



深圳市首航新能源股份有限公司

软件版本说明

版本	变更内容描述	发布日期	适配BT 5K版本（可选）	安规包版本（可选）	备注
version	<i>A detailed description of the change. The specific form can be any of the following: Problem solving: xxxx Adding functionality: xxxx</i>	<i>Time to start the software</i>	<i>Adapt to BT 5K version</i>	<i>Security package version (optional)</i>	<i>Additional description of other information</i>
V110062_62_62	1、增加功能：导入新LCD方案 (Added function:Introduction of new LCD program) 2、增加功能：解耦PV通道和PV显示的关系 (Added function:Decoupling the PV channel from the PV display) 3、解决问题：修复过欠频保护问题 (Solve problems:Fix over underclocking protection problem)	2024/6/7	all	1003	
V110061_61_61	1、增加功能：增加电表告警功能 (Added function:add meter alarm function) 2、增加功能：增加PV反接检测功能 (Added function:add PV reverse connection detection function) 3、增加功能：增加PV弱光启动功能 (Added function:add PV weak light start function) 4、解决问题：解决绝缘阻抗波动问题 (Solve problems:solving insulation impedance fluctuation problem) 4、增加功能：增加输出继电器检测次数 (Added function:Increase the number of output relay detections) 5、增加功能：导入单相缺相方案 (Added function:import single-phase phase loss program) 6、解决问题：优化德国4110认证 (Solve problems:optimize the German 4110 certification) 7、解决问题：修复并网离网切换问题 (Solve problems:repair the parallel off-grid cut load problem) 8、解决问题：修复1.1倍过载问题 (Solve problems:fix 1.1 times overload problem) 9、增加功能：修改放电深度和固件版本号的LCD页面以及部分词条 (Added function:modify the LCD page of discharge depth and firmware version number, as well as some words.) 10、增加功能：增加BTS 5K电池校时功能 (Added function:add BTS 5K battery calibration function.) 11、解决问题：修改电池类型AMASS为GTX3000 (Solve problems:modify the battery type AMASS to GTX3000) 12、解决问题：修复LCD上PCC功率溢出问题 (Solve problems:repair the LCD on the PCC power overflow problem) 13、解决问题：修复485相关问题 (Solve problems:fix 485 related problems) 14、解决问题：修复升级相关问题 (Solve problems:repair upgrade-related issues) 15、解决问题：删除本地SOFAR包升级功能 (Solve problems:delete the local SOFAR package upgrade function) 16、解决问题：优化BTS 5K电池降损待机后SOC的显示 (Solve problems:optimize the display of SOC after BTS 5K battery loss standby.) 17、解决问题：修复用电量异常问题 (Solve problems:fix the abnormal power consumption) 18、解决问题：修复光储并网无法并网问题 (Solve problems:Repair the problem of grid-connection of optical storage parallel machines cannot be connected to the grid) 19、解决问题：修复奥地利列名问题 (Solve problems:Fixing the Austrian listing problem) 20、增加功能：更新安规库 (Updating the safety regulations library)	2024/4/11	all	1003	

V110044_44_44	1、解决问题：修复V090010升级V110043版本误报ID19故障问题(Solve problems:Fix the problem that V090010 upgraded V110043 version misreported ID19 faults)	2023/12/21	all	900	
V110043_43_43	1、解决问题：解耦离网和不平衡功能(Solve problems:decoupling off-grid and unbalanced functions) 2、增加功能：新增远程查看电池PCBA版本号(Added function:New remote view battery PCBA version number) 3、解决问题：解决电池激活后无法继续充电问题(Solve problems:Solve the problem of not being able to continue charging after battery activation) 4、增加功能：增加BTS 5K电池待机降损功能(Added function:Add BTS 5K battery standby loss reduction function) 5、增加功能：增加内部存储参数版本号(Added function:Add internal storage parameter version number) 6、解决问题：修改并网点交流输入功率的设置上限为655kW(Solve problems:Modify the setting upper limit of AC input power to 655kW at the grid point) 7、增加功能：新增远程故障录波的挂起和触发功能(Added function:Added hang and trigger functions for remote fault recording) 8、增加功能：新增接变压器场景，读取电表一次侧功率(Added function:Add transformer connection scenario to read the primary side power of the meter) 9、增加功能：新增PCC取电限制功能(Added function:Added PCC pickup limit function) 10、增加功能：导入G100认证要求和RoCof参数保护功能(Added function:Introduction of G100 certification requirements and RoCof parameter protection function) 11、解决问题：修复电池电压低时，c版本机器被动模式不充电问题(Solve problems:Fix the problem that when the battery voltage is low, the c version of the machine does not charge in passive mode) 12、解决问题：修复单板无法通过电表口进入单板模式问题(Solve problems:Fix the problem that the single board cannot enter the single board mode through the meter port) 13、增加功能：增加光储并机，只接储能机电表正常工作功能(Added function:Increase the optical storage parallel machine, only connected to the energy storage machine motor meter normal working function) 14、解决问题：PCC电流显示优化(Solve problems:PCC current display optimization) 15、解决问题：减少检测输出N线继电器短路误报ID41继电器检测失败故障(Solve problems:Reduced Detect Output N-Wire Relay Short False Alarm ID41 Relay Detection Failure Fault) 16、增加功能：增加奥地利列名增加功率因数显示(Added function:Add Austrian column name to add power factor display) 17、增加功能：修改C版本10-20k升压比降载曲线(Added function:Modification of Version C 10-20k Boost-to-Download Curve) 18、解决问题：修复ID 73母线瞬时过压问题(Solve problems:Fix ID 73 bus transient overvoltage issue)	2023/11/24	all	900	
	1、增加功能：modbus相关：新增意大利自测测试功能。新增电池端口最大充放电电流读取。修复读取IV扫描和安规包升级进度错误问题。新增设置电池地址后，保存电池端口数量功能。(add function: modbus related: add Italian self-test test function. Add reading maximum charge/discharge current of battery port. Fix the problem of reading IV scanning and safety package upgrade progress error. Add the function of saving the number of battery ports after setting the battery address.) 2、解决问题：电池相关：修复派能电池ID 177过压告警。更改GTX电池心跳包2、3位数据为0。修复BTS电池接口1不接电池时报锂电池通信故障。(Solve problems: Battery related: Repair Pai Neng battery ID 177 overvoltage alarm. Change the data of GTX battery heartbeat pack 2 and 3 bits to 0. Repair the communication failure of lithium battery when BTS battery interface 1 is not connected to the battery.) 3、增加功能：安规设置界面新增密码功能(Add function: add password function in safety setting interface.) 4、增加功能：生产相关：工厂模式下每5分钟保存一次电量和时间、增加恢复默认参数功能。(add function: production-related: factory mode save power and time every 5 minutes, add restore default parameters.) 5、解决问题：修复平台无功功率显示不准确问题(Problem solving: fix the inaccurate display of reactive power on the platform.) 6、增加功能：修改C版本旁路继电器N线和火线开关顺序(Add function: Modify the switching sequence of N line and fire line of bypass relay in C version.)				

V110033_33_33	<p>7、增加功能：新增PV自动识别功能 (Add function: add PV automatic identification function.)</p> <p>8、增加功能：新增电表自动识别功能 (Add function: add meter automatic identification function.)</p> <p>9、增加功能：主DSP Flash扩容 (add function: main DSP Flash expansion)</p> <p>10、解决问题：修复自发自用模式，负载功率较小时，电池无法放电问题 (Problem solving: fix the problem of battery not discharging when the load power is small in self-generated self-consumption mode.)</p> <p>11、增加功能：新增PCC偏置校准功率功能 (Add function: add PCC bias calibration power function.)</p> <p>12、解决问题：修复工厂老化过程SPI通讯故障 (Problem solving: Repair SPI communication failure during factory aging process)</p> <p>13、解决问题：修复防逆流，带不平衡负载时，电池禁放不充电问题 (Problem solving: Repair the problem of anti-reverse current, with unbalanced load, the battery can not be discharged and not charged.)</p> <p>14、增加功能：首次上电ZCS机型选择安规时强制禁用中性点接地，其他地区由安规决定 (increase the function: the first time the ZCS model is powered up to select the safety regulations forced to disable the neutral grounding, other areas determined by the safety regulations.)</p> <p>15、解决问题：修复光储防逆流下从电网吸收功率的问题 (Problem solving: fix the problem of absorbing power from the grid under the optical storage against reverse current.)</p> <p>16、解决问题：修复开机误报序列号错误的问题 (Problem solving: Repair the problem of misreporting the wrong serial number on power on.)</p>	2023/11/1	all	804	
V110022_22_22	<p>1.增加功能：优化两簇电池充放电功率均衡，加入容量判断 (Add function: optimize the charging and discharging power balance of two clusters of batteries, and add capacity judgment.)</p> <p>2.解决问题：优化DCI过流和BUS过压 (Solve problems: optimize DCI overcurrent and BUS overvoltage.)</p> <p>3.增加功能：增加光储防逆流功能 (Add function: add the function of anti-reverse current of optical storage.)</p> <p>4.增加功能：匹配安科瑞电表 (Add function: match with Acrel meter)</p> <p>5.解决问题：解决BTS 5K电池激活后无法立即充电 (Solve the problem: Solve the problem that BTS 5K battery cannot be charged immediately after activation.)</p> <p>6.增加功能：增加modbus寄存器：增加控制电池休眠寄存器、增加电池在线状态和休眠状态寄存器、增加DRMS显示寄存器、增加蓝牙控制寄存器额外功能、优化年月日历史电量的显示寄存器 (Add function: add modbus register: add control battery sleep register, add battery online status and sleep status register, add DRMS display register, add Bluetooth control register extra function, optimize year, month, day and history power display register.)</p> <p>7.解决问题：通信问题：解决RS485通信出现毡包、丢包问题，解决内部通信延时问题 (Solve problems: communication problems: solve the problem of felt packets and packet loss in RS485 communication, and solve the problem of internal communication delay.)</p> <p>8.增加功能：增加BTS 5K电池冗余功能，单个电池不影响整簇电池运行 (Add function: add BTS 5K battery redundancy function, a single battery does not affect the operation of the whole cluster of batteries.)</p> <p>9.解决问题：升级问题：解决蓝牙升级电池失败后无法通信问题、逆变器只连接电池升级掉线问题、升级后采集棒在线，逆变器离线问题 (Solve problems: upgrade problems: solve the problem of failing to communicate after Bluetooth upgrading batteries, the problem of inverters connecting to batteries only to upgrade the problem of dropping lines, the problem of collecting sticks online after upgrading, and the problem of inverters going offline.)</p> <p>10.增加功能：安规库版本号由内部使用的库版本变更为实际使用的安规参数版本号 (Add function: the version number of the safety regulation library is changed from the version of the library used internally to the version number of the safety regulation parameter actually used.)</p> <p>11.解决问题：解决GTX电池单路多台并机时显示锂电池通信故障 (Solve the problem: Solve the problem of lithium battery communication when GTX battery single-channel multiple parallel machines are displayed.)</p>	2023/8/7	all	803	
V110011_11_11	<p>1.增加功能：C版本改为20位序列号 (Add function: C version is changed to 20-digit serial number.)</p> <p>2.解决问题：C版本采样系数根据硬件版本号和序列号决定 (Solve the problem: the sampling coefficient of C version is decided according to the hardware version number and serial number.)</p> <p>3.增加功能：修改单板同步信号和开关信号的频率 (Add function: Modify the frequency of the synchronization signal and switch signal of the single-board)</p>	2023/7/14	all	803	此版本在V110010的基础上修改，对量产机无影响，是针对继电器改版的软件

V110010_10_10	<p>1.解决问题：modbus协议中0x104F地址的电池容量变更为实际连接电池的容量 (Solve the problem: change the battery capacity of 0x104F address in modbus protocol to the capacity of the actual connected battery.)</p> <p>2.增加功能：根据硬件版本区分不同的软件版本以及是否显示 CT变比设置 (Add function: differentiate different software versions according to hardware version and whether to display CT ratio setting.)</p> <p>3.增加功能：继电器版本逆变器不允许升级 V110010以下的版本 (Add function: Relay version inverter is not allowed to upgrade below V110010.)</p>	2023/6/27	all	803	
V110002_02_02	<p>1.增加功能：工厂模式下增加DRMS所有的采样、增加电池can和并机can的通信测试，增加内部通信协议 (Add function: add all samples of DRMS in factory mode, add communication test of battery can and parallel can, and add internal communication protocol.)</p> <p>2.增加功能：增加继电器改版的逆变器的安规认证版本号，去除LCD的显示 (Add function: add the safety certification version number of the inverter of the relay revision, and remove the display of LCD.)</p> <p>3.解决问题：PCU相关问题 (pcu版本不一致无法充放电、升级有概率掉线问题、LCD打开PCU信息出现其他界面的问题)。(Solve the problem: PCU related problems (the PCU version is inconsistent and cannot be charged and discharged, the upgrade has the probability of dropping out of the line, and the LCD opens the PCU information to appear in other interfaces).)</p> <p>4.增加功能：远程升级安规bin文件的功能 (Add function: remote upgrade function of safety bin file.)</p> <p>5.解决问题：非ZCS机器不允许设置意大利安规。默认安规改为欧洲通用 (Solve the problem: Non-ZCS machines are not allowed to set Italian safety regulations. Default safety regulations are changed to European common)</p> <p>6.增加功能：LCD相关问题 (中性点接地、干接点菜单优化、密码记忆功能、BMS版本号显示、爱尔兰安规国家显示) (Add function: LCD related problems (neutral point grounding, dry contact menu optimization, password memory function, BMS version number display, Irish safety regulation country display).)</p> <p>7.增加功能：奥地利无功4使用最大相电压计算无功，其他保持平均值计算 (Add function: Austria reactive power 4 use the maximum phase voltage to calculate reactive power, and other keep the average value calculation.)</p> <p>8.增加功能：增加电表口进入单板模式、工厂模式去掉不平衡支撑 (Add function: add meter port to enter single board mode, remove unbalance support in factory mode.)</p> <p>9.增加功能：增加旁路继电器的判断条件 (Add function: add judgment condition of bypass relay.)</p> <p>10.增加功能：安规参数更新，更新安规库 (Add function: update the safety regulation parameters, update the safety regulation library.)</p> <p>11.解决问题：解决电池自动识别失败后无法通信的问题。(Solve the problem: solve the problem of not being able to communicate after the failure of automatic battery identification.)</p>	2023/6/7	all	803	
V100020_20_24	<p>1.解决问题：BTS5K电池噪音问题 (Solve the problem: BTS5K battery noise problem)</p> <p>2.解决问题：电池不充电问题 (Solve the problem: the battery does not charge the problem)</p> <p>3.增加功能：电池自动识别和BTS5K、AMASS电池自动绑定地址功能 (Add function: battery automatic identification and BTS5K, AMASS battery automatic binding address function.)</p> <p>4.解决问题：LCD显示BMS软件版本号与实际不一致问题 (Solve the problem: LCD display BMS software version number is inconsistent with the actual problem.)</p> <p>5.解决问题：远程读取电池数据时出现数据遗漏问题 (Solve the problem of missing data when reading battery data remotely.)</p>	2023/3/15	Lowest V010010	801	

V100013_13_10	<p>1.增加功能：兼容V3硬件改版(Add function: compatible with V3 hardware revision)</p> <p>2.增加功能：导入发电机模式(Add function: import generator mode)</p> <p>3.解决问题：导入08版本安规库(Solve the problem: import 08 version of safety regulations library.)</p> <p>4.解决问题：修复BTS5K电池空载并网切离网电池过流问题(Solve the problem: Fix the overcurrent problem of BTS5K battery no-load grid-connection and off-grid battery.)</p> <p>5.解决问题：修复电网90/270° 掉电1MS进入EPS模式问题(Solve the problem: Repair the problem of grid 90/270° power loss 1MS into EPS mode.)</p> <p>6.解决问题：修复频率采样不准的问题(Solve the problem: Repair the problem of inaccurate frequency sampling)</p> <p>7.解决问题：解决开启不平衡支撑和防逆流单相带载不满足自发自用问题(Solve the problem: Solve the problem of opening unbalanced support and anti-reverse current single-phase load not meeting the self-generated self-consumption problem.)</p> <p>8.新增功能：澳洲安规下新增硬防逆流开关(New function: add a hard anti-reverse current switch under Australian safety regulations.)</p> <p>9.新增功能：增加一键设置BTS-5K电池地址功能(New function: add one-key setting BTS-5K battery address function.)</p> <p>10.解决问题：BTS-5K最大放电深度限制90%(Solve the problem: BTS-5K maximum discharge depth limitation 90%.)</p> <p>11.增加功能：BTS-5K堆叠电池PCU升级增加整包CRC校验(Add function: add whole pack CRC check for BTS-5K stacked battery PCU upgrade.)</p> <p>12.解决问题：修复BTS-5K堆叠电池温度小于0显示异常问题(Solve the problem: Fix the abnormal display problem of BTS-5K stacked battery temperature less than 0.)</p> <p>13.增加功能：开放LCD 中性点接地菜单(Add function: open LCD neutral grounding menu.)</p> <p>14.解决问题：LCD首次上电界面语言选择和时间设置优化(Solve the problem: Optimize the language selection and time setting of LCD first power-up interface.)</p> <p>15.解决问题：修复BTS-5K自动配置地址异常以及显示详细信息(Solve the problem: Fix the abnormalities of BTS-5K auto-configuration address and display details.)</p> <p>16.解决问题：LCD “系统信息-本机信息-软件版本号-请按确认键查看！”支持多国语言(Solve the problem: LCD "system information - local information - software version number - please press the confirmation key to view! Support multi-language)</p> <p>17.增加功能：继电器改版后主副DSP不允许升级到V100005以下(Add function: The main and vice DSP are not allowed to upgrade to below V100005 after the relay revision.)</p> <p>18.解决问题：修复LCD设置CT校准后掉电不保存的问题(Solve the problem: Repair the problem of not saving the LCD setting CT calibration after power-down)</p> <p>19.新增功能：应急供电使能状态下，自动开启不平衡支撑(Add function: automatically open unbalance support under emergency power supply enable state)</p> <p>20.解决问题：解决并网切换离网过程中逆变电压过高问题(Solve the problem: Solve the problem of high inverter voltage in the process of grid-connected switching off-grid.)</p> <p>21.解决问题：解决电压穿越故障后无法进入离网状态问题(Solve the problem: Solve the problem of not being able to enter off-grid state after voltage crossing fault.)</p> <p>22.增加功能：优化安规文件显示总数量(Add function: optimize the display of total number of safety regulation documents.)</p> <p>23.解决问题：优化工厂模式退出后风扇故障告警不消除问题(Solve the problem: Optimize the problem of not clearing the fan fault alarm after exiting the factory mode.)</p>	2023/2/22	all	801	
V100003_03_04	<p>1.增加功能：ZCS机型识别，将ZCS机型并机系统的PV和电池电量独立统计</p> <p>2.解决问题：增加协议版本后优化SPI通信</p> <p>3.解决问题：并机系统负载电量统计优化，从机不显示负载电量</p> <p>4.增加功能：本机信息显示安规国家标准的名称</p> <p>5.增加功能：安规包导入选项放入升级菜单，无需开启工厂模式导入</p> <p>6.解决问题：远程升级概率性失败问题优化</p> <p>7.解决问题：AMASS电池ID124电池禁放无法解除问题</p> <p>8.解决问题：使用首航协议的其他电池SOC在0%不进入强制补电问题</p> <p>9.新增功能：安规认证版本号更新</p> <p>10.解决问题：DSP握手SCI故障报错优化</p> <p>11.解决问题：时间小概率性无法更新问题</p>	2022/12/1	all	608	

V100001_01_03	1. Add function: add dry contact control 2. Add function: import safety file storage package 3. Add function: import Czech language 4. Add function: add internal protocol version number. 5. Solve the problem: optimize the framework of software upgrade 6. Solve the problem: change the menu anti-reverse flow words. 7. Solve the problem: Solve the problem that the logical interface enable on the menu can not take effect.	2022/11/17	all	608	
V090014_14_19	1. Solve the problem: misreport over-frequency fault when the power grid is disconnected. 2. Solve the problem: the battery can't be replenished when it is lower than the discharge voltage value -10V, and optimize the pre-charging relay. 3. Add function: add half BUS over-voltage protection. 4. Add function: upload PCC three-phase current value through MODBUS protocol, use meter power/machine's own grid voltage sampling to upload when there is no CT, and upload CT value when there is CT. 5. Solve the problem: Solve the probability of SCI communication jamming problem of deputy DSP power-up. 6. Solve the problem: Solve the problem that the battery replenishment power is larger than the set value. 7. Solve the problem: when the parallel machine, one machine enters the fault state, and the other machines have been in the checking state and can not be restored. 8. Add function: add peak shaving mode to the menu, which can set the power grid to prioritize power purchase. 9. Solve the problem: insufficient APP reservation and space expansion. 10. Solve the problem: Solve the problem of false triggering of island protection. 11. Solve the problem: optimize the communication framework to solve the problem of probable failure of insulation impedance disablement. 12. Solve the problem: DRM logic interface has been displaying the problem of DRM1, fix the problem of abnormal ADC configuration. 13. Add function: add support for Spanish, German and French. 14. Add function: Configure energy storage mode menu, add confirmation switching function. 15. Add function: add load page display, display in the real-time page of up and down switching. Fix the load power calculation method. 16. Solve the problem: add sending heartbeat packets (not supported by BAT_BTS_5K) during the upgrade process to maintain battery communication and prevent the battery from dropping out and shutting down. 17. Solve the problem: one of the two batteries has abnormal communication, which leads to the failure of the power replenishment command; optimize the logic of the power replenishment command; 18. Solve the problem: optimize the boot process, the screen will return to the standard page immediately	2022/10/27	all	607/606	

V0900010_10_17	<p>DSP:</p> <ol style="list-style-type: none"> <li>1. Phase lock calculation frequency is modified from fixed 50HZ/60HZ to actual frequency</li> <li>2. off-grid restoration of grid-connected phase-locking range from <math>\pm 2.5\text{HZ}</math> relaxed to the rated frequency <math>\pm 5\text{HZ}</math></li> <li>3. Increase the Chint type of a PCC meter power reading and control, installed away from the energy storage end of the side loads</li> <li>4. Off-grid multi-group battery SOC equalization</li> <li>5. Add PV off-grid to activate the first flight battery function.</li> <li>6. Standby and off-grid output after the relay power supply from 12V to 7V</li> <li>7. Boost ratio, bus high-voltage load shedding into the</li> <li>8. Specification parameters are modified according to the hardware and software description documents</li> <li>9. Add the function of priority charging for battery loss PV.</li> <li>10. Islanding detection algorithm to increase parallel islanding detection</li> <li>11. The parallel slave does not count the PCC power, and the parallel power statistics are optimized.</li> <li>12. When the three-phase average anti-reverse current is 0 when the unbalance support is enabled, no power is taken from the grid or sent to the grid.</li> <li>13. Single machine off-grid with unbalanced load voltage imbalance is adjusted downward.</li> <li>14. Optimize the harmonic wave problem during unbalanced output and optimize the grid-connected waveform for high impedance working condition of weak grid output for the case of small unbalance degree.</li> <li>15. For fast off-grid switching, the off-grid enabling charging current limit is not transferred to standby, but the discharging disablement is transferred to standby.</li> <li>16. Lead acid is introduced into three-stage charging, and SOC is not enabled to control.</li> <li>17. Off-grid increase leakage current detection</li> <li>18. Adapt to stacked batteries</li> </ol> <p>ARM.</p> <ol style="list-style-type: none"> <li>1. Real-time interface shows the function of DRMO~8.</li> <li>2. Modbus adds support for reading protocol version information;</li> <li>3. support for single-pipe models and related SN code new rule adaptation;</li> </ol>	2022/7/24	all	607/606	
V080003_03_00	Suitable for 5-10k single tube models.	2022/6/16			
V070010_09_08	<p>master.</p> <ol style="list-style-type: none"> <li>1. Improve the harmonic problem in factory mode</li> <li>2. Accelerate the bus reduction rate in factory mode</li> </ol> <p>Slave.</p> <ol style="list-style-type: none"> <li>1. Bus voltage calibration problem</li> </ol>	2022/5/23		/	
V070008_08_08	<p>DSP:</p> <ol style="list-style-type: none"> <li>1. PV current and power still uploaded during single board test</li> </ol>	2022/2/16		/	

V070007_07_08	<p>master.</p> <ol style="list-style-type: none"> <li>1. New serial number definition compatibility, adding without overloading models</li> <li>2. Off-grid parallel optimization, no change in load capacity.</li> <li>3. Upgrade V6 version of safety regulation library.</li> <li>4. Repair the problem of reporting bus undervoltage when grid-connecting in battery charging mode when the battery is discharged.</li> <li>5. Add single-board relay power control IO port control.</li> <li>6. Add inverter active control and reactive power control.</li> <li>7. Add energy storage mode: off-grid mode.</li> <li>8. Add bypass relay detection for detection status.</li> <li>9. Add AC power input limit</li> <li>10. 4110 certification modification</li> <li>11. Modification of unbalanced support function: prioritize three-phase balanced current output and limit unbalanced current output.</li> <li>12. Add SPI receive clear calibration operation.</li> <li>13. Adjust the off-grid inverter voltage protection.</li> </ol> <p>Slave</p> <ol style="list-style-type: none"> <li>1. Modify the logic of pre-charging relay</li> <li>2. Add off-grid mode</li> <li>3. Upload DC power and current to zero when not working.</li> <li>4. Increase the charging voltage limit of factory aging mode.</li> <li>5. Adjust the working point of clearing the loop when the battery exceeds the maximum charging voltage.</li> <li>6. Increase SPI receive clear calibration operation.</li> <li>7. Adjust the PV, battery over-voltage protection</li> </ol> <p>ARM:</p> <ol style="list-style-type: none"> <li>1. Increase the general type of BMS battery protocol (first flight) type</li> <li>2. Add Bluetooth remote control function (sleep/wake)</li> </ol>	2022/1/20		/	
V060005_05_02	<p>DSP</p> <ol style="list-style-type: none"> <li>1. Main and vice DSP drive synchronization, to solve the problem of perturbation</li> <li>2. Synchronized refreshing of power flow graph to reduce load power calculation error</li> <li>3. Enhance off-grid overload capability</li> <li>4. Increase current limit for unbalanced support, fix overcurrent problem</li> <li>5. Repair the problem of misdetection of CT auto-recognition in some working conditions.</li> </ol> <p>ARM</p> <ol style="list-style-type: none"> <li>1. Add Finnish menu</li> <li>2. Add U disk to record real-time data</li> <li>3. Add new setup menu information in the system information.</li> <li>4. Optimize the import file of U disk</li> <li>5. Optimize AMASS battery replenishment logic and battery information display.</li> <li>6. Fix the problem of splash screen and white screen.</li> <li>7. Repair the problem that ARM will be upgraded at the same time when DSP is upgraded in the upper computer.</li> </ol>	2021/9/27		/	



V050006	<p>DSP</p> <ol style="list-style-type: none"> <li>1. Optimize the problem of easy error reporting when enabling "unbalanced support" for grid connection;</li> <li>2. Optimize the algorithm to enhance the adaptability of the power grid and reduce the faults of output overcurrent and DCI overcurrent due to the fluctuation of the power grid;</li> <li>3. Update the load power consumption statistics and add external load power statistics;</li> <li>4. add the mode of not connecting to the meter and CT. At this time, all loads need to be connected to the machine load port;</li> <li>5. Optimize the switching algorithm of parallel off-grid. Optimize the stability of output voltage during the switching process for some working conditions with unbalanced loads, and reduce current impact;</li> <li>6. Fix the problem of slow response of DRMs;</li> <li>7. Optimize the SOC balancing algorithm for multiple batteries and increase the battery voltage factor.</li> <li>8. Add lightning protection alarm</li> <li>9. Optimize the relay detection algorithm to reduce fault false alarms;</li> </ol> <p>ARM</p> <ol style="list-style-type: none"> <li>1. Optimize the fan logic to improve the problem of non-stop rotation of the fan due to high ring temperature;</li> <li>2. Repair the problem that the 2nd channel of the battery cannot be charged under certain conditions;</li> <li>3. fix the problems of "Input Channel", "Parallel Parameter", "IV Scan", and "Unbalance Support", Repair the problem that the menu settings of "Battery Activation" may not match the actual operation;</li> <li>4. Increase the uploading of total battery power, average SOC, and total PV power, and optimize the display with Yingzhen;</li> <li>5. lift the restriction on charging and discharging power when AMASS battery version is inconsistent;</li> <li>6. increase the meter communication icon (top right corner of the home page), and change the three-phase output current to output power;</li> <li>7. Repair the problem of possible unsuccessful calibration after successful restart of CT calibration, optimize the success rate of CT calibration, and add tips for calibration failure;</li> <li>8. add USB hard reset function in the new version of hardware to enhance USB reliability;</li> <li>9. Add the function of automatic re-upgrading after the interruption of upgrading;</li> </ol>	2021/8/6		/	
V040016_16_19	<p>ARM</p> <p>V040019</p> <ol style="list-style-type: none"> <li>1.USB first reset time is adjusted to 15min to prevent crash caused by USB disk reset</li> <li>2.Stack overflow cause upgrade failure problem</li> </ol>	2021/6/2		/	

V040016_16_16	<p>Master</p> <ol style="list-style-type: none"> <li>1. Add V3 hardware version, add corresponding sampling ratio branch processing</li> <li>2. Off-grid overload parameter modification</li> <li>3. Add battery parallel mode, but not actually put into use</li> <li>4. Add three-phase four-wire grid-connected mode: add output unbalance load shedding to limit the maximum single-phase current from exceeding the limiting value; add zero-sequence current control; add meter/CT unbalance component extraction; add the function of restricting the output unbalance according to the busbar unbalance; add enabling protocol;</li> <li>5. Parallel problem fixing: fix the problem of off-grid power calculation and equalization; fix the problem that the slave also stops off-grid output after the host battery is undervoltage; fix the problem that the phase sequence is inconsistent with that of the host after the slave is restarted; add a delay of 30 seconds for off-grid cold start, and try to ensure that all the slaves synchronize their outputs; fix the problem that the grid will be flooded with current if the slave fails to turn to off-grid in the process of parallelization; extend the time of closing of the parallel relay after cold start, and try to ensure that all the slaves synchronize their outputs. Extend the closing time of the grid-connect relay after cold start, and try to ensure that the loads have equalized currents;</li> <li>6. update the fault recording function: add the recording start protocol; fix the problem of overflow when the data length type is too small;</li> <li>7. add DSP internal information upload;</li> <li>8. modify reactive mode VI to active priority;</li> <li>9. add software sampling judgment conditions before reporting hardware bus overvoltage to prevent false alarms;</li> <li>10. synchronize the current loop parameters of the parallel and off-grid into the same, and reduce the time of the parallel and off-grid cut to 10ms;</li> <li>11. Adjust the PWM start-up sequence of AC grid-connected start-up during battery activation;</li> </ol> <p>Slave</p> <ol style="list-style-type: none"> <li>1. Modify the modulation mode of BUS balance adjustment circuit to bipolar to solve the problem of unstable control during balance state;</li> </ol>	2021/4/6		/	
V030015_15_22	<ol style="list-style-type: none"> <li>1.500ms task canceled and moved to 20ms. Increase 20ms task stack</li> <li>2. Communication logic modified to reset bFrameFinished after receiving frame header.</li> <li>3.SCI reset increase interrupt enable bit reset.</li> <li>4. Add overflow check for AD interrupt.</li> <li>5. Add 1-second average filter to partially uploaded sample values.</li> </ol> <p>Slave</p> <ol style="list-style-type: none"> <li>1. SCI communication failure to standby.</li> <li>2. Speed up the battery loading response, reduce the bus drop</li> <li>3. Repair 2-way battery, one full compensation power is not right</li> <li>4. Optimize the disconnection detection when the battery is floating.</li> <li>5. MPPT detection status can re-open the loop.</li> <li>6. Repair the phase sequence problem of voltage consistency detection.</li> <li>7. Factory mode charging adds bus voltage outer loop.</li> <li>8. Optimize bus voltage calibration.</li> </ol> <p>Master</p> <ol style="list-style-type: none"> <li>1. Enhance the filtering of hardware bus over-voltage signal.</li> <li>2. Repair the abnormal problem of state switching when enabling high and low wear and off-grid at the same time.</li> <li>3. Repair the problem of power calculation error when unbalanced load is connected to off-grid.</li> <li>4. Repair the problem of apparent power down load.</li> <li>5. Put the interrupt into RAM.</li> <li>6. Repair the problem of auxiliary power dropout when only connecting to energy-saving batteries and grid upgrading.</li> <li>7. Support connecting CT and PV meters at the same time.</li> <li>8. Change DCI to absolute value calculation.</li> <li>9. Optimize BUS voltage detection in CHECK status.</li> </ol>	2021/1/29		/	
