JD5093-00

ATevo Series Battery Charger
FIRMWARE RELEASE NOTES

This document is a historical archive of ongoing major improvements to the firmware for **ATevo Series** microprocessor-controlled float battery chargers. ATevo battery chargers, and the firmware stored on the unit's Main Control Board (A1), are manufactured and controlled by HindlePower, Inc. - Easton, PA (www.hindlepowerinc.com).

- In the entries below, after the release date, the versions listed after "**Main**" refers to the battery charger control logic running in the main processor.
- Likewise, the versions listed after "**UI**" refers to the firmware running in the separate (and discrete) user interface processor.

To upgrade any ATevo model to the *latest* revision of the battery charger firmware, contact your sales representative, and request ordering part number "**PM5020-04.**". New firmware will be supplied on an SD card, along with user instructions (**JD5012-60**).

07/24/2024 - Main v3.2.0, UI 3.2.0
- Corrected battery discharge meter auto range when discharging.
- Discharge meter displayed when battery shunt option used is now auto range.
- HH+ battery temp sensor now shows "Error" in status display when no sensor is connected.
- Correction to HH Diagnostic display issues related to (+) and (-) gnd fault. Test value units were incorrect and display labeling was inconsistent.
- HH+ raises charger output voltage to check open battery rather than drops charger voltage.
- Battery commission "Life Expectancy" defaults to:
  ◦ VRLA – 10 years
  ◦ PbSb – 15 years
  ◦ PbCa – 20 years
  ◦ NiCd – 20 years
- HH+ status display now also includes:
  ◦ Initial capacity: xxxAh
  ◦ Remaining: xxxAh (XXX%)
  ◦ In service for: xY yM zzD

ATevo Series Battery Charger
FIRMWARE RELEASE NOTES

- Extra information included in alarm log. "Discharge end" event now includes:
  - Ah removed
  - Discharge timespan
  - Battery voltage at end of discharge
- Port 1 on EN5031 rev 6, 21 and 22 can be configured just like port 2 or 3.
- "Auto equalize after" set point added to Advanced Settings menu. The value has a range of 0.1 to 10.0 hours. The setting specifies the amount of time that AC input is absent before activating auto equalize if that feature is enabled. Auto equalize previously activated after 12s of AC loss. It now defaults to 6 minutes (0.1 hours) if auto equalize is enabled.
- "Display temp as F" setting added to System Settings menu. This setting is off by default as legacy Evo firmware displayed temperatures in C. All temperature values will be displayed in F when set to on.
- 3-phase AC meter calibration corrected. Added calibration to A-C phase and calibration is matched to the leg correctly.
- HH+ Administer Battery History hidden menu added with items below
  - Edit commission info
  - Export history to file
  - Import history from file
  - Commision a new battery
  - Forget HH+ sensor
- Webserver support added along with Web Access menu.
- "Loadshare comm failure" alarm also implemented on primary charger.
- Increased resolution for breaker drop calibration.

6/29/2023 - Main v3.1.3, UI 3.1.3
- Improved correction for I2C device causing timeout
- I2C ambient temp sensor fail trips alarm on 3 consecutive failures and clears on next successful read. No longer latches.
- I2C temp sensor fail alarm no longer in common alarm by default.
- In service time correctly reported in HH+ Battery Health/Health Status/Battery Capacity display

JD5093-00

ATevo Series Battery Charger
FIRMWARE RELEASE NOTES

6/19/2023 - Main v3.1.0, UI 3.1.0
- First release with support for HH+.
  - Continuous open battery monitor
  - Battery discharge meter
  - Battery discharge alarm
  - Temperature compensation
  - Battery overtemp alarm
- Loadshare bugfix where alarm cleared on primary may not resume loadshare.

4/20/2023 - Main v3.0.12, UI 3.0.12
- Fix for relay not triggered on Open Battery detection and relay not cleared on Unlatch Open Battery.
- Fix for issue in which adjustment of Common Alarm trigger may prevent alarms from becoming active.

3/14/2023 - Main v3.0.11, UI 3.0.11
- Fix for rectifier temperature sensor count to account for cases where 3-phase charger only uses one temp sensor.
- Fix for watchdog reset on configuration change.

2/6/2023 - Main v3.0.9, UI 3.0.9
- 3ph 24/150 with 5070 power board uses only one rect temp sensor, not 3.
- Vint feedback used for DC regulation when DC breaker is opened.
- Added support for high capacity (>32Gb) SD cards formatted as exFat.

1/5/2023 - Main v3.0.8, UI 3.0.8
- Fix for DNP integrity poll response failure.
- Added Equalize Active as selection for contact closure.
- Corrected default scale for 3ph 130/50 shunt.

10/7/2022 - Main v3.0.6, UI 3.0.6
- Support for 36V charger (software variant of 48V hardware).
- Fix to prevent continuous reset on bootup when there is a problem with I2C device or bus.
- Support for old or new LCD display.
- Reinstated system info time since reset removed by mistake in v3.0.1 release.

ATevo Series Battery Charger
FIRMWARE RELEASE NOTES

8/2/2022 - Main v3.0.3, UI 3.0.3
- Support for (EN5073) external common alarm relay ported to blue boards (rev 21, 22). Can be plugged into comm 1, 2, or 3 as long as port is not configured for comm or load share.

7/30/2022 - Main v3.0.2, UI 3.0.2
- Bugfix for battery open voltage setpoint. Setpoint change was not used until reset.

5/16/2022 - Main v3.0.1, UI 3.0.1
- Support for rev 21, 22, and 6 (EN5031) main boards.
- Changes to update through memory card
  ◦ Deprecated support for 2 legacy firmware files (mainapp.bin, bruno.bin)
  ◦ Requires update to be supplied as single .hpb file with encryption.
- "Charger reset power on" logged to indicate power cycle. "Charger reset watchdog" logged to indicate watchdog caused reset. "Charger reset" logged in all other cases including reset button or possibly hardware failure causing reset. Software failures including hard fault, stack overflow or malloc failure logged separately.

4/?/2022 - Main v2.7.5, UI 2.7.5
- Password security improved.
- Improve 3 phase zero cross detect.

10/13/2021 - Main v2.7.3, UI 2.7.3
- Support for external common alarm relay board (EN5073) plugged into Port 2 or 3 any time the port is not used for comm.

9/28/2021 - Main v2.7.2, UI 2.7.2
- Added all aux versions in Sys Info display.
- Correction to counting active alarms, common alarm was not counted.
- Changed labels of 3ph AC meter display.
- 260v charger support.
- Fixed bug when Ethernet IP and Gateway settings not on the same sub net could cause continuous charger reset.

ATevo Series Battery Charger
FIRMWARE RELEASE NOTES

7/05/2021 - Main v2.7.0, UI 2.7.0
- New file format for firmware update, supports encryption.
- Equalize disable can be triggered by binary or analog input.
- New high and low priority alarms can be assigned to trigger relay and are also readable through SCADA.
- Alarms are now listed in alphabetical order.
- Fixed bug where HH may report common alarm relay failure.
- Fixed cosmetic issue in Communication setup display when scrolling down to DNP selection
- Fixed chattering relays during relay test. Relays now stay engaged for as long as relay test run.
- Relay test (down arrow) now also operates common alarm relay.
- Fixed cosmetic bug in battery settings menu where temp compensation and battery over temp not displayed when temp probe enabled when menu first entered.
- Fixed cosmetic bug when mode changed at the time equalize time displayed. Equalize time painted over and left artifacts on the display.
- Fixed ground meter display when charger in current limit and voltage less than 50% of set point. Output would still show balance at normal operating output rather than balance between true output voltage.
- Dynamic Current Limit supported on single phase 25A or less.

12/03/2020 - Main v2.6.7, UI 2.6.7
- Added support for AUX common alarm plugged into P11, P12
- Bugfix for properties edited for first time might not take. Most notable HVDC shutdown.

12/03/2020 - Main v2.6.6, UI 2.6.6
- Battery ammeter status display when battery shunt option used.
- Battery current data points in Modbus and DNP.
- Setting equalize time to 0 to disables equalize mode.
- DNP bugfix. Events were reported with overflow flag when overflow condition did not exist.

03/2016 thru 11/2020 - *Contact Factory*
- HindlePower, Inc. - Easton, PA (www.hindlepowerinc.com)
- Firmware updates of ATevo battery chargers shipped prior to 12/03/2020, and still maintaining original firmware, are not maintained within this document.