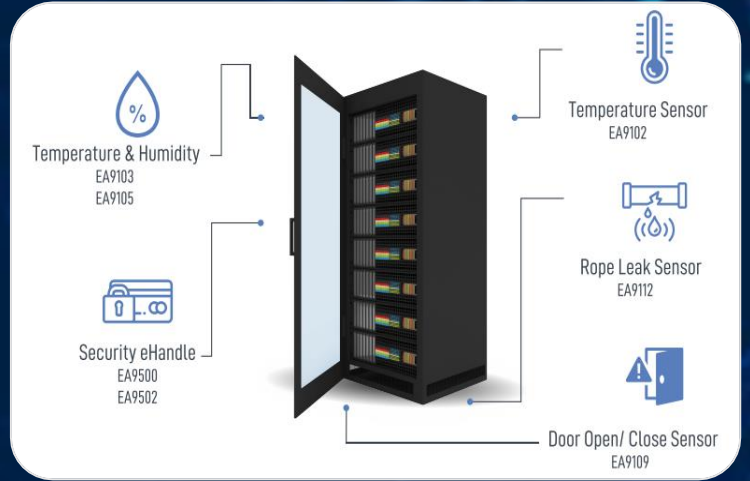
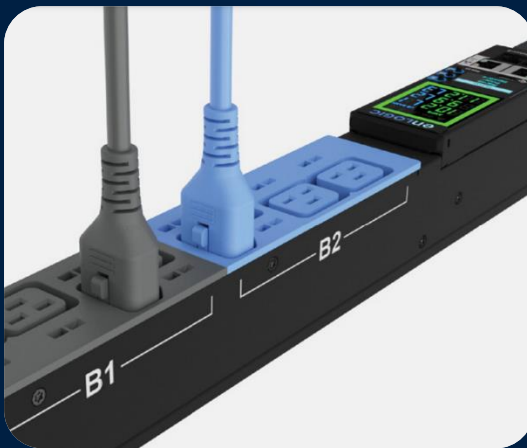


enLOGIC by nvent



Advantage & Secure

Release Notes

Document Version – 1.2

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1 GENERAL

1.1 SCOPE

The Release Notes for Advantage & Secure firmware version 3.1.8 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
<i>PDU</i>	Power Distribution Unit
<i>GUI</i>	Graphical User Interface
<i>SSH</i>	Secure Shell Protocol
<i>SNMP</i>	Simple Network Management Protocol
<i>SMTP</i>	Simple Mail Transfer Protocol
<i>LDAP</i>	Lightweight Directory Access Protocol
<i>CLI</i>	Command Line Interface
<i>FTPS</i>	File Transfer Protocol Secure
<i>MAC</i>	Media Access Control
<i>IP</i>	Internet Protocol
<i>SKU</i>	Stock Keeping Unit
<i>EMEA</i>	Europe Middle East Asia Pacific
<i>NA</i>	North America

2 RELEASED FILES

2.1 PACKAGED FILE

Firmware	enlogic.fw
Checksum/ SHA256	50ECE3FDB858C096C7FEF9A4CD673F5C95C450A5C4AC2B8C76E92597DE5B1BE6

2.2 SOFTWARE VERSION

FIRMWARE VERSION – 3.1.8

3 PRODUCT FAMILY

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

4 SKUS SUPPORTED

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

5 PRODUCT DESCRIPTION

FEATURES	Input Metered (MI)	Outlet Switched (MS)	Outlet Metered (MO)	Metered and Switched per Outlet (MSPO)
<p>DESIGN</p> <ul style="list-style-type: none"> ▪ Low profile, space saving design. ▪ Ultra-low-profile circuit breakers on most models ▪ Adjustable tool-less mounting system 	YES	YES	YES	YES
<p>PDU POWER MONITORING</p> <ul style="list-style-type: none"> ▪ 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
<p>OUTLET LEVEL SWITCHING</p> <ul style="list-style-type: none"> ▪ 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
<p>OUTLET LEVEL POWER MONITORING</p> <ul style="list-style-type: none"> ▪ Outlet level watt-hour energy metering(kWh) ▪ Outlet level power measurements (V, A, VA, W, pf) 			YES	YES
<p>ENVIRONMENTAL MANAGMENT</p> <ul style="list-style-type: none"> ▪ Optional Plug and Play environmental sensors including temperature, humidity, and water leak. 	YES	YES	YES	YES

<p>PHYSICAL SECURITY MANAGEMENT</p> <ul style="list-style-type: none"> ▪ Rack access monitoring with door contact switch ▪ Customizable alarm thresholds and notifications 	YES	YES	YES	YES
<p>NETWORK MANAGEMENT AND LOCAL DISPLAY INTERFACE</p> <ul style="list-style-type: none"> ▪ 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
<p>BRANCH CIRCUIT LOAD MONITORING</p>	YES	YES	YES	YES
<p>CIRCUIT BREAKER STATUS</p>		YES	YES	YES

6 UPDATED FEATURES

6.1 3.1.8 FIRMWARE UPGRADE

1. 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 3.1.8 .
 - 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 3.1.8 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.
2. 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 3.1.8 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 3.1.8 NEW FEATURES

This section lists the new features released with firmware version 3.1.8.

1. Introducing the option to allow users customize Network Time Protocol (NTP) server addresses and time offsets using the CLI/SSH interface. NTP CLI commands facilitate enabling/disabling the NTP feature, configuring server addresses, setting offset addresses, and accessing help strings.
2. Launching the Enlogic PCT tool with version 3.0.3, accompanied by a user guide for configuring SKUs through a unified interface.
3. Enabling EEPROM protection to secure stored data. Here, the cache memory storage safeguards the saved SKU, Serial, Type of the PDU and MAC address data.
4. Supporting firmware upgrades using HyperView.

6.3 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 3.1.8 .
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 3.1.8 .
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. Web pages now have a queue system in place, with the updated firmware 3.1.3, improves responsiveness of web pages.
11. From the firmware version 3.1.3 onwards, the MAC address appended to the DNS hostname was removed.

6.4 OPTIMIZATION IN ENERGY ACCUMULATION

1. Refurbishment of energy accumulation coding. It is recommended that users execute the command, "**dbg energyclr**". Enlogic customer service can assist by providing a script that can accommodate a list of PDU addresses.
2. This firmware supports configuration of energy values in the Serial and SSH/CLI '**pwr**' command.

7 Resolved Issues

This section lists the issues that have been rectified in the firmware version 3.1.8.

This new version supports...

1. Resolving a memory leak flaw noticed in the internal module. Any interface request placed from PDU role (either master or node), may cause this issue and RAM space gets depleted. This issue could result in process restarts after a long run-time.
2. Resolving a DHCP lease time renewal issue. It is found that either the DHCP lease time has expired or PDUs are being assigned new IPs at regular intervals.
3. Resolving an EEPROM overwrite issue. In this instance, an unauthorized user may perform a 'Write' operation resulting in a buffer overflow and the subsequent overwriting of memory locations, corrupting the data.
4. Resolving an invisible syntax error while inputting the command **pwr unit** in CLI/SSH interface. An extra space after the command was returning invalid data previously, now displays a parameter error message.
5. Resolving a Process restart. When the user executes '**sigquit**' command on an IPV6 enabled system using a CLI Interface, it results in a runtime process restart.
6. Resolving an issue where phase & unit current are displaying zero value instead of the actual energy accumulated. This issue was observed when the load is connected to any of the circuit breakers CB2/CB3/CB5/CB6.
7. Resolving an Outlet Recovery delay. It was noticed that after moving from backup to main power a PDU requires approximately ten minutes to reach its actual (ON) state.
8. Resolving an issue related to the outlet count displayed for a specific SKU.