

PowerPad® Model 8335 Firmware Release Notes

Firmware 2.6

- (bug fix) RTC access no longer leads to a firmware crash within the operating temperature range

Firmware 2.5

- (bug fix) Power and energy sum resolutions are updated with every current sensor change (Power)
- (change) Short term flicker severity is now calculated over a 10-minute period (Waveform, Trend, Alarm)

Firmware 2.4

- (bug fix) Alarms with "N" target have no longer their start threshold computed from L1 parameters (Alarm)
- (bug fix) Alarms with detection in progress are cancelled when associated setup is changed (Setup)
- (change) Crest factors are calculated from a 1-second period (Waveform, Alarm, Trend)
- (change) Peak values are calculated from a 1-second period but reset on demand with the ENTER key (Waveform)

Firmware 2.2

New features:

- **Voltage ratio:** From 1V to 500kV; Setup separately or grouped
- **Current sensor mixing:** Sensor dependent, from 10mA to 60kA; Combined as needed
- **Transient level setup:** Setup from 1V or 1A; Setup separately or grouped
- **New languages:** In addition to the 21 existing: Japanese, Turkish, Hindi and Thai
- (bug fix) Bar height calculation of voltage and current harmonic bargraphs has been corrected (Harmonic)
- (bug fix) Empty trend recordings are automatically deleted (Trend)
- (bug fix) Stopping a trend recording on standby is now possible (Trend)
- (bug fix) Trend recording start and stop date automatic correction and alignment have been improved (Trend)

Firmware 2.1

- (bug fix) Changing current probes just before starting a detection sometimes led to erroneous behavior (Transient)
- (bug fix) Five Norwegian texts corrected in the Date-Time menu and the Help menu (Setup, Power, Trend, Waveform)
- (bug fix) Flash memory access collision possibility removed (Transient)
- (bug fix) Inrush recording parameter display after a power-OFF power-ON instrument sequence is now correct (Inrush)
- (bug fix) Inrush recording schedule (via Modbus and GUI) corrected (Inrush)
- (bug fix) Japanese text now correctly displayed in the Erase Memory menu (Setup)

- (bug fix) Modifying voltage ratio (via Modbus or GUI) just before starting a detection led to erroneous behavior (Setup, Transient)
- (bug fix) No more maximum half-period RMS value lower than average RMS value (Trend)
- (bug fix) No more minimum half-period RMS value lower than average RMS value (Trend)
- (bug fix) One American English text corrected in the campaign schedule screen (Alarm)
- (bug fix) One British English text corrected in the campaign schedule screen (Alarm)
- (bug fix) One Portuguese text corrected in the inrush recording parameter screen (Inrush)
- (bug fix) One Thai text corrected in the Date-Time menu (Setup)
- (bug fix) Three Turkish texts corrected in the Date-Time menu (Setup)
- (bug fix) Waiting for an inrush current capture to be finished within the Capture parameters screen led to erroneous graph values (Inrush)
- (change) For each channel unit prefix and display resolution are the same for W, VAR and VA (Power)
- (change) Frequency value display strategy modified (exclusion instead of contamination) (Inrush)
- (change) No longer dead right digit with some particular ratio values (Waveform, Harmonic, Power)
- (change) Saturated Pst value no longer leads to alarm cancellation (Alarm)
- (change) Text stickers ("YES" and "NO") position changed
- (feature) One language added (Vietnamese)

Firmware 2.0

- (bug fix) Flicker calculation instability removed
- (bug fix) Graph scale calculation corrected (Trend)
- (bug fix) Magnet "plus" no longer displayed at highest zoom-in (Trend)
- (bug fix) Time cursor can no longer move beyond the last stored measure bundle (Trend)
- (bug fix) Trend recording integrity verification (on instrument power-on) corrected (Trend)
- (bug fix) TrendFAT structure initialization corrected (Trend)
- (bug fix) Vector module scale calculation and vector display corrected in split-phase hook-up (Waveform)
- (change) Calibration coefficients computed in a new better way (more accurate)
- (change) Edition arrow positioning corrected (Setup, Trend, Transient, Alarm and Inrush)
- (change) Graph scale calculation simplified for better display (Trend)
- (change) Neutral current channel zeroing RMS threshold re-established
- (change) No more phase-to-phase voltage selection in split-phase hook-up (Harmonic)
- (change) Phasor trigonometric circle no longer cut by vector labels (Waveform)
- (change) Saturated values are now displayed in red (Trend)
- (change) Space between a number and its unit (or prefix+unit) removed (Setup, Trend and Inrush)
- (change) Trend recording header writing sequence modified for better security (Trend)
- (change) Trend value recording and display strategy modified (exclusion instead of contamination) (Trend)
- (feature) Current and voltage ratios (Setup, Waveform, Harmonic, Power, Trend, Inrush, Transient,

Alarm)

- (feature) Different current probe types at the same time (Setup, Waveform, Harmonic, Power, Trend, Inrush, Transient, Alarm)
- (feature) Each time an arrow key is pressed during a trend recording in progress the graph is refreshed (Trend)
- (feature) Four languages added (Hindi, Japanese, Thai, Turkish)
- (feature) Pressing the escape key in Setup main menu leads to the first language page (Setup)
- (feature) Trend recording final status added in header (Trend)

Firmware 1.6

- (bug fix) Channel identification icons now correctly behave (Waveform submodes: Summary and Max-Min)
- (bug fix) Help mode minor corrections (Power and Alarm)
- (bug fix) In the alarm log the one-second-measurement alarm target could never be L2 or L3 (Alarm)
- (bug fix) No more voltage harmonic attenuation due to phase correction
- (bug fix) The A2 graph was not displayed when no probe was detected on A1 (Waveform - 2A, 3A and 4A display filters)
- (change) No more Trend recording integrity verification on instrument power-on

Firmware 1.5

- (bug fix) Changing electrical hook-up via Modbus now systematically leads to display filter L1 selection
- (bug fix) Harmonic order now displayed above trend graphs (Trend)
- (bug fix) Maximum half-cycle RMS values no longer zeroed when signals are below minimum RMS values (Waveform and Trend)
- (bug fix) No false current glitches anymore due to programmable gain amplifier switches (Transient)
- (bug fix) Text stickers corrected
- (bug fix) Current threshold display corrected (Transient)
- (change) Current gain auto-adjustment during an inrush recording capture (Inrush)
- (change) SD-Card capacity auto-determination is more tolerant (Setup)
- (change) Text stickers modified
- (feature) E3N current probe full support
- (feature) Two text stickers added in help mode (Transient)

Firmware 1.4

- (bug fix) Calculation rounding for total PF, DPF and tangent corrected (Power, Alarm)
- (bug fix) Channel identification icons moved (Waveform and Power)
- (bug fix) End threshold crossing evidence was never set to TRUE (Alarm)
- (bug fix) Even when no detected current probe the minimum waveform scale value is now 1 A (Waveform)
- (bug fix) Frequency synchronization error now leads to flagged total reactive power (if calculated without harmonics) (Power, Alarm)
- (bug fix) Right-menu down key behavior corrected for single-phase hook-up (Inrush PEAK envelope mode)
- (bug fix) Right-menu up and down arrows not displayed for single-phase hook-up (Inrush PEAK waveform mode)
- (bug fix) Voltage scale and cursor values are now correct (Inrush PEAK envelope and waveform modes)
- (change) 3-Phase tangent, PF and DPF are now arithmetic mean of absolute values (Power, Trend, Alarm)
- (change) Alarm start threshold setup range now depends on hysteresis value for PF, DPF and Hz alarm types (Setup)
- (change) Display filter selection has been corrected and improved when switching from a real-time mode to another real-time mode (Waveform, Harmonic, Power)
- (change) Romanian text stickers modified
- (change) Sampling rate is initialized accordingly to nominal frequency at instrument power on
- (change) Split of the SUM display menu into 2 display menus (SUM and MEAN) for a better consistency with Alarm and Setup modes (Power)
- (change) The "DPF" label is replaced by the "cos phi" label (only for instrument brands other than AEMC one) (Power, Setup, Alarm, Trend and Help)
- (change) The "Tan" label is replaced by the "tan phi" label (Power, Setup, Alarm, Trend and Help)
- (change) Total Phi VA has been removed from the MEAN display menu (formerly SUM display menu)
- (change) W, VAR, cos phi, DPF, PF, tan phi and VAh alarm types are displayed with absolute value delimiters (Alarm and Setup)
- (feature) Cursor auto-positioning soft keys (Transient)
- (feature) Frequency acquisition has been improved to handle inrush recording start without established frequency synchronization (Inrush)

Firmware 1.3

- (bug fix) Acquisition interrupt service routine no more disrupted by first Modbus frame character transmission atomicity
- (bug fix) Mains frequency alarm setup cannot be set below 40.0 Hz (Setup)
- (bug fix) Time cursor position is now related to stored waveform (Waveform)
- (change) Danish, Finnish, Hebrew, Persian and Romanian text stickers modified
- (change) Inrush current recording can manually be stopped even if end hysteresis is set to 100 % (Inrush)

- (change) Memory card unprotection request message displayed in help mode for trend recording list (Trend)

Firmware 1.2

- (bug fix) Apparent power is set to active power if active power greater than apparent power
- (bug fix) Communication timeout issues fixed (no more UART reset while transmitting)
- (bug fix) Constants corrected (maximum and minimum double values)
- (bug fix) Current probe detection inhibited during instrument initialization
- (bug fix) DF (aka THD-R) calculation has been corrected (DC signal component removed from denominator)
- (bug fix) Energy calculation deactivated by MIN-AVG-MAX display mode activation (Trend)
- (bug fix) Error values ignored and not displayed (graph discontinuities) (Trend)
- (bug fix) Graph cursor does not go outside the all-channel graph area anymore (Inrush)
- (bug fix) Graph point value calculation deported from the GUI task to the storage task (lower priority) (Inrush)
- (bug fix) High and low harmonic order indicator display corrected (Harmonic)
- (bug fix) Inrush total deletion corrected (PolySpace bug detection)
- (bug fix) Maximum start threshold corrected for RMS current (Alarm setup)
- (bug fix) Memory card unprotection request message no more displayed if no memory card (Trend)
- (bug fix) No more cursor move and zoom handling if expert mode (Harmonic)
- (bug fix) No more cursor move and zoom handling if no graph displayed (Waveform and Harmonic)
- (bug fix) No more graph point beyond the current scale bounds (Inrush)
- (bug fix) Particular fabrication case (AEMC brand with en-GB language selected) handled
- (bug fix) Reactive power (calculated with harmonics) no more considered as erroneous if no network frequency synchronization (Power and Trend)
- (bug fix) Rounding of some values has been corrected
- (bug fix) Russian, Swedish, Polish and Italian text stickers corrected
- (bug fix) Saturation for phase-to-neutral voltage peak values is now correctly handled (Waveform)
- (bug fix) Several GUI modifications to handle some text stickers which were too long
- (bug fix) Trend initialization corrected (PolySpace bug detection)
- (bug fix) Various correction for graph display (cursor and zoom behaviors) (Trend)
- (bug fix) Vector diagram correctly handles signal zeroings (Waveform)
- (bug fix) Zoom soft keys now colored in yellow when active (Transient)
- (change) Dashes are displayed for all unread values of the graph (display processing stopped by user) (Trend)
- (change) Dashes are displayed if no current probe detected (Waveform, Power, Harmonic)
- (change) FLEX current probe phase error compensation set to 0
- (change) Graph cursor and graph filter have priority (better reactivity) (Trend)
- (change) Graph cursor scrolling works the same way it does in Trend mode (Inrush and Transient)
- (change) Graph scale has been improved (Inrush)
- (change) Half-period RMS current values are zeroed if no current probe during normal operating mode (Waveform, Trend and Inrush)

- (change) Harmonic rates can now be up to 1600 % (Harmonic)
- (change) Illegal function code is returned when LRC and/or ASCII is/are incorrect (Modbus)
- (change) Index are now displayed in small size ("VA", "12", "23" and "31") (Waveform, Power and Help)
- (change) Key word "volatile" use consistency improved
- (change) Lack of current probe has priority over zeroing
- (change) Last value of power bargraph can be selected for energy calculation (Trend)
- (change) Modifications of the firmware code in order to pass PolySpace verification
- (change) Network frequency calculation is more stable at 40.00 Hz
- (change) Network frequency is now calculated over a second (arithmetic mean of several values)
- (change) Neutral RMS voltage value is now zeroed under 1 V
- (change) No more half-period overlapping (and still no discontinuity)
- (change) No switch to nominal frequency when a frequency synchronization failure occurs during a capture (Inrush and Transient)
- (change) Primary current can now be set to 3000 A (Setup)
- (change) Reactive power (calculated without harmonics) is ignored in reactive energy calculation if no network frequency synchronization (Power)
- (change) Relative date of the cursor now depends on the sampling rate (no more on the network frequency) (Waveform and Transient)
- (change) Rythm of icon switch has been changed when a snapshot is displayed (Photograph)
- (change) Sampling rate range increased
- (change) Signals with no zero-crossing can now be used to get the network frequency (V1 and A1)
- (change) Soft key coloration has priority (better reactivity) (Inrush)
- (change) Text color changed for the instrument turn-OFF banners ("recording in progress" and "power failure")
- (change) Threshold calculation improved (Alarm)
- (change) Unused text stickers commented (2)
- (change) Virtual half-periods are no longer a stop condition (DC signals supported) (Inrush)
- (change) Zeroing has priority over error flagging and error flagging has priority over saturation flagging
- (change) Zeroing, saturation and error policies modified
- (feature) "More measure outside the display area" indicators (Trend, Transient, Inrush and Help)
- (feature) 3 zoom-out levels added for signal envelope display (Inrush PEAK mode)
- (feature) 14 Text stickers added (Help)
- (feature) Channel identification icons added (Waveform, Power, Harmonic and Help)
- (feature) Condition (60 Hz ; 120 V) is now handled by the flicker algorithm
- (feature) Flexible synchronization for graph display (Waveform)
- (feature) Frequency acquisition and display (Inrush RMS mode)
- (feature) GUI consistency improved (Inrush)
- (feature) Graph display area localized within the status bar (Trend, Transient, Inrush)

- (feature) Hungarian and Arabic have been added (23 integrated languages)
- (feature) Network frequency calculation can be monitored when no normal mode (Waveform - RMS, CF and THD modes)
- (feature) Network frequency instability is better tolerated for Inrush mode
- (feature) Network frequency value is more accurate
- (feature) Neutral current acquisition and display (Inrush PEAK mode)
- (feature) Text sticker added (Help)
- (feature) Transient list display filter added (Transient and Help)
- (feature) Voltage channel acquisition and display (Inrush)

Firmware 1.1

- (bug fix) Corrupted recordings better handled (Trend)
- (bug fix) Display filter corrected for 2-phase hook-up (Inrush)
- (bug fix) Graph cursor does not go outside the graph area anymore (Inrush)
- (bug fix) Half-period sample count corrected (half-period beginning truncation) (Inrush)
- (bug fix) Last recording sample storages (finalization) better handled (Inrush)
- (bug fix) Null primary current value not authorized anymore (Setup)
- (change) Better channel switching (V1-A1) for frequency determination
- (change) Channel identification icons modified (Inrush)
- (change) Channel identification numbers written in white if potential saturation or triggering channel (Inrush, Waveform, Harmonic, Power)
- (change) No frequency scanning (if the frequency is lost the nominal frequency is used)
- (change) Nominal frequency in Instrument Setup structure is expressed in 100th of hertz
- (change) Primary current value can be set up to 3000 A (Setup)
- (change) THD values and harmonic ratios are expressed in 10th of percent (Trend)
- (change) The universal quantification symbol replaces the "4L" symbol in log display filter (Alarm)
- (feature) Abnormal ending condition of recording mentioned when it occurs (Inrush)
- (feature) Current graph not displayed if no current probe detected (Waveform, Transient, Trend)
- (feature) Current values not displayed if no current probe detected (Waveform, Transient, Trend)
- (feature) Help for triggering and non-triggering channel icons (Inrush)
- (feature) Recording measure tabs not displayed if no current probe detected (Trend)
- (feature) The angles between fundamentals have been added (Power)