



AYAA TECHNOLOGY CO., LTD

Datasheet

12S 120A Smart BMS

BMS Product Specification

Customer Name	Shenzhen Ayaa Technology Co., Ltd
Model Name	EF-007
Output Mode	Power MOSFET
Comm Interface	CAN UART Type-C BLE
FCS	PX4 & jiyuav & VKCAN & SKYRCCAN & BOYINGCAN & DroneCAN (formerly UAVCAN/Cyphal)
Date	2026.04.29

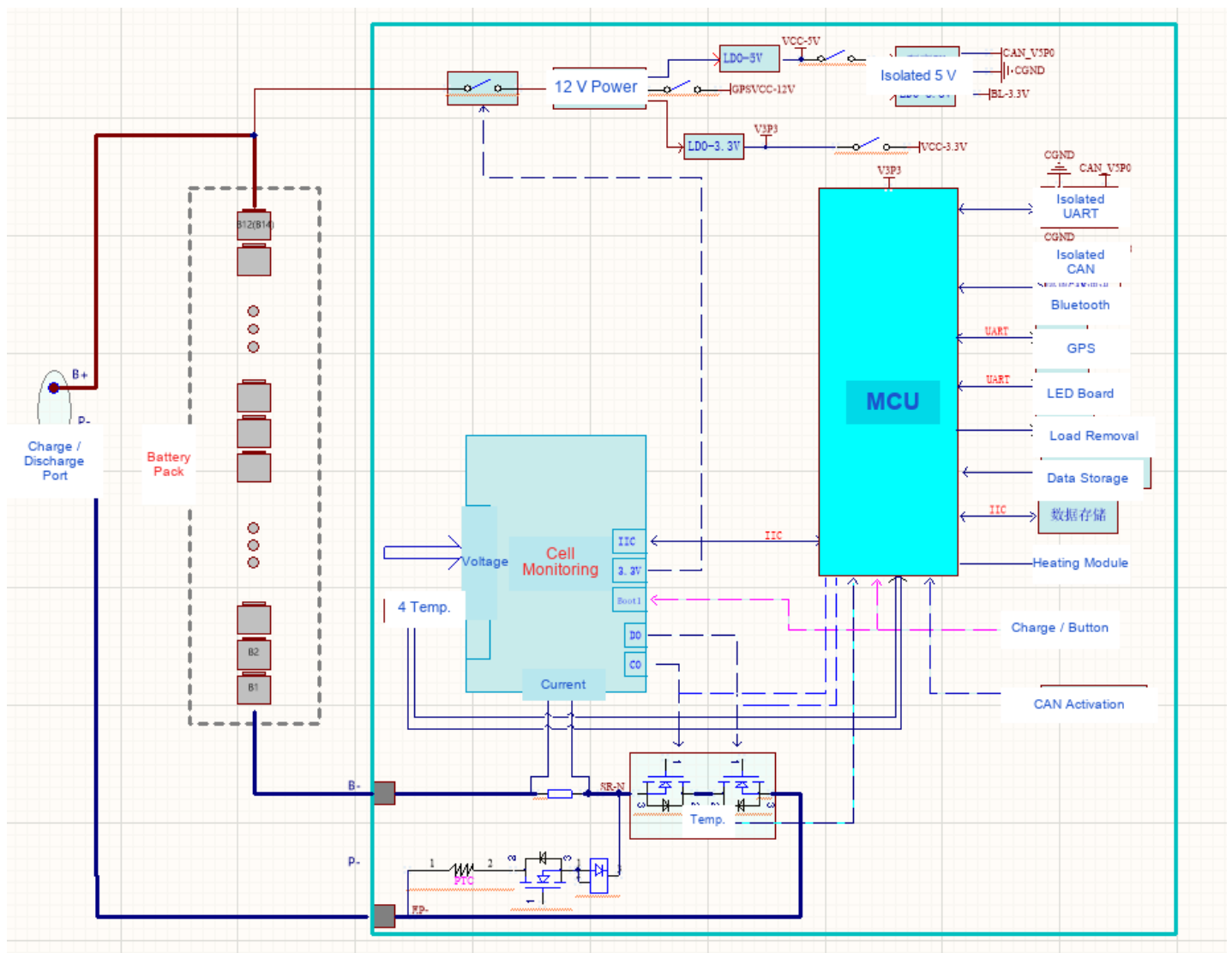
Table of Contents

1. Product Introduction.....	3
2. Function Block Diagram.....	3
3. Configuration.....	4
4. Parameter Settings.....	4
4.1 Basic Parameters	4
4.2 Main Parameters	5
5. Bill of Critical Materials	9
6. Product Diagram and Dimensions	9
6.1 Product Photos and Interface	9
6.2 Cell Voltage and Temperature Interface	10
6.3 LED Interface.....	11
6.4 Communication Interface	11
6.5 Product Dimensions.....	12
7. Wiring Harness	13
8. Product Setup Instructions.....	15
8.1 Charge and Discharge Wiring Diagram	15
8.2 Electrical Connection Sequence.....	16
Power-Up Sequence:.....	16
Power-Down Sequence:	16
8.3 Temperature Sensor Installation	16
8.4 Electrical Wiring Instructions.....	16
8.5 BMS Unpacking Inspection and Precautions.....	16
8.6 Wiring Harness Organization	17
8.7 Securing Connectors with Adhesive.....	18
8.8 Bluetooth/GPS Module Installation	18
8.9 Assembly Precautions	18
9. Disclaimer.....	18
10. Fault Diagnosis.....	19

1. Product Introduction

Compact size and light weight EF-007 smart BMS supports 12S 44.4Vlithium battery packs and handles 120A continuous charge and discharge current, making it ideal for high-power UAV and industrial drone applications. It features isolated RS485, UART, and CAN communication interfaces, along with four battery temperature probes and one MOS temperature probe for real-time thermal monitoring. Standard functions include passive balancing, heating, switch control, pre-discharge, and history storage. A built-in Bluetooth module enables convenient wireless monitoring and parameter configuration.

2. Function Block Diagram



3. Configuration

Function	Configuration	Function	Configuration
Number of strings supported	12S	RS485 Communication (Isolated)	
Discharging Continuous current	120A	UART Communication (Isolated)	(Standard option)
Charging continuous current	120A	CAN Communication (Isolated)	Standard option
Number of NTCs	4 battery temperature probes 1 MOS temperature probe	Heating Function	(Standard option)
Balance Function	Passive balance	Bluetooth Module	(Standard option)
Switch Function	(Standard option)	Battery packs in series	
Charging current limit	(Not supported)	Secondary protection	
Battery packs in parallel	(Optional)	LCD Display	
History storage	(Standard option)	LED indicator interface	(Standard option)
Pre-discharge function	(Standard option)	GPS interface	(Optional)

Note: 1.Non-isolated communication with charger or loads is not supported.

4. Parameter Settings

4.1 Basic Parameters

battery pack Specifications	12-Series Ternary Lithium Battery
Interface type	Charge and discharge are both at the same port
Charging voltage	4.2 V x Number of Series Cells
Cell voltage range	2.8~4.2V
Continuous charging current	120A
Continuous discharging current	120A
Communication Interface Connected upper computer Baud Rate and ID	CAN Baud Rate: 1M ID:1 GPS Baud Rate: 115200 ID:1



Ayaatech BMS Datasheet

battery pack Specifications	12-Series Ternary Lithium Battery
	UART Baud Rate: 115200 ID:1 BLE Baud Rate: 115200 ID:1
Consumption of running	<=40mA
Consumption of sleep	<=2mA
Sleep conditions	No current, communication, or protection state
Consumption of deep sleep	<=100uA
Deep sleep conditions	Cell under-voltage state
Operating temperature	-30°C~70°C
Size	(L*W*H)95mm*85mm*25mm±1mm

4.2 Main Parameters

Project		Specification			
		MIN	TYP	MAX	Unit
Cell Parameter					
Single Cell Over-Charge Protection	Over-Charge Voltage Protection	4.18	4.2	4.22	V
	Over-Charge voltage Protection Delay Time	2000	3000	4000	mS
	Over-Charge voltage Protection Release	4.08	4.1	4.12	V
Single Cell Over-Discharge Protection	Over-Discharge Voltage Protection	2.78 (Warning only; no protection)	2.8 (Warning only; no protection)	2.82 (Warning only; no protection)	V
	Over-Discharge voltage Protection Delay Time	2000	3000	4000	mS
	Over-Discharge voltage Protection Release	3.18	3.2	3.22	V



Ayaatech BMS Datasheet

Project		Specification			
Balance Function					
Balanced Voltage	Balanced Opening Voltage	3.98	4	4.02	V
	Balanced Opening Voltage Different	0.3	0.5	0.7	V
	Balanced Opening Current	50	70	90	mA
	Balanced Opening Mode	Passive balancing			\
Current Protection Parameter					
Over Charge Current Protection	Over-Current Charge Protection	170	180	190	A
	Over-Current Charge Protection Delay Time	2000	3000	4000	mS
	Over-Current Charge Protection is lifted	Delay 30S Self-recovery,After 3 times, need to remove the charger to restore			
Over Discharge Current Protection	1th Ove Protection Current	170 (Warnin g only; no protectio n)	180 (Warning only; no protection)	190 (Warni ng only; no protecti on)	A
	1th Over Protection Delay Time	2000	3000	4000	mS
	2nd Level Over Protection Current	450 (Warnin g only; no protectio n)	500 (Warning only; no protection)	550 (Warni ng only; no protecti on)	A
	2nd Level Over Protection Current Delay Time	110	160	210	mS
	Over-Current Discharge Protection Release	Delay 30S Self-recover,After 3 times, need to remove the load to restore			
Short-Circuit Protection Parameter					



Project		Specification			
Shor-Circuit Protection	Short-Circuit Protection Current	900	1000	1100	A
	Short-Circuit Protection Delay Time	40	70	100	uS
	Short-Circuit Protection is lifted	Removing the load is lifted			
	Short-Circuit Description: The minimum and maximum values of the short-circuit current listed in the table define the effective range of the short-circuit protection function. If the current is lower than the minimum value or higher than the maximum value, it may cause the short-circuit protection to fail. Please thoroughly assess the actual short-circuit current value or series resistance before conducting short-circuit tests.				
Cell Temperature Protection Parameter					
Charging Temperature Protection	Charging High Temperature Protection	62	65	68	°C
	Charging High Temperature Protection Release	52	55	58	°C
	Charging Low Temperature Protection	-8	-5	-2	°C
	Charging Low Temperature Protection Release	-3	0	3	°C
Discharging Temperature Protection	Discharging High Temperature Protection	67 (Warning only; no protection)	70 (Warning only; no protection)	73 (Warning only; no protection)	°C
	Discharging High Temperature Protection Release	57	60	63	°C
	Discharging Low Temperature Protection	-23 (Warning only; no protection)	-20 (Warning only; no protection)	-17 (Warning only; no protection)	°C



Ayaatech BMS Datasheet

Project		Specification			
	Discharging Low Temperature Protection Release	-18	-15	-12	°C
MOS Temperature Protection Parameter					
High Temperature Protection of MOS	Temperature Protection Value	87 (Warning only; no protection)	90 (Warning only; no protection)	93 (Warning only; no protection)	°C
	Temperature Protection Release Value	77	80	83	°C
Total Voltage Protection Parameter					
Total Voltage Over charge Protection	Overall Overcharge Protection Voltage	4.17*12	4.2*12	4.22*12	V
	Overall Overcharge Protection Delay	2000	3000	4000	mS
	Overall Overcharge Protection Release Voltage	4.08*12	4.1*12	4.12*12	V
Total Voltage Over discharge Protection	Overall Over discharge Protection Voltage	2.77*12 (Warning only; no protection)	2.8*12 (Warning only; no protection)	2.82*12 (Warning only; no protection)	V
	Overall Over discharge Protection Delay	2000	3000	4000	mS
	Overall Over discharge Protection Release Voltage	3.18*12	3.2*12	3.22*12	V
Heating Manage					
Heating Manage	Heating Opening temperature	-5	0	5	°C
	Heating Stop temperature	10	15	20	°C



Project		Specification	
	Heating Current	<=10	A
	Type Of Heating	Heating By Charge	

5. Bill of Critical Materials

NO	(Name of Material)	Manufacturer	Packaging	Quantity
1	GD32F103RCT6	GigaDevice	LQFP64	1
2	BQ7694003DBTR	TI	TSSOP-44	1
3	JMSH1001PTL	Jiejie Microelectronics	TOLL	20

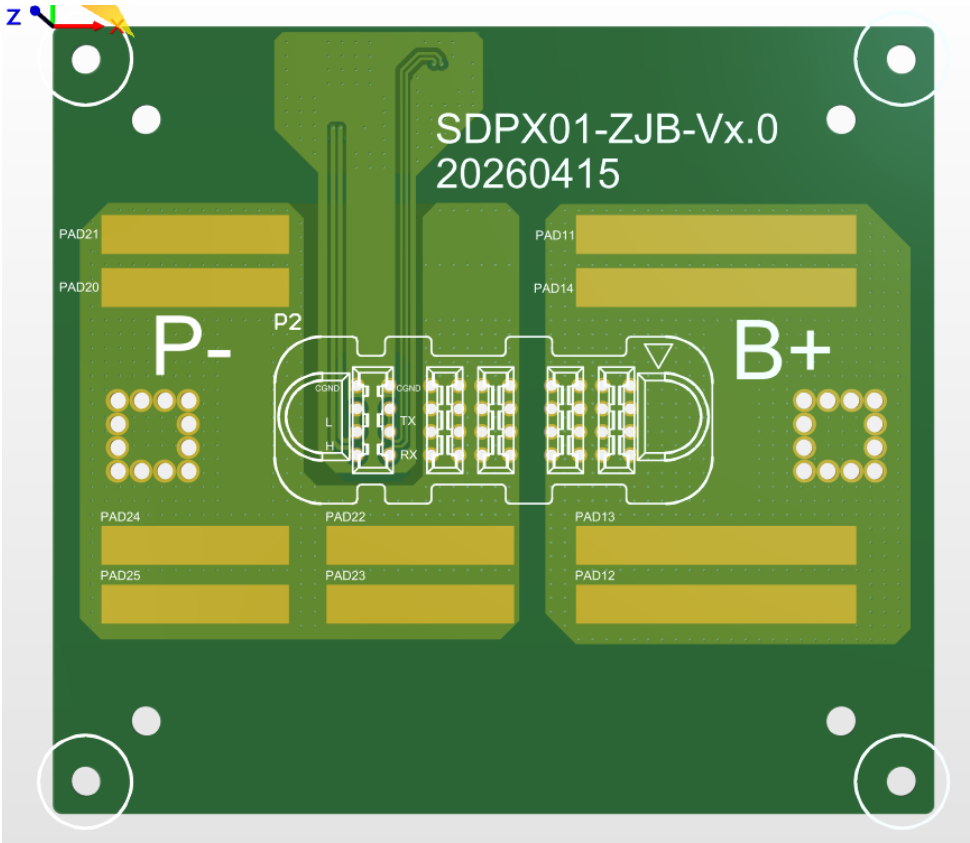
Note: To ensure the safety of the supply chain, we have alternative materials of the same quality and specifications for all Battery Management System (BMS) materials, particularly the key components. If there are certification requirements where replacement is not allowed, or if a client's approval is required for replacement, please notify our sales representatives to resend sample proposals and confirm the product specification.

6. Product Diagram and Dimensions

6.1 Product Photos and Interface

(Main Board)





(Adapter Board)

6.2 Cell Voltage and Temperature Interface

Cell Voltage and Temperature Interface					
NO	PIN	Pin Function	NO	PIN	Pin Function
1	B+	Connect to Positive side of cell 14	2	NC	NC
3	B13	Connect to Positive side of cell 13	4	B14	Connect to Positive side of cell 14
5	B11	Connect to Positive side of cell 11	6	B12	Connect to Positive side of cell 12
7	B9	Connect to Positive side of cell 9	8	B10	Connect to Positive side of cell 10
9	B7	Connect to Positive side of cell 7	10	B8	Connect to Positive side of cell 8
11	B5	Connect to Positive side of cell 5	12	B6	Connect to Positive side of cell 6
1	B3	Connect to Positive side of cell 3	14	B4	Connect to Positive side of cell 4



Cell Voltage and Temperature Interface					
3					
15	B1	Connect to Positive side of cell 1	16	B2	Connect to Positive side of cell 2
17	GND	Connect to Negative side of cell 1	18	B0	Connect to Negative side of cell 1
19	T4-	Negative side of temperature sensor 4	20	T4+	Positive side of temperature sensor 4
21	T3-	Negative side of temperature sensor 3	22	T3+	Positive side of temperature sensor 3
23	T2-	Negative side of temperature sensor 2	24	T2+	Positive side of temperature sensor 2
25	T1-	Negative side of temperature sensor1	26	T1+	Positive side of temperature sensor1

6.3 LED Interface

LED Interface					
NO	PIN	Pin Function	NO	PIN	Pin Function
1	G	LED board negative / GND	2	D1	LED-1
3	D2	LED-2	4	D3	LED-3
5	D4	LED-4	6	K+	Button positive

6.4 Communication Interface

GPS Communication Harness Interface					
NO	PIN	Pin Function	NO	PIN	Pin Function
1	VCC	GPS module positive supply, 12 V	2	GND	GPS module negative supply / GND
3	GPS-TX	GPS-TX (main board)	4	GPS-RX	GPS-RX (main board)

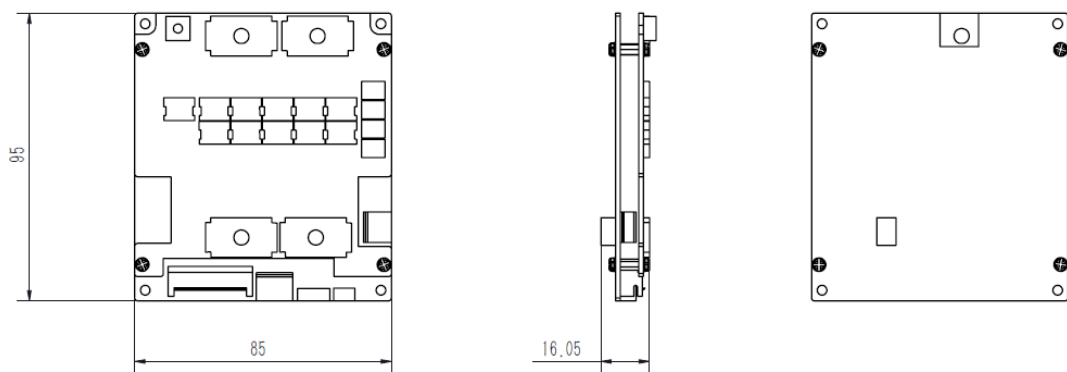


UART Communication Harness Interface					
NO	PIN	Pin Function	NO	PIN	Pin Function
1	G	UART isolated power ground / CGND	2	TX	UART-TX (main board)
3	RX	UART-RX (main board)			

CAN Communication Harness Interface					
NO	PIN	Pin Function	NO	PIN	Pin Function
1	G	CAN isolated power ground / CGND	2	L	CAN L
3	H	CAN H			

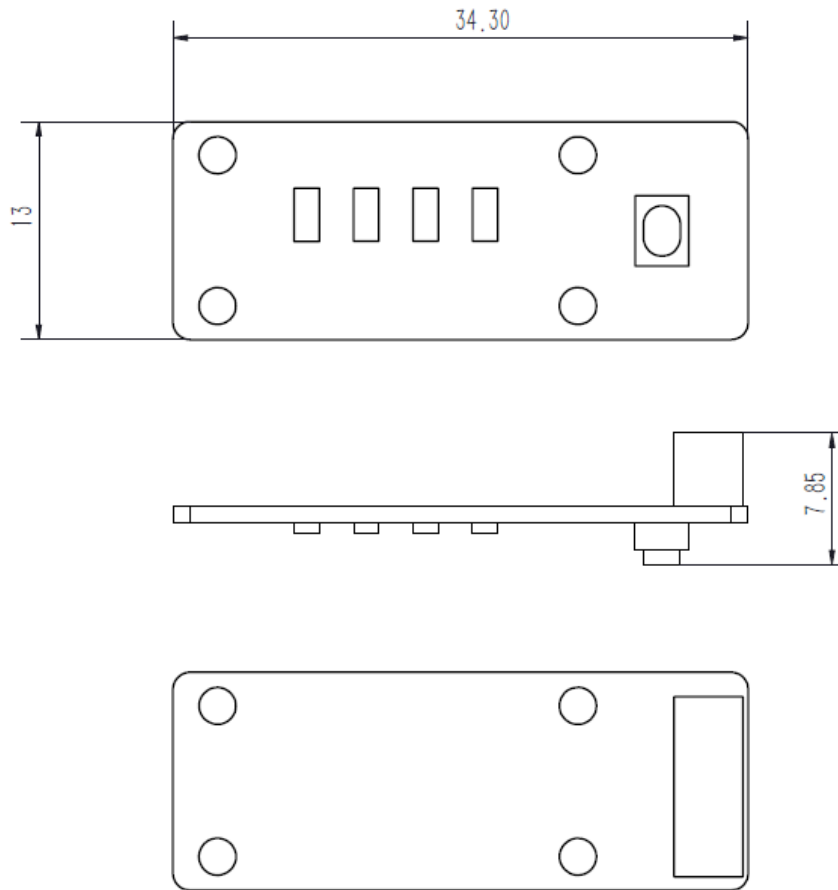
Mark: The GND lines for the CAN and RS485 buses must be connected to the GND lines of the external devices to prevent signal interference and avoid data loss.

6.5 Product Dimensions

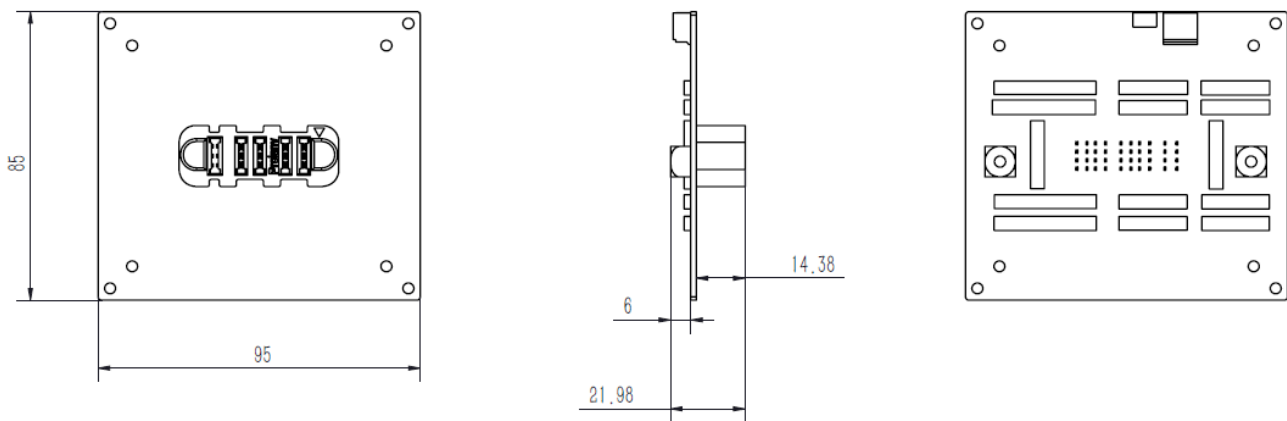


(Main Board: 95 x 85 x 16.05 mm)





(LED Board: 34.3 x 13 x 7.9 mm)

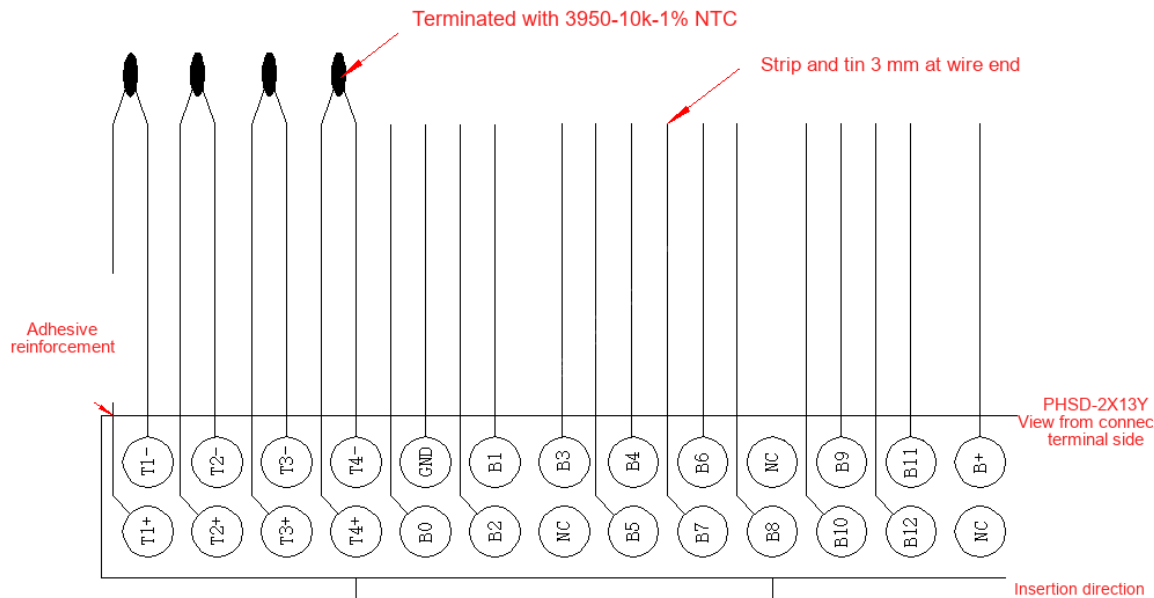


(Adapter Board: 95 x 85 x 22 mm)

7. Wiring Harness

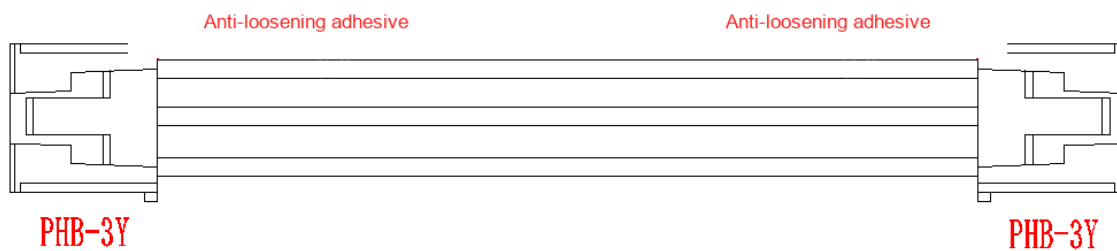
7.1.1 Cell Voltage and Temperature Sampling Harness: PHSD-2X13Y / UL3266-24AWG / 100 mm / SDPX01-12S (with 3950 NTC)





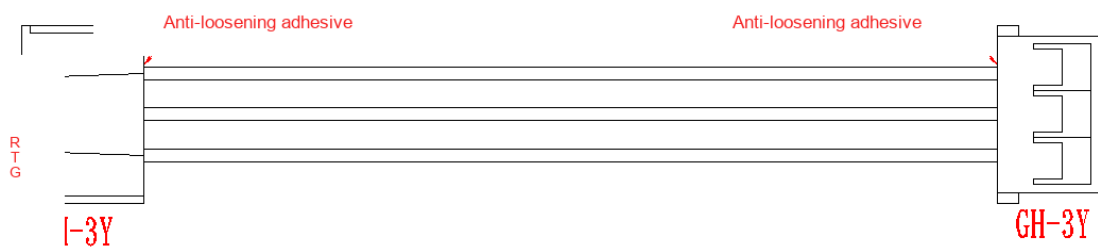
(Cell Voltage and Temperature Sampling Harness Definition)

7.1.2 CAN Communication Harness: PHB-3Y, dual-ended / UL3266-24AWG / 100 mm / SDPX01



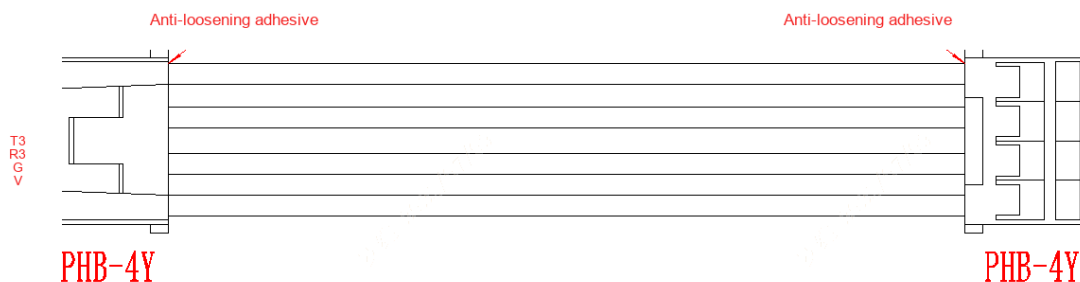
(CAN Communication Harness Definition)

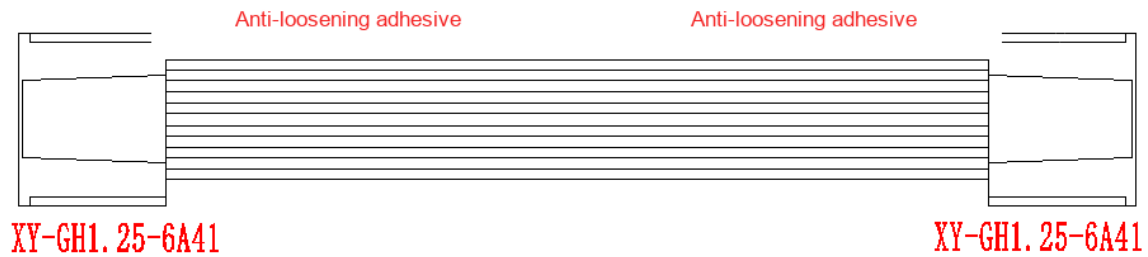
7.1.3 UART Communication Harness: GH-3Y, dual-ended / UL3266-28AWG / 100 mm / SDPX01



(UART Harness Definition)

7.1.4 GPS Harness: PHB-4Y, dual-ended / UL3266-24AWG / 260 mm / HNYX65-GPS

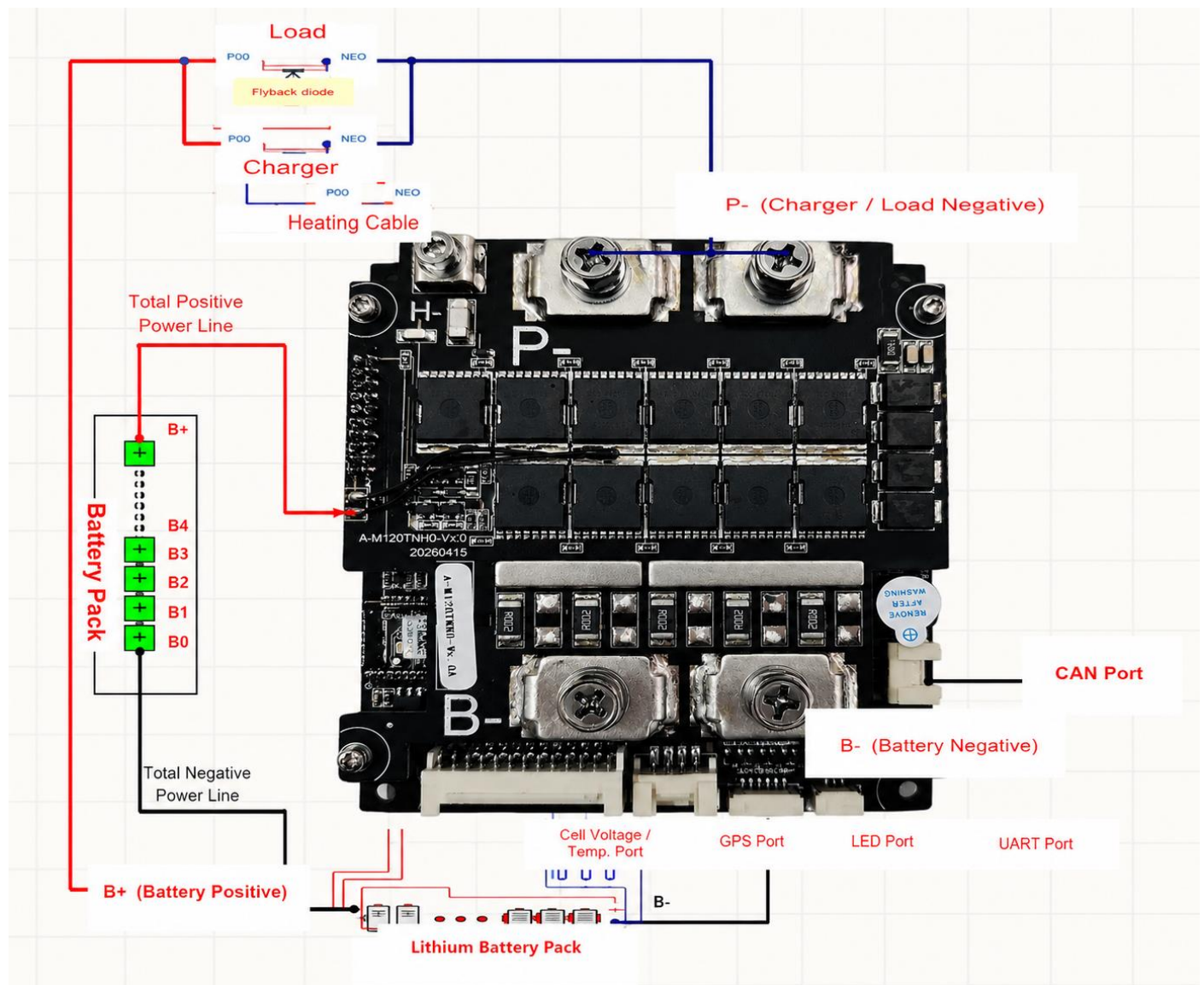




(LED Board Harness Definition)

8. Product Setup Instructions

8.1 Charge and Discharge Wiring Diagram



8.2 Electrical Connection Sequence

Power-Up Sequence:

Step 1: Connect the main board "B-" to the negative terminal of the battery pack.

Step 2: Connect the temperature probes cable, CAN communication cable, start signal cable, etc.

Step 3: Connect the cell voltage sensing cable.

Step 4: Connect the "P-" wire to the negative of the load or the charger, or connect the "C-" wire to the negative of the charger.

Step 5: After ensuring all the above connections are correct, short-circuit the "K+" and "K-" signals for 1 second. The BMS will then power up and undergo a self-test. If the LED on the board blinks once every second, it indicates that the BMS system is operating normally. If the LED blinks three times every second, it indicates an abnormal operation and triggers an alarm.

Power-Down Sequence:

Step 1: Disconnect the charger and load.

Step 2: Disconnect the voltage sensing cable.

Step 3: Disconnect all communication cables.

Step 4: Disconnect the main board B-.

Note: If the voltage sensing line is welded:

A: Pre-processing: Place the BMS on an anti-static desktop, with the operator using a soldering iron to tin the solder pad that's to be welded. If the materials to be soldered weren't tinned upon arrival, it is also necessary to tin them in advance to reduce the welding time during live soldering.

B: Welding sequence: The welding sequence for the battery sensing line is B1 -> B2 ... B+. Only after confirming that the welding is correct should you power on.

C: Avoid contacting surrounding components and PCB circuits during the welding process.

8.3 Temperature Sensor Installation

The temperature sensor on the main board is used to monitor the temperature of the battery pack. During installation, please place the sensor probe closely against a single cell located in the middle of the battery pack, ensuring it measures at the most concentrated heat area of the pack.

8.4 Electrical Wiring Instructions

When connecting the BMS to the battery pack, first connect the overall negative terminal of the battery pack to the B-terminal of the BMS, ensuring a reliable grounding of the system. At the same time, the impedance of the power line from the overall negative terminal of the battery pack to the B- terminal on the BMS board should be kept as low as possible, ideally within 0.1mΩ, to ensure accurate current detection during high-current charging and discharging.

When conducting tests with charge and discharge currents greater than 50A, both the B- and P- power lines on the main board must be fully connected to ensure overcurrent capability and to guarantee even current distribution across power devices.

8.5 BMS Unpacking Inspection and Precautions

Before opening the box, check if the packaging is intact, looking for any signs of impact or damage. Handle the packaging box and the BMS gently, and try to avoid placing them upside down.

Before installing the BMS, ensure that the battery cells are properly matched. A voltage that is too high or too low will trigger an alarm in the BMS, preventing it from functioning correctly. If the battery cell's voltage is overcharged or over-discharged, adjust the voltage to its normal range before connecting it to the BMS.



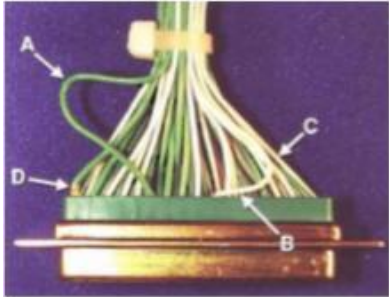
Ayaatech BMS Datasheet

8.6 Wiring Harness Organization

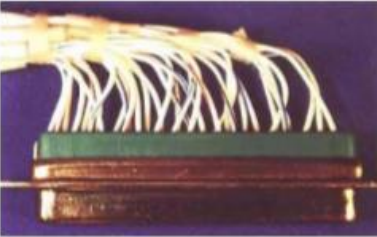
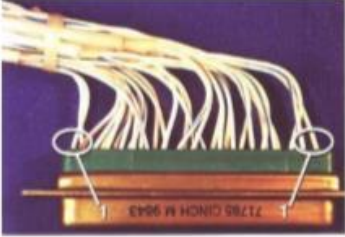
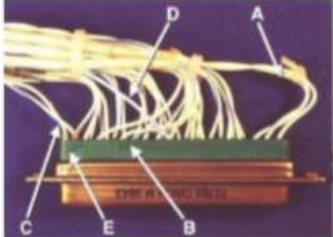
8.6.1 B-, P-, B+, P+, heating H+, and H- power cables are independent output cables and must not be bundled with signal cables.

8.6.2 Bundle external communication cables separately from local communication cables. External RS485, CAN, 12 V activation, and low-current switch signal cables must not be bundled with local Bluetooth, GPS, voltage-sampling, temperature-sampling, display, or LED indicator-board cables.

8.6.3 Straight Routing: Position the harness tie point at a distance approximately equal to the connector width.

Objective (Figure A): The wiring harness exit is perpendicular to the connector's surface; there's enough distance between the tie point of the harness and the connector to prevent any stress on the wires.	Acceptable (Figure B): The wiring harness exit is almost perpendicular to the connector; the harness is free from stress.	Not Acceptable (Figure C,A): The length of the wiring harness is too long; The wiring harness exit forms a sharp angle with the connector's surface (Figure C, B); The harness is under stress (with no room for movement whatsoever).
 Fig. A (1: high-stress area)	 Fig. B	 Fig. C

8.6.4 Side Routing: Position the harness bend point at approximately one-third of the connector width.

Objective (Figure A): The wire harness should be perpendicular to the connector before any bending; The harness should be free from stress; The harness shouldn't experience stress from any ties.	Acceptable (Figure B): The wire harness exit is nearly perpendicular to the face of the connector.	Not Acceptable (Figure C): The wire harness is excessively long (A). A sharp angle is formed between the wire harness exit and the connector (B). The wire harness has tension or stress (lacks slack or free movement) (C, D).
 Fig. A	 Fig. B (1: high-stress area)	 Fig. C

8.6.5 Harness Fixation

The wire harness should be securely attached to the enclosure or mounting plate using clips or ties. The wiring should

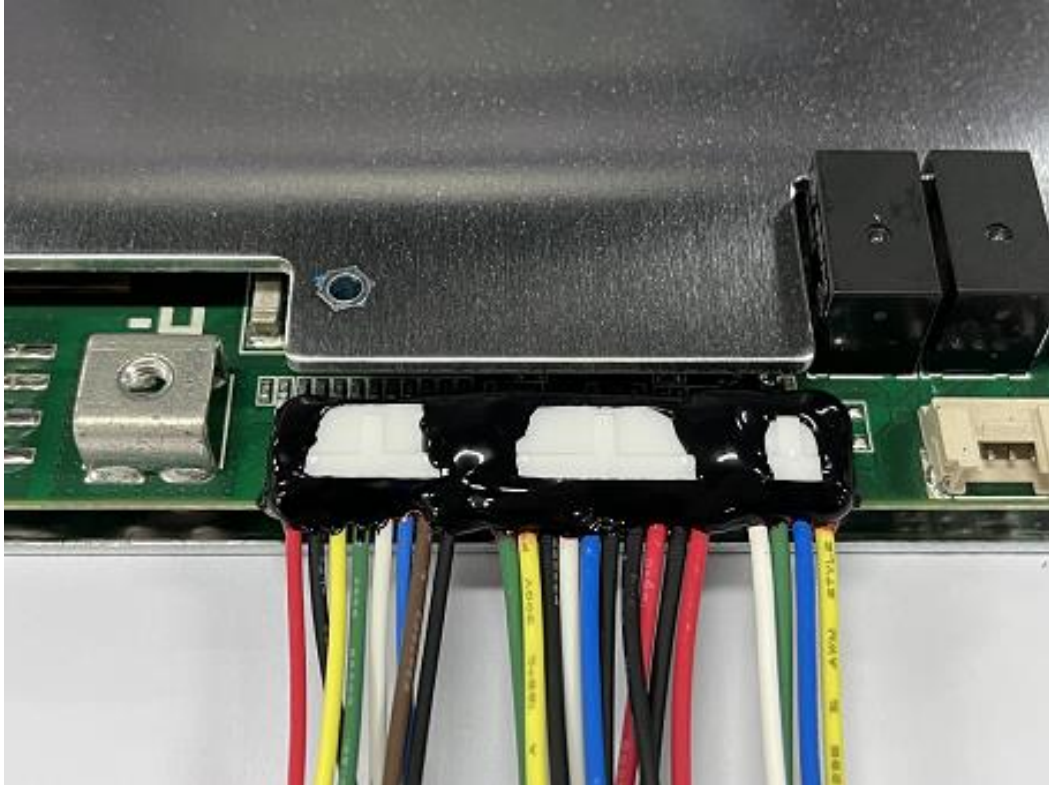


Ayaatech BMS Datasheet

be tidy and stable, with no loose hanging, interference, undue stress, or signs of wear from friction. Fixation points must be positioned 30-50mm from the connector, with no more than 200mm between each fixation point. Additionally, fixation points should be placed within 80mm from both ends when navigating corner edges.

8.7 Securing Connectors with Adhesive

Once the wiring harness installation is finished, ensure the connector's buckle is properly positioned. It's suggested to apply flame-retardant red or yellow adhesive (hard type) at the junction between the wiring harness's protective casing and the BMS connector, as well as around the buckle. Both front and back sides should have adhesive applied.



Important Note:

Since motor controllers come with continuous current protection devices, the BMS board doesn't have high-power continuous current tubes. When using a large-scale charging and discharging test cabinet for battery pack discharge tests, to prevent inductive effects during discharge cut-off, a continuous current protection diode should be added to the test cabinet's output. A 200V/100A Schottky diode is recommended. Failing to do so could result in induced voltages from the test cabinet damaging the power components on the BMS board.

8.8 Bluetooth/GPS Module Installation

The Bluetooth/GPS module is standalone. To ensure robust signal strength, make sure the Bluetooth/GPS antenna isn't shielded or obstructed by any metal casing.

8.9 Assembly Precautions

Avoid static electricity during assembly and use. Refrain from touching the conductive areas of the circuit board directly with your hands. Ensure that the soldering iron and electric tools used during assembly are properly grounded. During assembly and use, avoid applying stress to the circuit board to prevent component damage and board failure.

9. Disclaimer

If procedures are not followed in the specified order, components of the protective board may be damaged, rendering the board unable to safeguard the battery pack. Users will bear responsibility for any resulting consequences.



10. Fault Diagnosis

NO	Fault Phenomenon	Troubleshooting
1	Smoke or burnt smell when plugging in the voltage collection harness	1..Immediately unplug the voltage collection harness and check whether the wiring on the cell end is soldered in the order of B0, B1, B2, ... to the last string, and no sequence errors or cold solder joints are allowed; 2.. For BMS boards with multiple voltage collection interfaces, check if the low-position collection harness is connected first, then the high-position; and if the high-position is unplugged first, then the low-position; 3.. Check for any exposed wires short-circuiting or solder beads falling on the board.
2	BMS board does not power on	1.. Check if there is an indicator light on the BMS board. If no light is on, try pressing the switch or charging to activate the BMS board. A 1-second flash indicates normal operation, meaning basic BMS functions and communication are normal. A 200ms fast flash indicates an alarm or abnormal protection; in this case, connect the communication interface or Bluetooth to check the BMS abnormal state. A flash every 10 seconds indicates the BMS board has entered sleep mode and needs charging or discharging to activate into normal operation; 2.. If the light is constantly on, it generally indicates an accidental entry into the upgrade interface. Re-upgrade to solve this issue.
3	Battery pack does not discharge	1.. In normal operation mode, if there is no output, check if an external weak current switch is configured. Try pressing the external switch. You can also connect Bluetooth or the upper computer to check whether the discharge MOS status is set to "1", which means the discharge MOS is on and allows discharge, "0" means the discharge MOS is off and discharge is not allowed; 2.. No output in sleep mode is normal as sleep mode saves power by shutting off output. Check if there is a weak current switch function; try the switch to wake up, or charge/discharge to wake up the BMS into normal operation mode; 3.. Check if the indicator light is flashing at 200ms. If fast flashing, it indicates a battery abnormality, and the BMS protection action shuts off output. Connect communication or the Bluetooth APP to troubleshoot. Prioritize checking for voltage, current, or temperature abnormalities and related protections; 4.. Check if abnormal protection has occurred without meeting recovery conditions.
4	Battery pack does not charge	1.. Check if the charger matches. Normally, blind charging chargers connected to mains power have output voltage; confirm the output voltage is greater than or equal to the fully charged voltage of the

NO	Fault Phenomenon	Troubleshooting
		battery pack. The charger voltage lower than the battery pack voltage cannot charge; 2.. When using charge-discharge aging cabinets, some chargers require first identifying battery voltage. Protocol chargers may not match and fail to charge; 3.. Check if the charger output voltage is about 1.2V higher than the current battery pack voltage. When the battery pack is nearly full, it might not charge or recognize the charger model, which is normal; 4.. Some BMS boards have weak current switches, with charging controlled by the weak current switch. Try pressing the external switch to charge.
5	Voltage sensing wires get hot.	1.. Check if the end of the voltage collection harness is correctly connected to the cells, and if the high and low orders are reversed. Incorrect connections cause heating, and may damage the board's internal circuits and components; 2.. Check if the number of harness strings matches the BMS board's factory strings. Mismatched harnesses and BMS board short-circuited strings cause heating and may damage the board's internal circuits and components.
6	The voltage of one string changes more significantly as the charging or discharging current increases, leading to a large voltage difference between adjacent strings.	1.. Check if the soldering of the connecting pieces between the cell with large voltage changes and adjacent cells is firm; 2.. Check if the soldering of the voltage collection wire of the cell with large voltage changes is firm; 3.. Check if the internal resistance of the connecting piece between the cell with large voltage changes and adjacent cells is relatively large. Strongly recommend using soft copper bars for connections between battery groups instead of power cables.
7	Power cuts off when connected to load or inverter	1.. Check if the battery voltage is too low, triggering the BMS board's over-discharge protection. Connect the upper computer or Bluetooth APP to troubleshoot; 2.. Check if the load or inverter power is too large, triggering the BMS board's overcurrent protection. Connect the upper computer or Bluetooth APP to troubleshoot; 3.. Check if the device has large capacitors, triggering the BMS board's overcurrent or short-circuit protection. Connect communication or Bluetooth APP to troubleshoot.
8	Power cuts off during acceleration or climbing	1.. Check if the BMS board's overcurrent protection is triggered. Connect the upper computer or Bluetooth APP to read alarms and operational data for troubleshooting, and optimize protection parameters;



NO	Fault Phenomenon	Troubleshooting
		2.. Check if the battery power is sufficient and if under-voltage protection is triggered; 3.. Check if the power cables are soldered firmly.
9	BLE connection failed	1.. Check if the Bluetooth APP search interface can find the Bluetooth module's name. If found, the BMS board is working normally. If not found, the BMS board may be in sleep or under-voltage protection state; 2.. Check if the Bluetooth module's indicator light is flashing green, indicating normal power supply to the Bluetooth module. Otherwise, check if the interface wiring is correct; 3.. When the Bluetooth module indicator light is constantly on, it indicates the phone has paired with the Bluetooth module. If there is data on the interface, the Bluetooth connection is normal. Constant on with no data might be a setting error. Try modifying the ID number to 1 or 20 in the phone interface; 4.. Check if the phone's Bluetooth function is turned on. In the Bluetooth search interface, try swiping down several times to refresh. Android phones also need to turn on location services.
10	CAN connection failed	1.. Check the brand of the CAN communication box. Recommended brand is Chuangxin Technology. Other brands may have connection issues; 2.. Check if the driver is installed on the computer. Plug and unplug the CAN device's USB interface and observe the computer's device manager. If the device appears when the USB is plugged in, the driver is normal. If the device disappears when unplugged, the driver installation is abnormal; 3.. Check if the dip switch of the CAN communication box is set correctly. Generally, one up and one down is recommended; 4.. Check if the BMS board's signal definitions H and L match the communication box to avoid only contacting the wire skin when locking the wiring slot screws; 5.. Prioritize connecting to the CAN1 interface of the CAN box. The upper computer settings of CAN2 vary; 6.. Check if multiple upper computer software are open on the computer. Close other CAN software or debugging assistants to avoid occupying the CAN device; 7.. Check if the CAN setting interface is correct: device selection CANalyst-II, baud rate: refer to the specification, BMSID: refer to the specification, other default values are acceptable. After setting correctly, click the connect and collect buttons. Baud rate and BMSID are usually one of the following 8 combinations: 125Kbps, 1 or 125Kbps, 20; 250Kbps, 1 or 250Kbps, 20; 500Kbps, 1 or 500Kbps, 20; 1000Kbps, 1 or 1000Kbps, 20.



NO	Fault Phenomenon	Troubleshooting
11	RS485 connection failed	1.. Check if the driver is installed on the computer. Plug and unplug the RS485 device's USB interface and observe the computer's device manager. If the serial port appears when the USB is plugged in, the driver is normal. If the serial port disappears when unplugged, the driver installation is abnormal; 2.. Check if the BMS board's signal definitions A and B match the communication box to avoid only contacting the wire skin when locking the wiring slot screws; 3.. Check if multiple upper computer software are open on the computer. Close other debugging assistants to avoid occupying the serial port number; 4.. Check if the setting interface is correct: select the COM menu, select the correct COM number, baud rate: refer to the specification, BMSID: refer to the specification, other default values are acceptable. After setting correctly, click the connect and collect buttons. Baud rate and BMSID are usually one of the following 4 combinations: 9600, 1 or 9600, 20; 115200, 1 or 115200, 20.
12	UART connection failed	1.. Check if the driver is installed on the computer. Plug and unplug the serial device's USB interface and observe the computer's device manager. If the serial port appears when the USB is plugged in, the driver is normal. If the serial port disappears when unplugged, the driver installation is abnormal; 2.. Check if the BMS board's signal definitions TXD, RXD, and GND match the communication box to avoid only contacting the wire skin when locking the wiring slot screws. Typically, the BMS's TXD corresponds to the communication box's TXD, RXD corresponds to RXD. Some models have TXD, RXD crossed; 3.. Check if multiple upper computer software are open on the computer. Close other debugging assistants to avoid occupying the serial port number; 4.. Check if the setting interface is correct: select the COM menu, select the correct COM number, baud rate: refer to the specification, BMSID: refer to the specification, other default values are acceptable. After setting correctly, click the connect and collect buttons. Baud rate and BMSID are usually one of the following 4 combinations: 9600, 1 or 9600, 20; 115200, 1 or 115200, 20.



Ayaatech BMS Datasheet

NO	Fault Phenomenon	Troubleshooting
13	CAN and RS485 cannot establish communication with the external device or there are occasional disconnections.	Mark: The GND lines for the CAN and RS485 buses must be connected to the GND lines of the external devices to prevent signal interference and avoid data loss.

