outlet user name contains special character '$'.
- ATS related events are mistakenly displayed on [System->Notification->Event Action] webpage.
- LCD seldom turns white after the device starts up.
- Incorrect content is displayed for guest PDU in daisy chain on [PDU->Outlet Action->AutoPing] webpage.
- Only the last outlet takes action when controlling multiple outlets of guest PDU in daisy chain via SNMP service.
- Setting outlet name/outlet user/schedule name/AutoPing/engergywise

configuration via Web/SNMP/CLI does not block special characters.

- The RADIUS function is not able to work when the third or fourth digits of the IP address are set to "0".
- HTTPS is unable to establish a connection when using a self-signed certificate with an RSA 2048-bit key.
- The Total Load on the [Summary->ATS Status] webpage is displayed incorrectly.
- The system may unexpectedly reboot when loading a large number of status records.
- The error message may not be displayed when configuration fails on the [System->Network Service->Web service] webpage.
- The system time is incorrect for certain time zones when using the NTP server.
- The SSH server does not respond when using Putty version 0.76 or later.
- Simultaneous downloads of multiple files via HTTP result in incorrect file content.
- The icon in the web page title is missing when HTTP/HTTPS port is not the default.
- The SNMP OID sometimes couldn't get information of the eighth accessory.
- The system may unexpectedly reboot when removing the eighth accessory.
- The hostkey exported from PDU/ATS is invalid.
- Some display content on Command Line Interface (CLI) is incorrect.
- Incorrect value is responded from SNMP OID as follows:
  - atsStatusPhaseSyncStatus
  - ePDU2SourceStatusSourceAVoltage
  - ePDU2SourceStatusSourceBVoltage

Version 1.3.2 (Release Date: Oct. 27, 2023)
    New Feature
- Support Host Name setting.
- Support downloading Diagnostic Information for PDU.
- Support Outlet User access to Guest PDU in daisy chain.
- Support Outlet User/Viewer login via hyper terminal and console service.
- Add Accessory/Environment sensor related commands on Command Line Interface (CLI).
- Support Accessory information on PowerPanel Business (PPB).
- Support Hardware version 1.2.
    Feature Improved

- Display passwords with asterisks '*' when users log in via Hyper Terminal and Telnet.
- Support IPv6 on NTP and Syslog server setting.
- Support domain name setting on Radius/LDAP Server IP.
- Display passwords with asterisks '*' in the password setting fields on SNMPv3, SMTP, and Account webpage for security enhancement.

Bug Fixed
- PDU would crash after the software "NESSUS" detects and scans the PDU.
- Save and Restore Configuration function is dysfunctional when using Power Device Network Utility 2 (PDNU2) Tool to upload the file.
- Pinging the PDU might fail when accessing the PDU HTTPS Server at the same time.
- LDAP is not able to work when the User Name and password length are more than 97 characters.
- The Mail Subjects sent from event notification in Chinese are displayed incorrectly.
- The IP addresses-related events in Chinese are displayed incorrectly.
- The SNMP OID sometimes couldn't get information after sending the outlet event via trap multiple times.
- Outlet selection is incorrect when adding outlet user on Command Line Interface (CLI).
- Failed to configure the 8th SNEV001 (upgrade version of ENVIROSENSOR).
- Low threshold of temperature setting for environment sensor is 33°F instead of 32°F on the configuration webpage.
- Humidity is incorrectly recorded 0% on the condition of 100% RH with ENVIROSENSOR.
- Accessory status webpage may go wrong if the setting fields (name, location, and contact) are too long.
- Accessory information webpage goes wrong if users try to update 8 SNEV001 at one time.
- Reset function on syslog webpage does not work.
- Event logs via email and trap may lose with multiple SNEV001 connected.
- Event logs with outlet user name goes wrong if outlet user name contains special character '$'.
- Device load is incorrectly recorded 0 on PDU status records webpage.
- Incorrect value is responded from SNMP OID as follows:
  - envir2ContactModuleNumber
  - sysObjectID

Version 1.2.6 (Release Date: Nov. 25, 2022)

    New Feature

- Support SNEV001 (upgrade version of ENVIROSENSOR).
- Support user ability to enable/disable cipher suites for SSL Server.
- Support configuration file download via File Transfer Protocol (FTP).
- Add SNMP OID **ePDU2SourceStatusRedundancyState** in MIB file v2.10.
- Support daisy-chain on PowerPanel Business (PPB).

    Feature Improved

- Remove Gmail OAuth from SMTP Server Authentication.
- Expand Name/Location/Contact length up to 63 characters for [System->Identification].
- Expand account/password length up to 31 characters for Viewer and Outlet User.
- Expand the compatibility of USB Flash Drive for firmware update function.
- Display TCP/IPv4 Subnet Mask and Gateway on LCD for local management.
- Change TCP/IPv4 Subnet Mask from 255.255.255.0 to 255.255.0.0.

    Bug Fixed

- PDU Type Value from SNMPv3 trap is incorrect.
- LDAP authentication fails when the length of password is more than 15 characters.
- Special characters '-' are not allowed when setting NTP Server.
- System time is not updated when the NTP setting is enabled via Command Line Interface (CLI).
- Setting range of schedule time is incorrect on Command Line Interface (CLI).
- Time information of syslog test is missing on Command Line Interface (CLI).
- Incorrect value is responded from SNMP OID as follows:
  - ePDU2SourceStatusSourceAFrequency
  - ePDU2SourceStatusSourceBFrequency
  - ePDU2SourceStatusPowerSupplySourceAStatus
  - ePDU2SourceStatusPowerSupplySourceBStatus
- Failed to quit event log on Command Line Interface via serial port.
- Failed to restore Outlet Power Off Delay with the function of Restore Configuration.
- Prompt message indicating invalid input fails to pop up when the setting of Radius/LDAP server is incorrect.

Version 1.2.4 (Release Date: Mar. 3, 2022)

Feature Improved

- Production process optimization.

Version 1.2.3 (Release Date: Dec. 16, 2021)

New Feature

- Support multiple languages on the Web Interface,
  German/French/Spanish/Russian/Traditional Chinese/Simplified Chinese
- Support RADIUS Server login timeout setting.
- Add Trap Test command on Command Line Interface (CLI).

Feature Improved

- Remove 3DES encryption suite and SHA1 algorithm from SSH Server for
  security vulnerability consideration.
- Present outlet name in notifications with only one outlet.

Bug Fixed

- Save and Restore Configuration function for AutoPing setting is not
  complete.
- PDU would crash when users upload 4096-bit SSH Hostkey.
- Failed to send email to specific servers with severe standard.
- The outlet user name is incorrectly displayed in the field of Outlet User
  Login/Logout event logs when the outlet user name has special characters.
- The changed values aren't displayed in the field accordingly after setting
  new Subnet Mask and Gateway on the Web Interface.
- SMS Service Provider option could not switch after the newline character
  is set in the field of Content on SMS Service webpage.
- Prompt message indicating reboot fails to present after users upload
  certificate on Web Service webpage.
- ColdStart Delay setting may lead to outlet on delay failure.
- Correct the contents on Help webpage.
- LCD temporarily turns green after the device boots up.

Version 1.2.2 (Release Date: Aug. 11, 2021)

New Feature

- Support Auto Transfer Switch (ATS) series,
  PDU34XXX/PDU44XXX/PDU74XXX/PDU84XXX

Bug Fixed

- The LDAP/RADIUS Server Configuration may fail when settings are saved as

"Skip Test" on the Web Interface.

- Special characters are not allowed when setting Schedule Name, Outlet Name, Outlet User Name and AutoPing Name on the Web Interface.
- Information of daisy-chained PDUs fails to load on Daisy Chain webpage.
- Prompt message indicating logout fails to pop up after changing the IP information (Subnet Mask, Gateway) on TCP/IPv4 webpage.

Version 1.2.1 (Release Date: Mar. 25, 2021)
    New Feature
    - Support SSH Algorithms as follow:
        Kex exchange:
            • diffie-hellman-group-exchange-sha256
            • diffie-hellman-group14-sha256
            • diffie-hellman-group14-sha1
            • diffie-hellman-group1-sha1
        Ciphers:
            • aes256-cbc
        MAC:
            • hmac-sha2-512
            • hmac-sha2-256
    - Add Challenge-Handshake Authentication Protocol (CHAP) to the RADIUS authentication type.
    Feature Improved
    - Support using HTTP Post Request to submit account/password information on the Web interface.
    - Support logging PDU via Rebex SSH Client.
    - Support setting Gmail authentication on SMTP Sever for new verification method of Google mail Server.
    - Support SMS Service Provider function for Clickatell accounts created after 2016.
    - Remove 3DES encryption suite from SSL ciphers for security vulnerability consideration.
    - Remove TLS V1.0 Protocol from SSL Server for security vulnerability consideration.
    - Display the error message when Viewer account/password length is more than 15 characters on Command Line Interface (CLI).
    - Display the prompt to log out message when changing the IP information (IP address, Subnet Mask and Gateway) on Command Line Interface (CLI).

Bug Fixed

- Failed to follow the setting of Admin Manager IP when using FTP.

- Failed to set Clickatell as SMS Service Provider.

- Failed to send email to specific servers with severe standard.

- Email reception time does not match the event time in the Daylight Saving
  Time (DST) zone.

- Failed to set Viewer Manager IP with subnet mask on Command Line Interface
  (CLI).

- Outlet user fails to login when using LDAP Server.

- Login with outlet user could not control the first outlet number which is
  defined in description when using LDAP Server.

- The outlet user name of last logged-in user is incorrectly displayed in
  the field of outlet user name in all related event logs.

- Executing specific commands on Command Line Interface (CLI) would lead to
  unexpected reboot.

Version 1.2.0 (Release Date: Apr. 24, 2020)

New Feature

- Support TLS 1.2.

- AutoPing.

Feature Improved

- Force user to change different username/password upon login with default.

- Expand the compatibility to support Gmail notification function.

- Add X-Frame-Options to the http header for enhanced security.

- Adjust the function "Admin/ Viewer Manager IP" to be on the [System-
  >Management] webpage as it is valid for Radius/LDAP as well.

Bug Fixed

- Failed to login SSH console via Putty version 0.71 or above.

- PDU would crash when the software "The Dude" detects and scans the PDU
  with SSH enabled.

- Rarely fail to login and keep redirecting to the login page after login
  procedure on the Web.

Version 1.1.2 (Release Date: Nov. 19, 2019)

New Feature

- Support Command Line Interface (CLI).

Bug Fixed

- Special characters are not allowed when setting SMTP server account/password on the Web Interface.
- Special characters are not allowed when setting SNMPv3 authentication password and privacy password on the Web Interface.
- Time not in Daylight Saving Time (DST) period is incorrectly turned forward one hour in the Start and End Month (only in the Southern Hemisphere).
- The format of Syslog message is incorrect with displaying information of year.
- E-mail notification is unavailable when SMTP server address length is more than 32 characters.
- Administrator fails to login when using Windows AD Server with specific attribute setting.
- Incorrect date of action time is mistakenly allowed when setting Schedule Once on the Web interface.
- Arrow keys are mistakenly allowed on the Serial Interface and Console service.

Version 1.1.1 (Release Date: Jun. 25, 2019)

New Feature

- Add SNMP OID as follows:
  - envirTemperatureCelsius
  - envirTempCelsiusHighThreshold
  - envirTempCelsiusLowThreshold
  - envirTempCelsiusRateOfChange
  - envirTempCelsiusHysteresis

Feature Improved

- Support Outlet User feature and Outlet Name setting among Monitored PDU Series
- Expand account/password up to 63 characters for the Administrator on the Local Account and the SMTP Server.
- Display passwords with five asterisks "*****" instead of originally blank once the password field of SMTP server, SNMPv3 authentication and privacy is set.
- Support load threshold hysteresis.
- Add temperature or humidity value in selected Environment Sensor events.
- Add Firmware update events in the list of System Information.

Bug Fixed

- PDU would crash after the software "NESSUS" detects and scans the PDU.
- Using Windows NPS RADIUS Server could not login with Administrator.
- Setting the Schedule Once on the Web Interface, the same action might unexpectedly do again after 11 days.
- The E-mail Recipients webpage would not display correctly once the test message is sent to more than one email recipient and DNS server is not functional.
- Setting Gmail authentication on SMTP server would not succeed due to the change of verification method in Google mail Server.
- Webpage is no longer accessible through HTTPS once the handshake between PDU and LDAPS server fails.
- Error message "Key Exchange Fail" appears on the console when users attempt to log in through SSH by PUTTY.
- SMS service is not functional in specific servers with severe standard.
- Special characters are not allowed when setting account/password through console service.
- Using TLS/SSL to verify user's identity on the SMTP server would get authentication failure when the character length of account is shorter than the character length of password.
- Logging in with wrong level of access if the description attribute of the account is not set in LDAP Server.
- Setting outlet load threshold cannot work through console service.
- Outlet load threshold events are not triggered among Metered-by-Outlet PDU Series.

Version 1.10 (Release Date: Jun. 25, 2018)
    New Feature
    - Support Firmware Update function via Secure Copy Protocol (SCP) and PuTTY Secure Copy client (PSCP).
    - Support SSH Hostkey export function.
    Feature Improved
    - Display outlet user name in the Event Logs when outlet user logs in/out.
    - Expand the compatibility of USB Flash Drive for firmware update function.
    Bug Fixed
    - Inputting incorrect Manager IP format in the Local Account page would be accepted and be configured an unpredictable setting value.
    - Status load (Amps) responded from SNMP OID was 10 times to correct value, e.g. ePDU2DeviceStatusLoad, ePDU2DeviceStatusPeakLoad,

ePDU2BankStatusLoad, ePDU2OutletMeteredStatusLoad, etc.

    -   Unexpected reboot when LCD screen off time is set to 'Never'.

Version 1.09 (Release Date: May 8, 2018)

    Feature Improved

    -   Support the following models: PDU31106, PDU31406.

Version 1.08 (Release Date: Feb. 8, 2018)

    New Feature

    -   Support Firmware Upgrade via Daisy-Chain function. Once the Host PDU
        completes the firmware upgrade, it will trigger its Guest PDUs in the
        series to upgrade the firmware automatically.

    Bug Fixed

    -   Scheduling outlet actions at the same action time cannot work.

    -   Webpage is no longer accessible in case of HTTPS handshake failure.

    -   Notification through Gmail cannot work if HTTP/HTTPS port changed.

    -   System time becomes incorrect when it is updated from NTP server in the
        period of DST.

    -   DNS cannot work normally as long as it fails once.

    -   Device/Outlet load (Watts) displayed on PowerPanel® Business Edition is 10
        times to correct value.

    -   Under certain conditions the PDU will enter a mode of operation in which
        power measurements are not updated and outlet control is unresponsive
        until the unit is rebooted.

Version 1.06 (Release Date: Aug. 16, 2017)

    New Feature

    -   Daisy Chain: Users are able to access up to four PDUs using only one
        network connection.

    -   Security Enhancement: Users forced to change default username/password
        upon first login.

    Feature Improved

    -   SYSLOG description added on Event Action Help page.

    -   Upon Manual Setup for system time configuration, year option can only be
        chosen after 2000.

    -   Unit displayed for power adjusted to 1W/VA in the replacement of
        0.01kW/kVA.

    Bug Fixed

- Fixed the issue where users cannot login through Safari browser.
- Fixed mis-sending Login Event bug when testing LDAP/RADIUS.
- Fixed bugs where revision of OAuth verification algorithm leads to users being unable to authorize Gmail account as SMTP serVersion
- Unexpected reboot when e-mail was sent via Office365 SMTP serVersion
- Users cannot login through SSH via PUTTY.
- Fixed bugs where outlet peak power/energy is not reset after PDU reset action is executed.
- Fixed the issue where Wake-on-LAN may not function properly after users connect with PPBE.

Version 1.04 (Release Date: Nov. 22, 2016)
Bug Fixed
- Fixed table heading bugs in the file which users save status records.

Version 1.03 (Release Date: Nov. 10, 2016)
Feature Improved
- Improved USB firmware upgrade process.

Version 1.02 (Release Date: Oct. 28, 2016)
Bug Fixed
- Fixed content errors on several interface (Web/Telnet/LCD/MIB).

Version 1.01 (Release Date: Oct. 24, 2016)
Bug Fixed
- Fixed table heading bugs on status records webpage.

Version 1.00 (Release Date: Oct. 6, 2016)
- First Release.

CYBER POWER SYSTEMS, INC.
www.cyberpowersystems.com
Contact in USA and Canada:
4241 12th Ave East, Suite 400
Shakopee, MN 55379
Toll-free: (877) 297-6937
Contact for all other regions:

Please visit our website for local contact information.