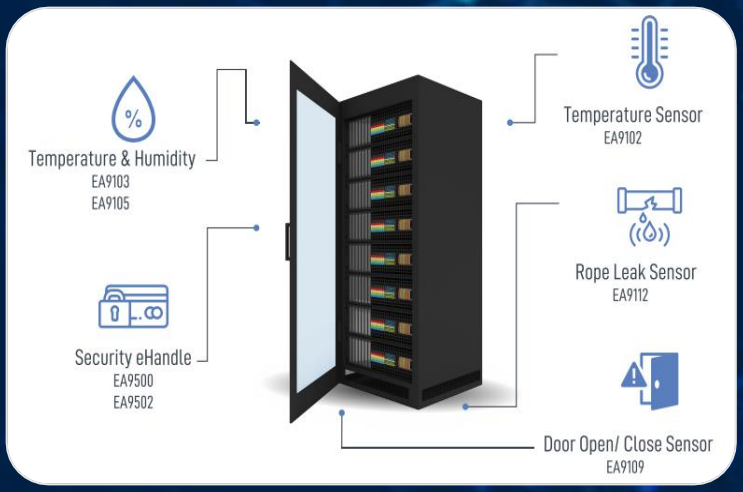
enLOGIC by nVent



Advantage & Secure

Release Notes

Document Version – 1.4

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1 GENERAL

1.1 SCOPE

The Release Notes for Advantage & Secure firmware version 3.2.0 are contained in this document.

1.2 ABBREVIATIONS AND ACRONYMS

To help better comprehend this document, attached is a list of the key acronyms and abbreviations.

Acronym	Abbreviation
PDU	Power Distribution Unit
GUI	Graphical User Interface
SSH	Secure Shell Protocol
SNMP	Simple Network Management Protocol
SMTP	Simple Mail Transfer Protocol
LDAP	Lightweight Directory Access Protocol
CLI	Command Line Interface
FTPS	File Transfer Protocol Secure
MAC	Media Access Control
IP	Internet Protocol
SKU	Stock Keeping Unit
EMEA	Europe Middle East Asia Pacific
NA	North America

2 RELEASED FILES

2.1 PACKAGED FILE

Firmware	**enlogic.fw**
Checksum/ SHA256	9507876e4b33977a610d8c6bfdecc46f2253beb53f145cf8bf5f78f5bc6d1cc3

2.2 SOFTWARE VERSION

FIRMWARE VERSION – 3.2.0

3 PRODUCT FAMILY

Product Type	Description
Input Metered PDU (MI)	PDU with metering capability at the input of the PDU.
Monitored Switched (MS)	PDU with metering capability at the input of the PDU plus the ability to control outlets on and off.
Outlet Metered PDUs (MO)	PDU with metering capability per outlet.
Monitored and Switched per Outlet PDUs (MSPO)	PDU with metering capability per outlet plus the ability to control outlets on and off.
Inline Energy Meter (IEM)	Inline meter that provides metering capability at the input of the attached IT equipment.

4 SKUS SUPPORTED

Type	SKU Numbers
Input Metered PDU (MI)	**EN1315, EN1325, EN1326, EN1327, EN1334, EN1337, EN1339, EN1341, EN1343, EN1345, EN1350, EN1351, EN1354, EN1355, EN1356, EN1357, EN1403, EN1450, EN1451, EN1805, EN1805S, EN1806, EN1811, EN1814, EN1815, EN1821, EN1822, EN1823, EN1826, EN1827, EN1829, EN1850, EN1851, EN1853, EN1854, EN1855, EN1856, EN1880, EN1902, EN1906, EN1907, EN1908, EN1915, EN1916, EN1917, EN1918, EN1919, EN1926, EN1927, EN1932, EN1939, EN1940, EN1942, EN1949, EN1950, EN1951, EN1952, EN1953, EN1955, EN1956, EN1982, EN1983, EN19HA, EN19HB, EN19HC, EN19HD, EN19JA**
Monitored Switched (MS)	**EN2315, EN2316E, EN2317, EN2324, EN2325, EN2326, EN2329, EN2333, EN2337, EN2339, EN2350, EN2351, EN2354, EN2380, EN2402, EN2403, EN2404, EN2450, EN2804, EN2804S, EN2808, EN2810, EN2812, EN2823, EN2850, EN2851, EN2852, EN2880, EN2902, EN2907, EN2950, EN2951, EN2952, EN2953, EN2980, EN2982**
Outlet Metered PDUs (MO)	**EN5325, EN5329, EN5337, EN5380, EN5402, EN5808, EN5810, EN5850, EN5886, EN5952, EN5956**
Monitored and Switched per Outlet PDUs (MSPO)	**EN6324, EN6325, EN6326, EN6329, EN6333, EN6337, EN6338, EN6341, EN6350, EN6351, EN6353, EN6380, EN6381, EN6399, EN6402, EN6450, EN6602, EN6804, EN6804S, EN6808, EN6810, EN6812, EN6827, EN6829, EN6833, EN6834, EN6835, EN6850, EN6851, EN6852, EN6880, EN6881, EN6883,EN6885, EN6902, EN6905, EN6908, EN6909, EN6910, EN6911, EN6950, EN6951, EN6952, EN6954, EN6959, EN6956, EN6958, EN6961, EN6980, EN6982, EN6990, EN69HA, EN69HB**
Inline Energy Meter (IEM)	**EZ1430, EZ1530, EZ1550, EZ1560, EZ1616, EZ1632, EZ1663, EZ1716, EZ1732, EZ1763**
UPDU (Universal Power Distribution Unit)	**EN13UA_20A3WYE, EN13UA_16A3WYE, EN13UA_20A1L-L, EN13UA_16A1L-N**

5 PRODUCT DESCRIPTION

FEATURES	Input Metered (MI)	Outlet Switched (MS)	Outlet Metered (MO)	Metered and Switched per Outlet (MSPO)
DESIGN ▪ *Low profile, space saving design.* ▪ *Ultra-low-profile circuit breakers on most models* ▪ *Adjustable tool-less mounting system*	YES	YES	YES	YES
PDU POWER MONITORING ▪ *PDU level watt hour power metering (kWh)* ▪ *PDU level power measurements (W)* ▪ *Input phase level power measurements (V, A, VA, kWh, pf)* ▪ *Circuit Breaker level current measurements* ▪ *High accuracy, metering capabilities* ▪ *Persistent Data Log to record/view/report historical data.* ▪ *User customizable alarm thresholds & notifications*	YES	YES	YES	YES
OUTLET LEVEL SWITCHING ▪ *Remote ON/OFF Power control by individual outlet* ▪ *User defined power-on time delay to sequence IT equipment* ▪ *Automatic sequencing to avoid inrush current overload.* ▪ *Controlled with assignable roles and user access*		YES		YES
OUTLET LEVEL POWER MONITORING ▪ *Outlet level watt-hour energy metering(kWh)* ▪ *Outlet level power measurements (V, A, VA, W, pf)*			YES	YES
ENVIRONMENTAL MANAGMENT ▪ *Optional Plug and Play environmental sensors including temperature, humidity, and water leak.*	YES	YES	YES	YES

PHYSICAL SECURITY MANAGEMENT ▪ *Rack access monitoring with door contact switch* ▪ *Customizable alarm thresholds and notifications*	YES	YES	YES	YES
NETWORK MANAGEMENT AND LOCAL DISPLAY INTERFACE ▪ *Active LED display for power measurements* ▪ *OLED display with high contrast ratio, easy to navigate menu and visual graphic bars for phase load balancing.* ▪ *Full featured network management and alerting capabilities supporting HTTP, HTTPS, SSH, SNMP, FTP and SMTP.* ▪ *Strong encryption, passwords and advanced authorization options including local permissions, LDAP, and Active Directory.* ▪ *Daisy Chain up to 64 Rack PDUs, each up to ten sensors.*	YES	YES	YES	YES
BRANCH CIRCUIT LOAD MONITORING	YES	YES	YES	YES
CIRCUIT BREAKER STATUS		YES	YES	YES

6 UPDATED FEATURES

6.1 3.2.0 FIRMWARE UPGRADE

1. The new firmware version 3.2.0 is available at the **Enlogic** website for download. It is mandatory for all users to download this file before initiating the firmware upgrade process.

2. For the existing customer the firmware upgrades should be performed in the following order for Advantage Series NMCs:
    a. Verify if the existing firmware versions are 2.0.6.7/ 2.0.7.6 or below these versions.
    b. Upgrade to the Firmware version is 2.0.6.7/ 2.0.7.6 , use the following process and upgrade to the latest firmware version 3.2.0 .
    c. Upgrade Bridge firmware 3.0.0.2 using the update folder in the USB, or **enlogic.tar** using the WEBUI & FTPS.
    d. From 3.0.0.2, [bridge firmware] flash new firmware 3.2.0 use **enlogic.fw** using USB, WEBUI & FTPS.
    e. USB firmware upgrade option is recommended.
    f. USB should be in FAT32 file system, no other files to be present during firmware upgrade.
    g. It is recommended to upgrade the firmware always on standalone PDU.
    h. If PDUs are daisy chained detach the daisy chain cable and then upgrade the firmware.

3. The firmware upgrades should be performed in the following order for Advantage Secure NMCs:
    a. Firmware version 3.0.4.
    b. From 3.0.4, to flash new firmware 3.2.0 use **enlogic.fw** using USB, WEBUI & FTPS.
    c. USB firmware upgrade is recommended.
    d. USB should be in FAT32 file system, no other files to be present during firmware upgrade.
    e. It is recommended to upgrade the firmware always on standalone PDU.
    f. If PDUs are daisy chained detach the daisy chain cable and then upgrade the firmware.

6.2 FIRMWARE ASSETS FROM FIRMWARE 3.1.3 VERSION ONWARDS

1. As opposed to previous firmware releases that used compressed or zipped files [.tar/.zip], firmware version from 3.1.3 and later will use the **enlogic.fw** format.
2. Improved ability for Advantage Series NMCs to work with Advantage Secure NMCs. This includes a change to the firmware upgrade file format which is now a '.fw' file rather than a '.tar' file.
3. Note that there will be two restarts during the upgrade procedure as opposed to the typical one when the bridge firmware is updated to the version 3.1.3 .
4. Previously stored configuration files cannot be used after updating to the new version 3.2.0 .
5. Due to underlying file system improvements made from firmware version 3.1.3, downgrades to a previous firmware version are not supported.
6. From firmware version 3.1.3 upgrade activity via USB, ensure that the USB does not contain the **update** folder.
7. If updating PDUs in a daisy chain configuration and one or more Node PDUs do not upgrade successfully, those Node PDUs will need to be individually updated. This can be done using the USB method.
8. PDUs cannot be Daisy chained from an NMC with an older firmware version to a newer firmware version 3.2.0.
9. From the 3.1.3 firmware version, hot swapping of NMCs is allowed only if both the PDUs are upgraded with the latest firmware version.
10. From firmware version 3.2.0, web pages now have a queuing system in place with the OpenSSL updates, so users will experience improved responsiveness of web pages.
11. From the firmware version 3.1.3 onwards, the MAC address appended to the DNS hostname was removed.

6.3 FIRMWARE 3.2.0 NEW FEATURES

This section lists the new features released with firmware version 3.2.0:

1. Office of Management and Budget (OMB) Syslog Implementation: In relation to cybersecurity incidents, Syslogs are required and must adhere to the M-21-31 memorandum requirements specified by the Federal Government's Investigative and Remediation Capabilities. This memorandum outlines the logs that agencies need to keep and maintain for necessary retention periods.

    - Log: A record of the events occurring within an organization's systems and networks. Logs consist of log entries; each entry contains information related to a specific event that has occurred within a system or network.
    - Event: Something that occurs within a system or network.
    - Event Type: The category of an occurrence within a system or network.
    - Event Filtering: The suppression of log entries from analysis, reporting, or long-term storage because their characteristics indicate that they are unlikely to contain information of interest.
2. The Syslog events page shows the hostname rather that the PDU IP address when a user specifies a DNS hostname for a PDU.
3. The secondary Radius Server configuration is active.
4. Supports LDAPS configuration and activating server authentication using TLS, which provides additional layer of security.
5. SCP (Secure Copy Protocol) for secure file transfer from PDUs to other computers using valid credentials is implemented.
6. TELNET access to PDUs is implemented.
7. PCT version 3.0.6 released. (with TELNET, Power Share parameters, Syslog Server Configuration, Event Log parameters, Web port features in Network Settings, Radius Server Configuration and LDAP/LDAPS Configuration)

8. With the new improvements in CLI/SSH:
    - Added new redirection command to enable HTTP and HTTPS.
    - Additional commands are included in the User Menu options (Role list, Password Policy, and Session management).
    - To improve the user experience, new commands are added to the Dev Menu, and it is redesigned.
    - The prompt messages for a daisy chain setup during the firmware upgrading procedure via FTPS show "NODE PDUs" rather than "SLAVE PDUs."
    - All newly created users with admin privileges and the default manager login now have the ability to set the date, time, and lock/unlock handles.
    - User can manage or modify SNMP community strings.

9. With the new improvements in the Web UI:
    - It is now possible to define Default settings for both Master and Node PDUs together.
    - The new queuing mechanism and the OpenSSL upgrades have enhanced the User Interface responsiveness.
    - In the Dashboard, the user can see the PDU name on the top band.
    - User can now set thresholds for Active and Apparent power phase-wise on the Thresholds page using the 'Phase Power' tab newly added. The alarms are also generated for each phase.
    - The deletion of a smart rack user from the SNMP interface causes an event to be recorded in the event log.
    - The WEB UI allows for Outlet or CB Management using a single page.

6.4 ENHANCEMENTS

1. Full Power Share capabilities for Advantage Secure PDUs. The best performance for this capability comes solely from new/upgraded hardware settings.
2. Power parameters will now display power factor information also on all interfaces.
3. In CLI/SSH interface:
    - Improvements are made to dev menu and user menu commands.
    - Outlet Control can now be handled using both Outlet name and index.
    - New Power Share Dev commands have been introduced to define Power Share Output and Backup Protection parameters.
    - Power command statuses for Node PDUs, including CB, Phase, and Outlet are now displayed.
      Note - Users are recommended to download the updated User manual for all CLI Command updates and examples. Click here for Enlogic User Manual.
    - New URLs implemented using Redfish DMTF standards [User, Role, Outlet, Date & Time, PDU, IPV4 & IPV6 NTP, SNMP v1/2 & v3, SNMP Traps and Daylight Saving Time configurations].
      Note - Users are recommended to download the updated User manual to check the Redfish URLs implemented with payloads and curl commands for each. Click here for Enlogic User Manual.
4. MIB browser:
    - Improved support for Power Share, deprecated two OIDs - pdupowershareSupportUpstreamSTATUS and pdupowershareSupportDownstreamSTATUS
    - Added new OIDs for
        - pdupowershareTable - `pduPowerShareOutput and pduPowerShareBackupProtection.`
        - pduExternalAssetManagerTable - `pduExternalAssetManagerIndex`
        - pduNamePlateTable - `pduNamePlateHWVersion`
        - pduInputPhaseSTATUSTable, pduCircuitBreakerSTATUSTable & pduOutletMeteredSTATUSTable - `pduUnitSTATUSPowerFactor and pduCircuitBreakerSTATUSPowerFactor`

7 Resolved Issues

This section lists the issues that have been rectified in the firmware version 3.2.0.

This new version supports…

1. In Web UI and the OLED screen minor Japanese language translation errors are corrected.
2. In the Web UI, the previously preset data is still retained in the Trap Receiver and SNMP V3 Users fields (apart from the privacy algorithm) when the user activates the Default settings.
3. Synchronized display of current parameter values across Seven Segment and OLED screens.
4. The MIB file download using a web browser results in a 401 error.
5. In SNMP interface, the OID pduInputPhaseConfigCurrentAlarmResetThreshold displays data values in multiple of 10.
6. Energy accumulation:
    - Power fluctuations that lead to incorrect energy accumulation in MTYPE/STYPE PDUs is addressed.
    - After a new FW update, users may see an inaccurate energy value accumulated in the PDU; it is necessary to perform the **db energyclr all** command to clear that value. This inaccurate energy value accumulation is notices in two type of PDUs – Input Metered PDU (MI) and Monitored Switched (MS) SKUs.
    - In Web UI, the values of the Energy parameter (Unit, CB, Phase, Outlet) are shown in line with the data gathered after start/energy since value.

8 Known Issues

This section lists known issue, which is present in firmware version 3.2.0.

1. While uploading a Configuration File, choosing Syslog facilities – audit, alert, NTP, clock may cause the PDU to behave differently.