![CNEnergy logo] Shanghai Energy Electronic Technology Co., Ltd.

BRINGING IDEAS TO YOUR BATTERIES

LITHIUM BATTERY BMS

CORPORATE PROPAGANDA

CONTACT

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About Us

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Shanghai Energy Electronic Technology Co., Ltd was founded in September 2016 and is located on the 1&2&4&5 floor of Building 3, Caohejing (Zhongshan) Science and Technology Park, No. 68, Zhongchuang Road, Songjiang District, Shanghai.

The company is mainly engaged in BMS research and development, production and sales of new energy power lithium batteries and energy storage batteries.

The products involve home energy storage, communication base station backup power,smart lithium batteries, AGV, electric forklifts, super capacitors and customized development of BMS.

Intellectual Property

Innovation is never-ending

27 Utility Model

+

26 Software Copyright

+

6 Invention Patent (in approval)

CONTENTS

PART

01

Highlights

Highlights

Positive topology

The positive electrode topology is adopted to effectively reduce shallow charge and shallow discharge, and prolong battery life. The negative electrode of the circuit has a common ground, which reduces the interference caused by EMC and MOSFET turn-on and turn-off.

Current limit mode

The MOS tube synchronous rectification technology is adopted for the current limiting of multiple battery packs with parallel current greater than 50A, which effectively reduces heat generation, improves efficiency, and reduces area.

Consumption management

Soft switch: The battery can be set to automatically shut down in standby mode to reduce unnecessary loss. To avoid continuous power consumption caused by forgetting to turn off the lock switch.

Zero power consumption: Cut off the positive power supply load of the battery after shutdown, and the power consumption of the BMS board is as low as 1 microampere.

Hardware secondary protection: cut off the battery load, reduce power consumption, and avoid battery failure caused by battery undervoltage.

Cell compensation

In the scenario of battery series and parallel connection and high current, through cell compensation, the mis-opening of the balance caused by the internal resistance pressure difference of the busbar is reduced, and the capacity deviation is reduced. Cell voltage/capacity monitoring is more accurate, effectively extending battery life.

AFE sampling protection

AFE protection circuit supports the dislocation and disorder of harness sequence, the reverse of high and low sampling harness and disconnection protection.

Match multiple inverters

At present, it has matched communication with more than dozens of mainstream inverters and can be switched   or adaptive compatible use.

Meet various certifications

It has passed CE,UL, TUV and other certifications with battery pack, ensuring the quality and safety of software

PART

02
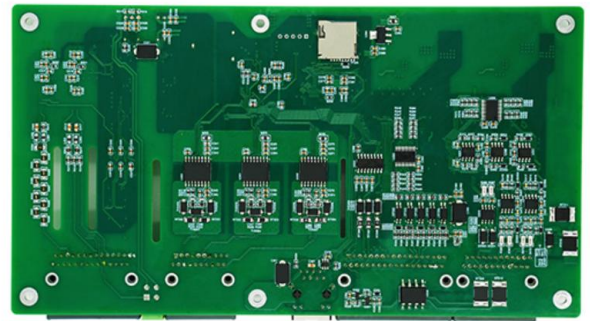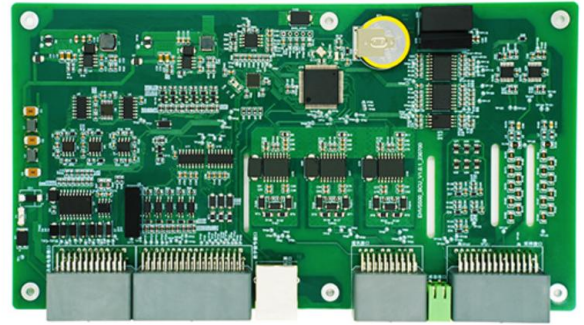
Product Specification

Specification

Model	EHVS500	EMU-1101	EMU-1102	EMU-1103	EMU-2000	EMU-1203
Current (A)	60~200	100/150/200	100/150	50/75/100	0~100	100/150
Cell Type	LFP			LFP/NCM/LTO		
Strings (s)	32~576	8~16	17~24	8~16		4
Dimensions (mm)	**BCU:** 220*120*18 **BMU:** 155*120*18	300*100*30		260*80*25	300*120*50	180*120*45
Communication	CAN / RS485 / Ethernet	RS485/CAN			RS485	RS485/CAN /RS232
Current limiting (A)	/	10 (Integrated) active/passive			0~100	40 (optional) active/passive

Notes：
LFP：Lithium Iron Phosphate　　**NCM**：Ternary Lithium Battery　　**LTO**：Lithium Titanium Oxide Battery

EHVS500-BCU

EHVS

500


BCU
（**Master board**）

Features

- **Communication:** *CAN/RS485/Ethernet*

- **Sampling:** *High precision current sampling (0.5%), voltage sampling (0.3%), temperature detection*

- **SOC/SOH:** *Unique SOC and SOH algorithms*

- **ADD Encoding:** *BMU automatic address encoding*

- **Control:** *Support 7-way relay acquisition and control, and support 2-way dry contact output*

- **Local high-capacity storage:** *Yes*

- **Low-power mode:** *Yes*

- **External LCD display screens:** *Yes*

- **Firmware upgrade:** *BCU firmware is upgraded through the upper computer, while BMU firmware is upgraded through BCU*

- **Local monitoring:** *Various dry contact sensor monitoring*

Home Storage

High Voltage

EHVS500-BMU

EHVS
500
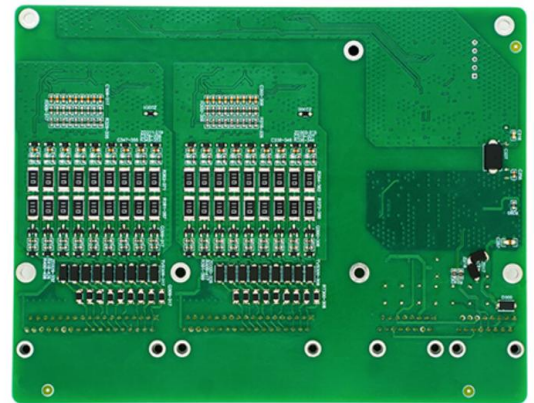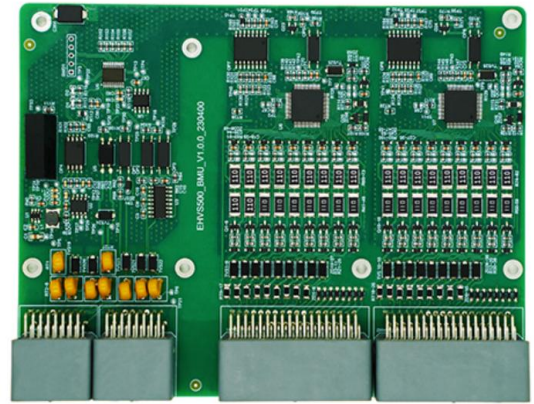
BMU
（Slave board）

Features

- **Local communication:** CAN connection between BCU and BMU

- **Voltage Sampling:** Real-time voltage sampling of 4-32 cells

- **Temperature sampling:** 2~16

- **Balancing:** 200mA passive balancing

- **ADD encoding:** Automatic address encoding when battery packs are connected in series

- **Low power design :** <1mW

- **Dry point:** 1 dry contact output, with a current of up to 300mA
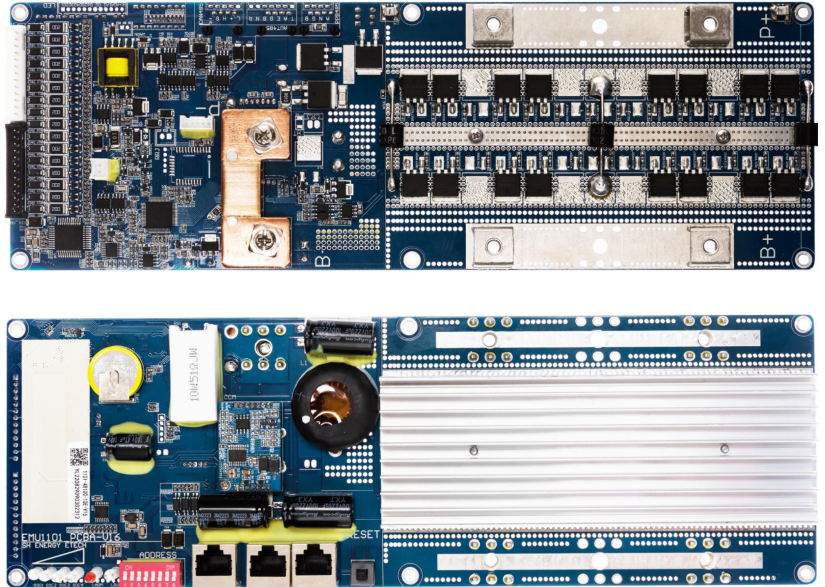
EMU1101

EMU
1101

Features

- **Topology:** *Positive protection design，same port for charging/discharging*

- **Compatibility:** *For 8~16 strings，15/16 string compatible*

- **Current limiting:** *Integrated 10A limiting，optional for active/passive mode*

- **Low consumption:** *Low sleep power consumption（<10uA）*

- **Equalization modes:** *Charging/standby(2 modes)*

- **Communication：** *RS485/CAN/RM485（support parallel, addr automatic assignment）*

- **Current:** *100A/150A/200A charging/discharging*

- **Inverter protocols:** *Support more than 40 models Inverter communication(CAN&RS485)*
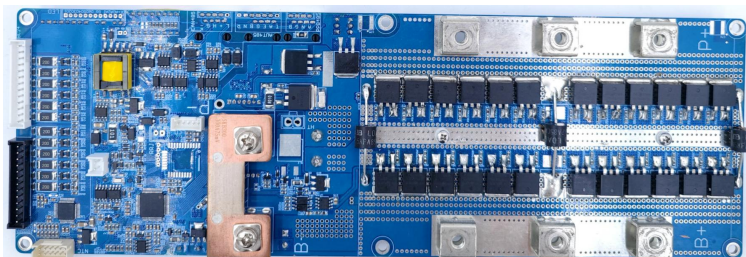
Expand Functions

- *Heating function（200W）*

- *Adapter board (Communication、Reset、LED、Dial address extraction)*

- *4.3' LCD*

- *Bluetooth*

EMU1102

EMU
1102
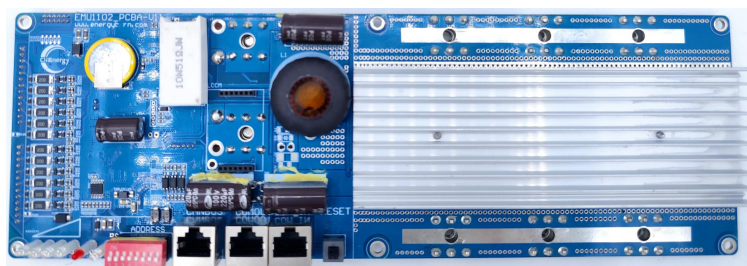
Features

- **Topology:** *Positive protection design, same port for charging/discharging*

- **Compatibility:** *For 17~24 strings, 23/24 string compatible*

- **Current limiting:** *Integrated 10A limiting, opertional for active/passive mode*

- **Low consumption:** *Low sleep power consumption (<10uA)*

- **Equalization modes:** *Two equalization modes (charging/standby)*

- **Communication：** *RS485/CAN/RM485 (support parallel, addr automatic assignment)*

- **Current:** *100A/150A charging/discharging*

- **Inverter protocols:** *Support more than 40 models Inverter communication*
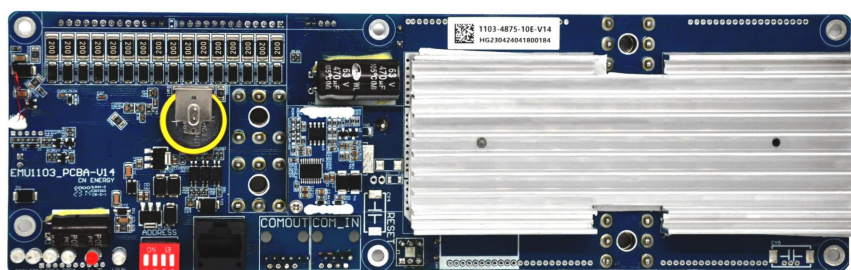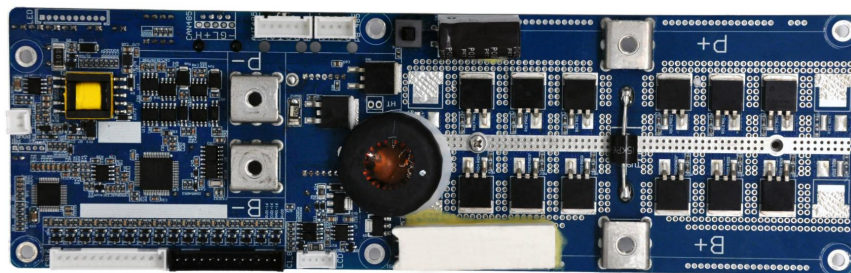
Expand Functions

- *Heating function (200W)*

- *Adapter board (Communication、 Reset、 LED、 Dial address extraction)*

- *4.3′ LCD*

- *Bluetooth*

EMU1103

EMU
1103

Features

- **Topology:** *Positive protection design, same port for charging/discharging*

- **Compatibility:** *For 8~16strings, 15/16 string compatible*

- **Current limiting:** *Integrated 10A limiting, opertional for active/passive mode*

- **Low consumption:** *Low sleep power consumption (<10uA)*

- **Equalization modes:** *Two equalization modes (charging/standby)*

- **Communication:** *RS485/CAN/RM485 (support parallel, addr automatic assignment)*

- **Current:** *50A/75A charging/discharging*

- **Inverter protocols:** *Support more than 40 models Inverter communication*
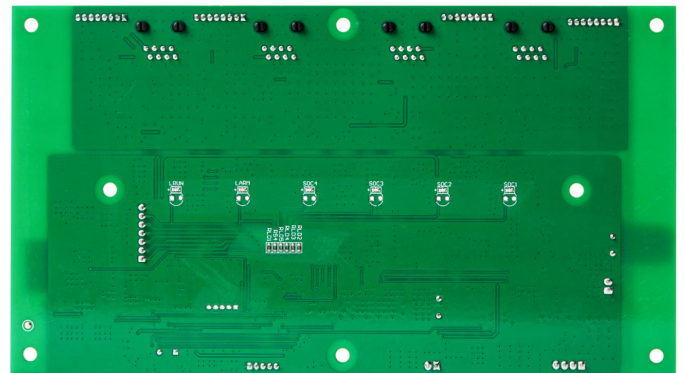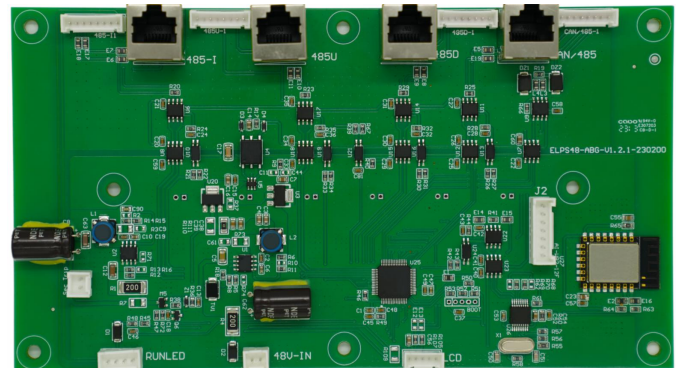
Expand Functions

- *Heating function (200W)*

- *Adapter board (Communication、Reset、LED、Dial address extraction)*

- *4.3′ LCD*

Home Storage

Stacked Master Board

ELPS48-ABG

ELPS48 -ABG

Features

- Summarize the display / indicator
- Switch the battery on and off with one key
- Support more than 40 models Inverter communication
- PACK groups are automatically dialled simultaneously.Manual dialling is not required
- Support touch display
- Bluetooth + WIFI, can be viewed and operated remotely
- View battery string status and modify battery string parameters through the mobile APP

ELAE48
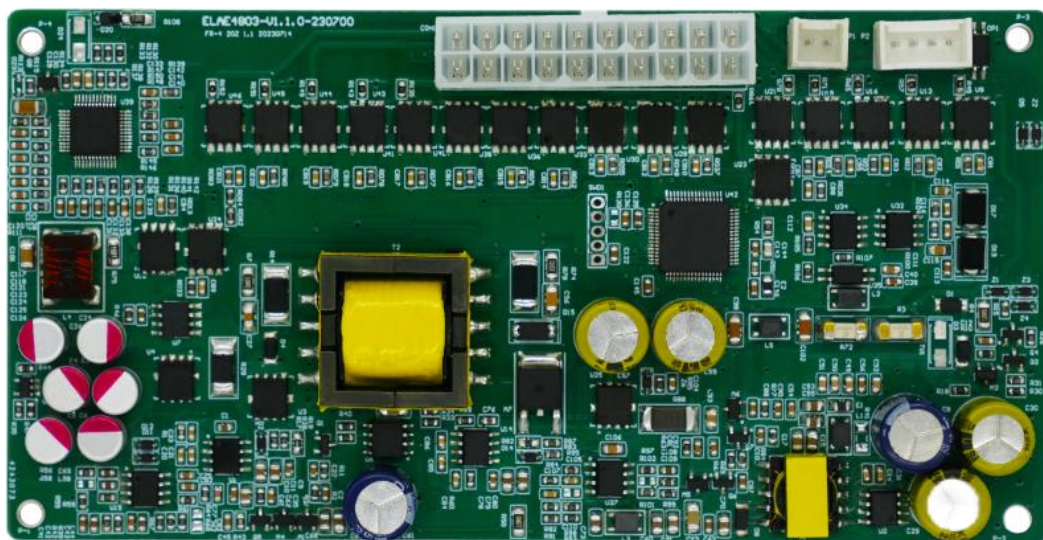
Features

- *For charging, discharging, and standby states, the battery pack is actively balanced*
- *Support up to 24 series battery*
- *Support ternary lithium/lithium iron phosphate*
- *Active balanced current 3-5A*
- *High precision voltage detection*
- *High precision current detection*
- *Overvoltage and overcurrent protection*
- *Temperature detection and protection*
- *Low power mode management*
- *LED light indication*
- *Support upper computer or Bluetooth monitoring*

Smart Lithium Battery
24V/36V/48V

EMU2000

EMU 2000
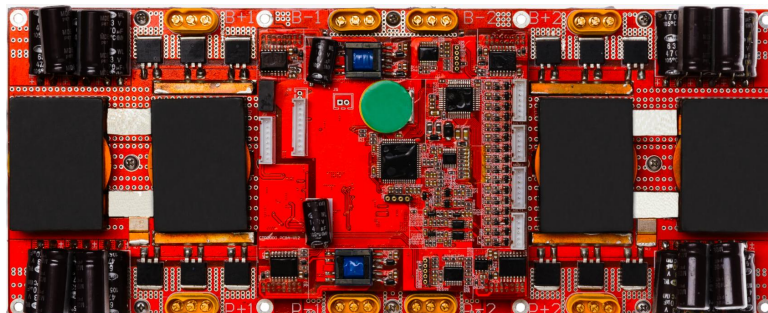
Features

- **Mixing:** Lithium/lead-acid mixed-use, lithium battery new and old mixed-use

- **Current limiting:** Bidirectional voltage rise and step-down, charge/discharge current limiting

- **Reverse connection protection:** Yes

- **Equalization modes:** Charging/standby, current≤150mA

- **Communication:** RS485(support parallel, addr automatic assignment)

- **Three work-mode:** Lithium battery priority discharge

Expand Functions
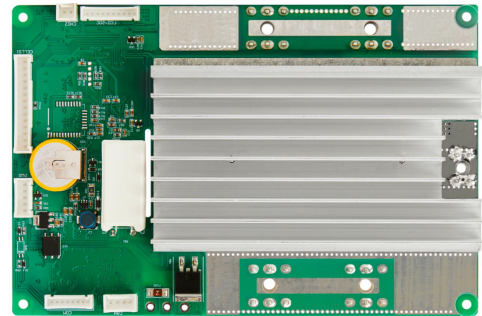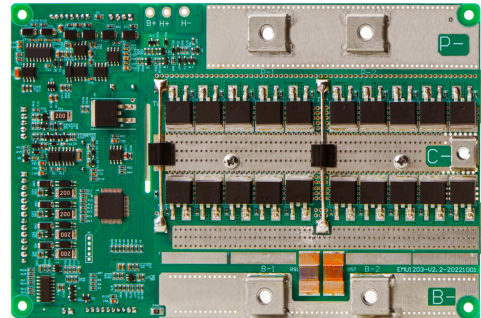
- Heating function (200W)

- Adapter board (Communication、Reset、LED、Dial address extraction)

- 4.3′ LCD

EMU1203

Features

- **Topology:** Negative protection design, same port for charging/discharging

- **Equalization modes:** Charging/standby

- **Communication:** RS485/RS232/CAN/RM485 (support 4 series and 4 parallel connection, addr automatic assignment)

- **Current:** 150A charging/discharging
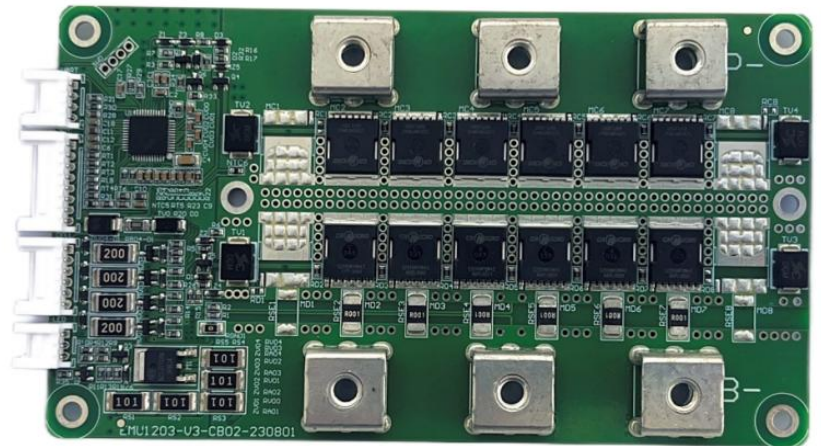
- **Upper computer:** Yes

Expand Functions

- 40A current limiting module, active and passive modes optional

- 4.3′ LCD

- Bluetooth

EMU1203-V2

EMU
1203
-V2

Features

- **Topology:** *Negative protection design, same port for charging/discharging*
- **Balancing modes:** *Charging and static balancing modes (balancing current ≤ 150mA)*
- **Continuous current:** *100A/150A/200A*
- **Temperature sampling:** *up to 4 cell temperature sampling channels*
- **Upper computer :** *Yes*
- **Bluetooth:** *Yes*
- **Connection:** *Support 4 units in series/4 units in parallel*
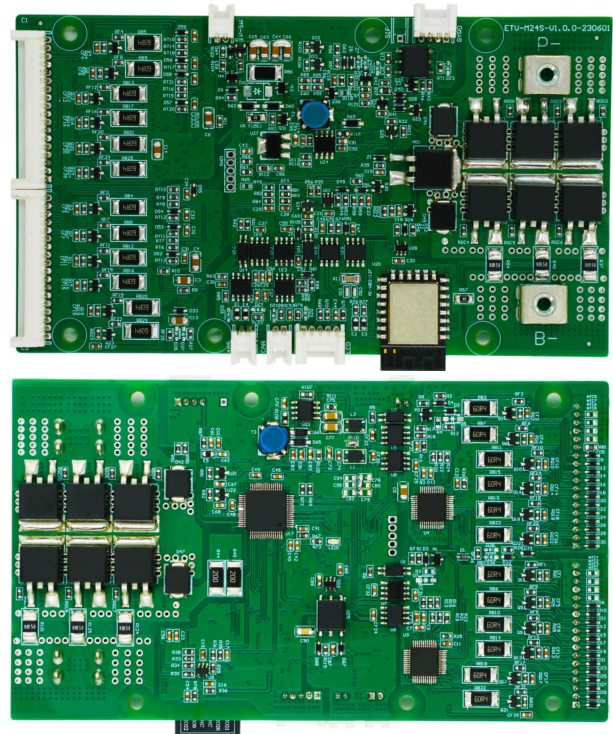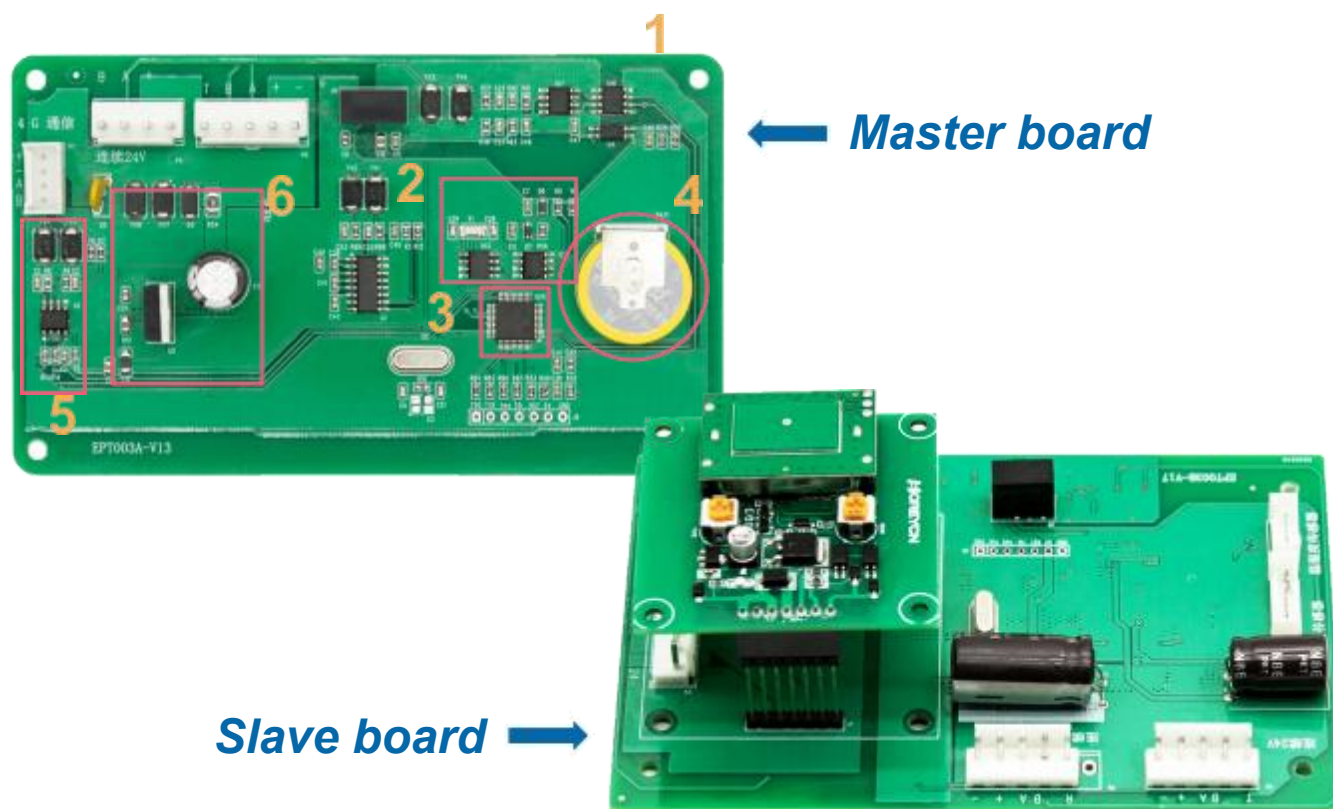
ETV-M24S

ETV-
M24S

Features

- **Topology:** *Negative protection design，same port for charging/discharging*

- **Strings:** *For 8~24strings，23/24 strings compatible*

- **Communication：** *RS485/RS232/CAN/RM485*

- **Equalization modes:** *Charging/standby*

- **Current:** *150A charging/discharging*

Expand Functions

- *4.3' LCD*

- *Bluetooth*

# *EPT-003*

← **Master board**

Slave board →

Features

- *Scenario:* Application of agricultural and pasture intelligent sprinkler system scenario

- *Communication:* RS485/RS232 (A maximum of 50 slave servers are supported. 35 parallel servers are recommended,addr automatic assignment)

- *Communication:* 4G communication, support mobile APP intelligent management

- *Sensors:* Multi-channel temperature and humidity sensors, intelligently monitor the real-time status of farm and ranch animals
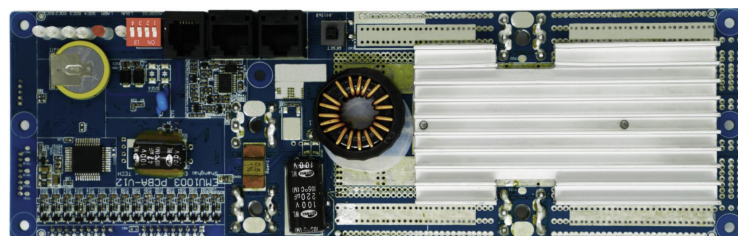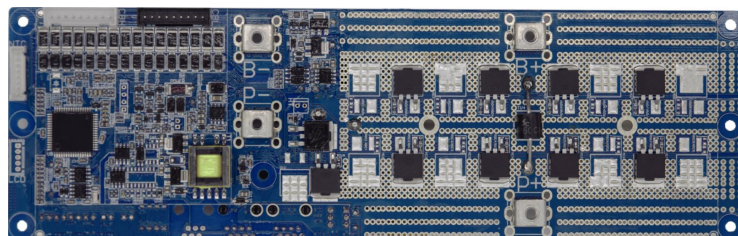
EMU1003

EMU
1003

Features

- **Topology:** *Positive protection design, same port for charging/discharging*
- **Strings:** *For 8~16 strings, 15/16 strings compatible*
- **Current limiting:** *Integrated 10A limiting, optional for active/passive mode*
- **Equalization modes:** *Charging/standby*
- **Sleep power consumption:** *<10uA*
- **Communication:** *RS485/RS232 (8 parallel)*
- **Current:** *50A/75A charging/discharging*
- **Upper computer:** *Yes*

Expand Functions

- *Heating function (200W)*
- *Adapter board (Communication、Reset、LED、Dial address extraction)*
- *4.3′ LCD*

Customized Development
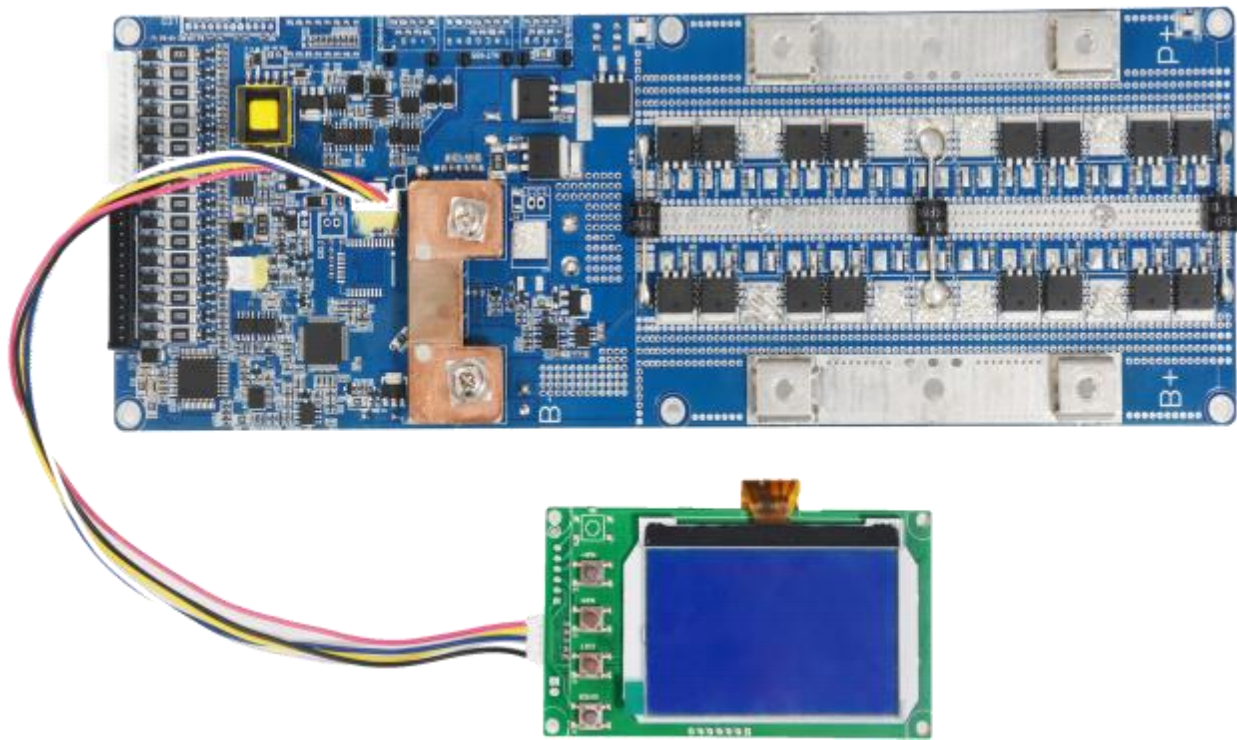
- Support interfaces expansion: SOC indicators, weak current switch, dial switch, CAN interface,RS485 interface, reset button, etc

- Can be customized according to customer needs

PART

03

Footprint

Footprint

Our BMS products have collaborated with over 150 customers,
Applied to over 20 countries and regions worldwide

- **America:** Columbia, Mexico, The United States

- **Africa:** South Africa, Nigeria

- **Asia:** Pakistan, India, Vietnam, Singapore, Thailand, United Arab Emirates, South Korea, Taiwan, China

- **Australia:** Australia, New Zealand
- **Europe:** Netherlands, Spain, Germany, Russia, Italy, France

CNEnergy

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