

EG4[®] 6000XP OFF-GRID INVERTER FIRMWARE CHANGELOG



Standard Version: ccaa-180C0D Date: 2024-2-6

Based on testing firmware cCaa-xx5F66.

Based on standard firmware cCaa-170B0C.

- Modify the parallel N-PE control logic to single point grounding, only the master will close the N-PE relay.
- Improving AC charge issues in 120/208V grid.
- Optimizing the control of three-phase parallel systems to solve the unbalanced load issues.
- Fix the issue of lithium batteries not being able to wake up when set to AC charge and generator charge based on SOC and "SOC and time".
- Allow AC charge to wake up when AC charge is set to disabled.
- Add custom settings for lead-acid battery capacity on monitoring and LCD. After selecting the capacity index of 31 in the Model, it can be manually entered into the custom battery capacity.
- Fix internal communication faults caused by generator frequency jumps.
- Add GenBoost function on monitoring and LCD: When generator consumption exceeds the generator rated power, the inverter reduces the charge power until the charge power reaches 0, and then switches to discharge to take load.
- Add the function of manually starting generator to charge: When inverter detects a generator input by manually starting, it will start charging until generator charge End SOC/Volt is reached, and then switches to generator bypass mode to take load only. If the battery voltage is below End Volt 3V or End SOC 2%, the generator will re-charge to keep battery at End SOC/Volt and prevent generator from frequently starting or stopping charging.
- When the Battery ECO function is enabled and AC charge is disabled, after triggering Battery on-grid or off-grid EOD, inverter will switch to the bypass mode rather than charging mode.
- After setting standby mode, the inverter can enter bypass mode to take load.
- Improving MPPT to enhance the efficiency of PV power input.

Version: cCaa-xx5F66 Date: 2024-1-25

- Optimization of internal communication faults caused by frequency jumps in generators.
- Add GenBoost function.
 - **Modification method:** Inverter discharge compensation is based on the generator rated power. When the user's generator consumption exceeds the generator rated power, the inverter reduces the charging power until the charging power reaches 0, and then switches to discharge compensation.
- Optimize power regulation response speed.
- Add GenBoost settings menu to LCD.
- Add the function of manually starting the generator to charge.
 - **Modification method:** When the inverter detects a generator input, regardless of whether it is set to off grid mode, it directly starts charging until the generator charging cut-off condition is reached, and then switches to the generator bypass. After the charging deadline, restart the charging and add hysteresis (If the voltage is below End Volt 3V or SOC is below 2%, the generator will re-charge to maintain the battery to end) to prevent frequency start and stop charging.
- Modify the grid connection logic after triggering Bat Eod or CutOff.
 - **Modification method:** When the ECO function is enabled, triggering Bat Eod or CutOff will switch to the bypass.

Version: cCaa-xx5Exx Date: 2024-1-18

- Fix the issue of lithium batteries not being able to wake up when set to AC charge and generator charge based on SOC and "SOC and time".
- Add custom settings for lead-acid battery capacity. After selecting the capacity index of 31 in the Model, it can be manually entered into the custom battery capacity.
- Modify the power flow display of three-phase parallel operation in monitoring.
- When AC charge is set to disabled, allow AC charge to wake up.

Version: cCaa-xxxx65 **Date: 2024-1-15**

- Add virtual impedance in single-phase parallel mode to optimize the problem of load imbalance.

Version: cCaa-xxxx64 3 **Date: 2024-1-11**

- Modify the 120V/208V three-phase parallel control logic and add virtual impedance to solve the problem of load imbalance.
- Optimize three-phase parallel operation.

Version: cCaa-xxxx64 **Date: 2023-12-28**

- Modify the parallel N-PE control logic to single point grounding, only the master will close the N-PE relay.

Version: cCaa-18xxx **Date: 2023-12-14**

- Optimization of MPPT to improve PV input current and power.

Version: cCaa-17xx0C 2 **Date: 2023-12-04**

- Optimization of CT sampling ratio coefficient.
- Optimization of charging over temperature protection and over current protection.

Version: cCaa-xxxx63 **Date: 2023-11-29**

- Solve the problem of charging when grid 120V/208V mode.

Version: cCaa-xxxx61 **Date: 2023-11-20**

- Fix the problem of phase locking deviation when the grid input is 120/208V and the range of phase locking for AC input.

Version: cCaa-xx0B0B 6 4 **Date: 2023-11-16**

- Max value setting of (Off grid) Discharge Cut-off Voltage changed to 56V.
- Voltage (V) and SOC (%) logic of (Off grid) Discharge Cut-off, On Grid EOD. Battery Warning will be more associated.
- The max value setting of AC Charge Start Battery Voltage and Generator Charge Start Battery Voltage changed to 57V.
- Optimize calculation method for the percentage of discharge power in lead-acid battery mode. eg. It will be more accurate when PV and battery take load together.

Version: cCaa-160B0B **Date: 2023-11-09**

- Optimize NTC open circuit problem for MPPT board.
- The discharge cut-off voltage setting for lithium battery is not related to the load rate.
- Optimize the charge current limit.

Version: cCaa-xxxx0A 7 4 **Date: 2023-10-26**

- Fix the issue with battery wake-up function.

Version: cCaa-xx0A0A **Date: 2023-10-24**

- Add safety regulations 2-General_ 60Hz.
- Fix the issue of abnormal power display.
- Improve GreenFunction.
- Add the function of synchronously turning off the battery after triggering RSD.
- Optimize the charging current of the generator.

Version: cCaa-xx09xx **Date: 2023-10-07**

- Optimize the LCD settings in Safety Regulation 1-US_60Hz.

Version: cCaa-xx0809 **Date: 2023-09-14**

- Optimize the settings in Safety Regulation 1-US_60Hz.
- Optimize calibration parameters.

Version: cCaa-xxxx08 **Date: 2023-09-04**

- Optimize calibration parameters.

Version: cCaa-xx07xx **Date: 2023-08-28**

- Optimize calibration parameters.
- Optimize LCD storage spaces.

Version: cCaa-140607 **Date: 2023-08-19**

- Add PV ISO function.
- Add AFCI function.
- Add RSD function and perform synchronous shutdown in parallel.
- Add N-wire grounding control.
- Add PV ISO, AFCI, and RSD enabled settings to the LCD settings menu.
- Add half BUS balance control and half BUS overvoltage fast protection.
- Add three-phase parallel operation.
- Optimize hardware version recognition.
- Fix the problem of frequent switching of generator charge.
- Improve the situation of internal communication failures.
- Limit the phase-locked range of 60Hz to 55.5-65.5Hz.
- Optimize calibration parameters.

Version: cCaa-xxxx06 **Date: 2023-07-11**

- Optimize off grid control parameters.
- Optimize the issue of output overvoltage protection.
- Optimize firmware storage spaces.
- Improve parallel mode.

Version: cCaa-xx0505 **Date: 2023-06-14**

- Optimize calibration parameters.
- Optimize the settings in Safety Regulation 1-US_60Hz.
- Improve parallel mode.

Version: cCaa-xx04xx **Date: 2023-06-05**

- Optimize calibration parameters.

Version: cCaa-xxxx04 **Date: 2023-05-29**

- Add a new version of the inverter current sampling ratio program.
- Optimizing the parameters of the inverter current control loop under the 6kW model.

Version: cCaa-130303 **Date: 2023-05-05**

- Increase the maximum power limit of the MPPT board.
- Add the power range of the 6kW model.
- Add AC charging based on voltage or SOC options associated with time period settings.
- Add Hina battery protocol and related monitoring and BMS update functions.
- Add the function of querying historical fault warning information through external communication.
- Optimize off grid control, improve DCV input, and increase the BB current limit of off grid output.
- Optimize the situation of battery overvoltage.
- Add a new version of IP-SCR circuit for PWM drive.
- Add external CT sampling options.
- Optimize frequency adaptive logic.
- Improve the delay of relay disconnection.
- Optimize battery reverse connection judgment logic.
- Fix the issue of PV high voltage not being able to wake up the battery.
- Optimize the charging logic of parallel generators.
- Optimize and merge software.