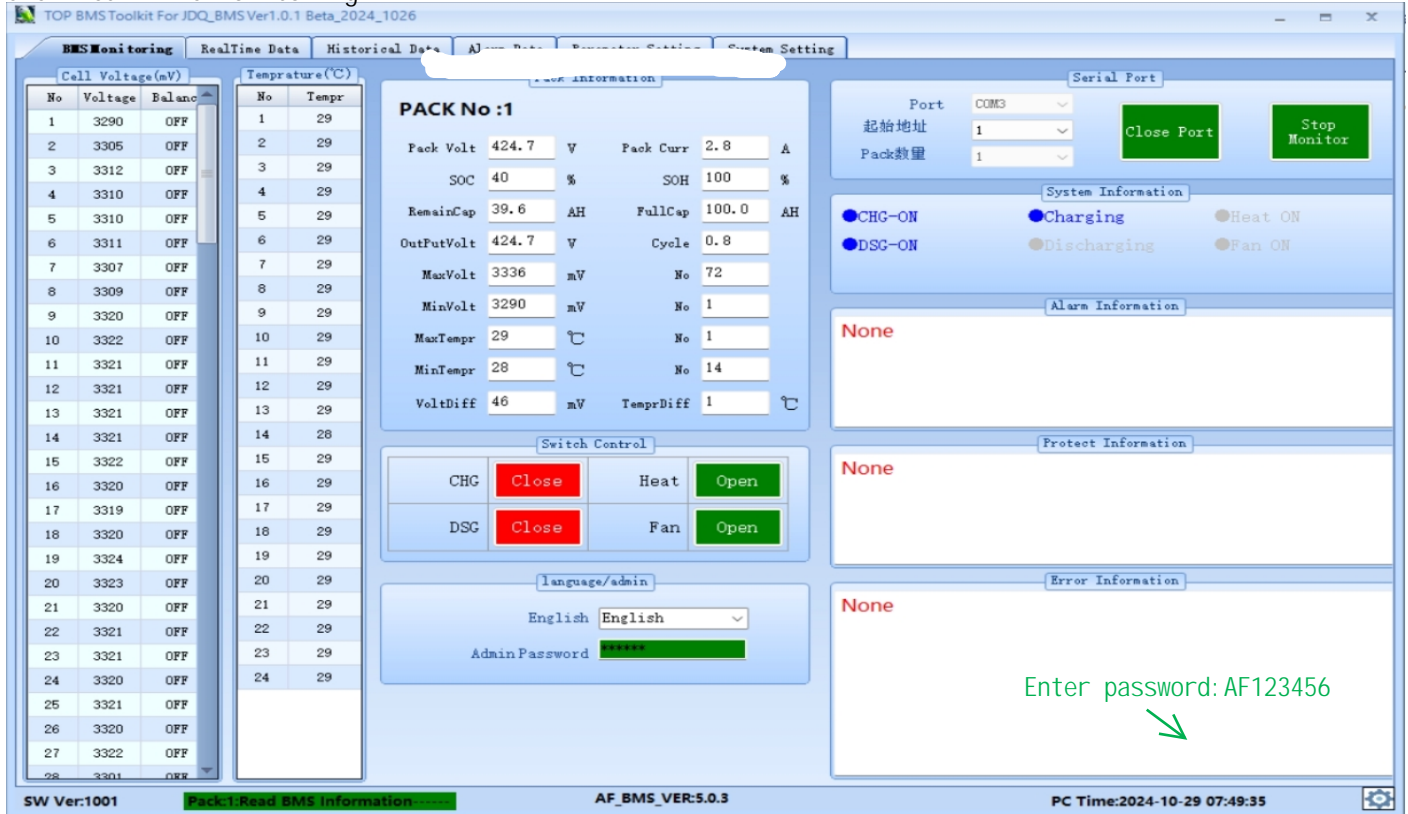


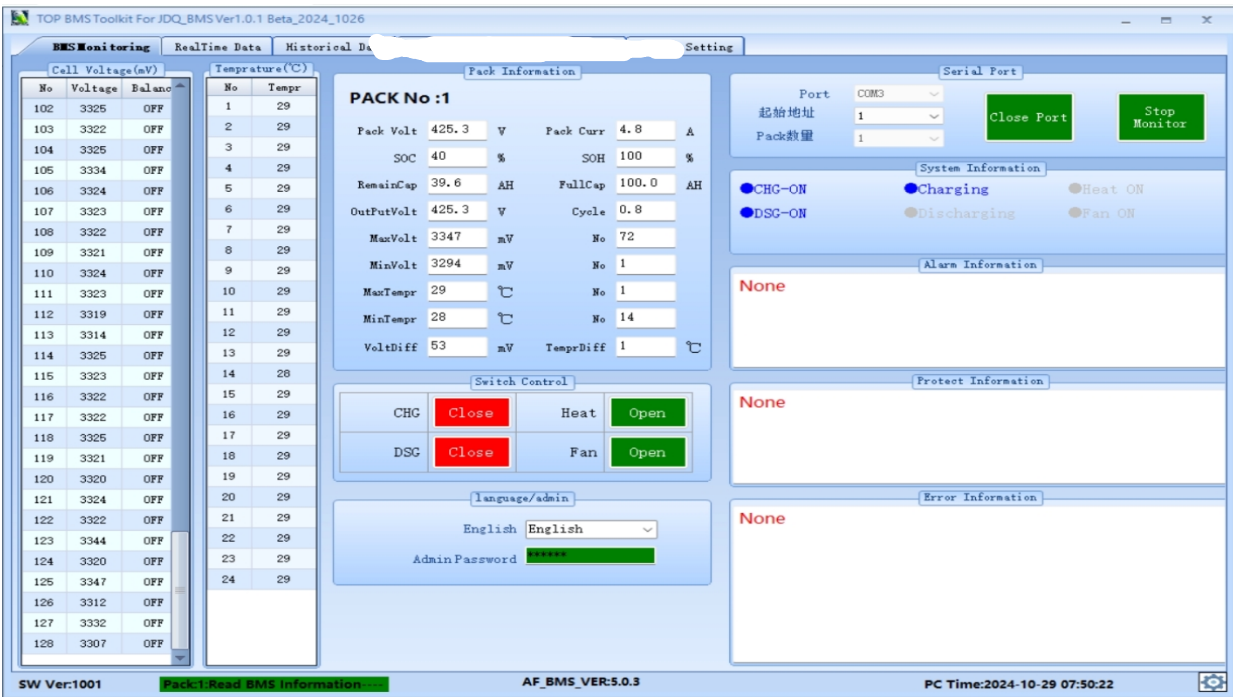
Upper Computer Software Operation Manual

One. Real-Time Monitoring



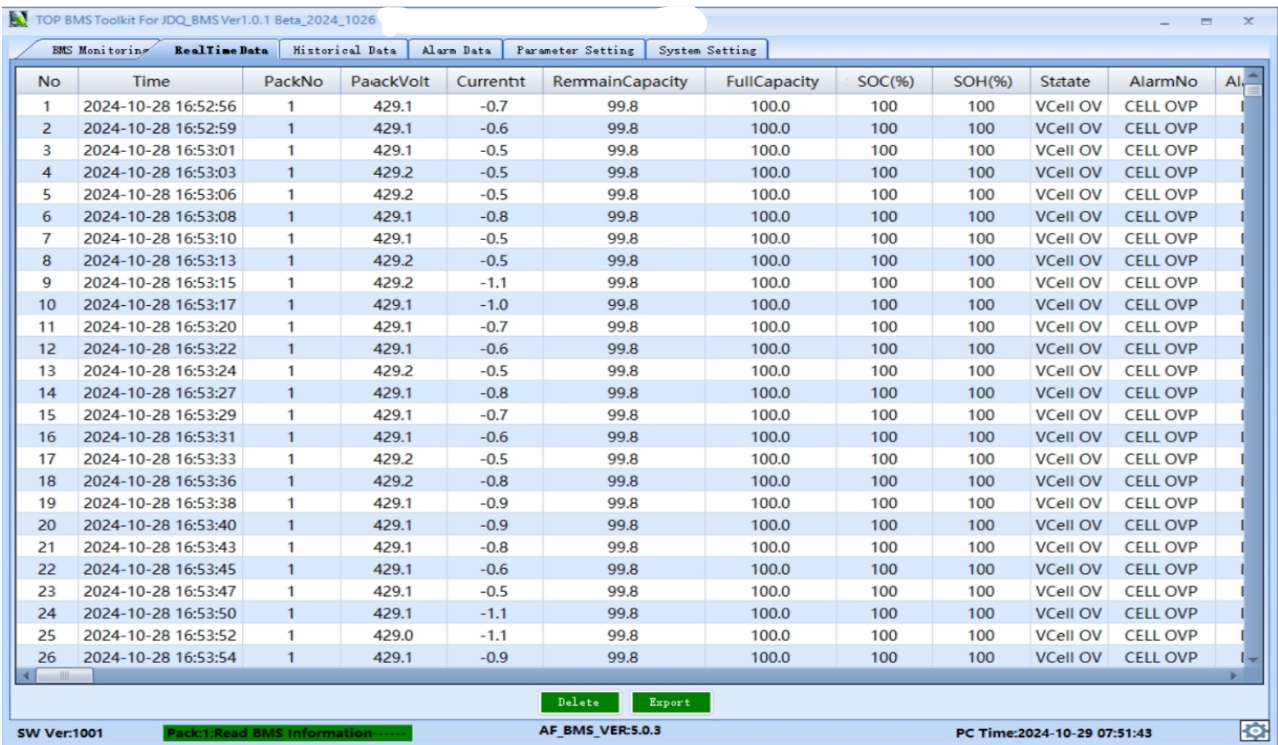
1. Select the serial port number available for connection, and then click "Open Serial port" button.
 2. Set the number of packs to 8, and the battery string address can range from 1 to 8.
 3. The PACK number is the DIP switch address of the battery pack. In order to avoid misoperation, it is better to click the "Lock" button.
- Note: All operations in Parameter Information, data record, Alarm Record, Parameter Information are for the battery Pack selected in the Pack number drop-down box.
3. System status displays real-time basic action information of BMS;
 - 4, alarm and protection status is BMS real-time alarm and protection information;
 - 5, the detection state is the BMS board real-time self-test fault prompt;
 6. Control status indicates the enabled function module.
 7. Control test: you can click open or close, now only open CFET/DFET, enable charging current limit control; Note: When there is discharge current no Can turn off charging CFET, when there is charging current can not turn off discharging DFET; Charge current limiting open to reach the current limiting open conditions, but can be turned off, turned off If this function is enabled, the current limiting condition is judged again.
 8. To switch between Chinese and English, please click to close the software and open it again to avoid garbled code.
 - 9, Password input box after entering the password can control the test, parameter setting and system configuration operations. Note: Initial password: AF123456; You can also set Update the password, enter and click the change button; Then exit the software before opening is to enter a new password.

Two. Parallel Monitoring

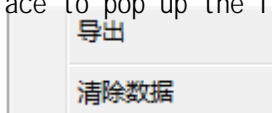


Each column shows the information about the total voltage, current, temperature, and cell voltage of a battery pack. You can check the data of all battery packs in a column.

Three. Real Time Data



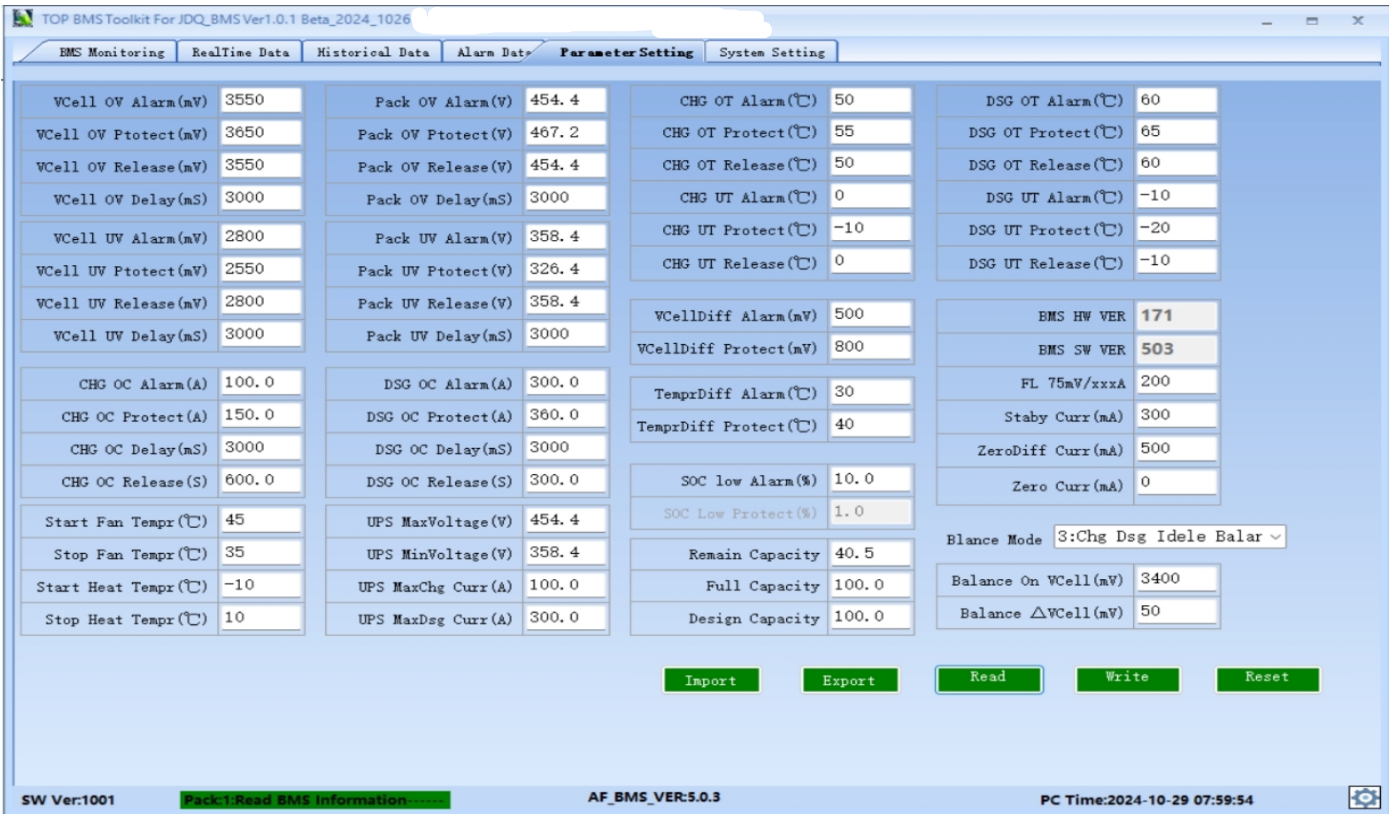
1. Display record: record the data of each battery pack collected in real time
2. Automatic saving: When the certain recorded data are reaches , it will be automatically saved into an EXCEL file.
3. Automatic scrolling: When the recorded data is added to the full screen, the cursor will croll to the new columns
4. PackNo. 01-PackNo.08 Indicates the recorded data of the corresponding battery pack.
5. Right click the mouse on the interface to pop up the following picture:



Data Export: Saves the current data as an EXCEL file.

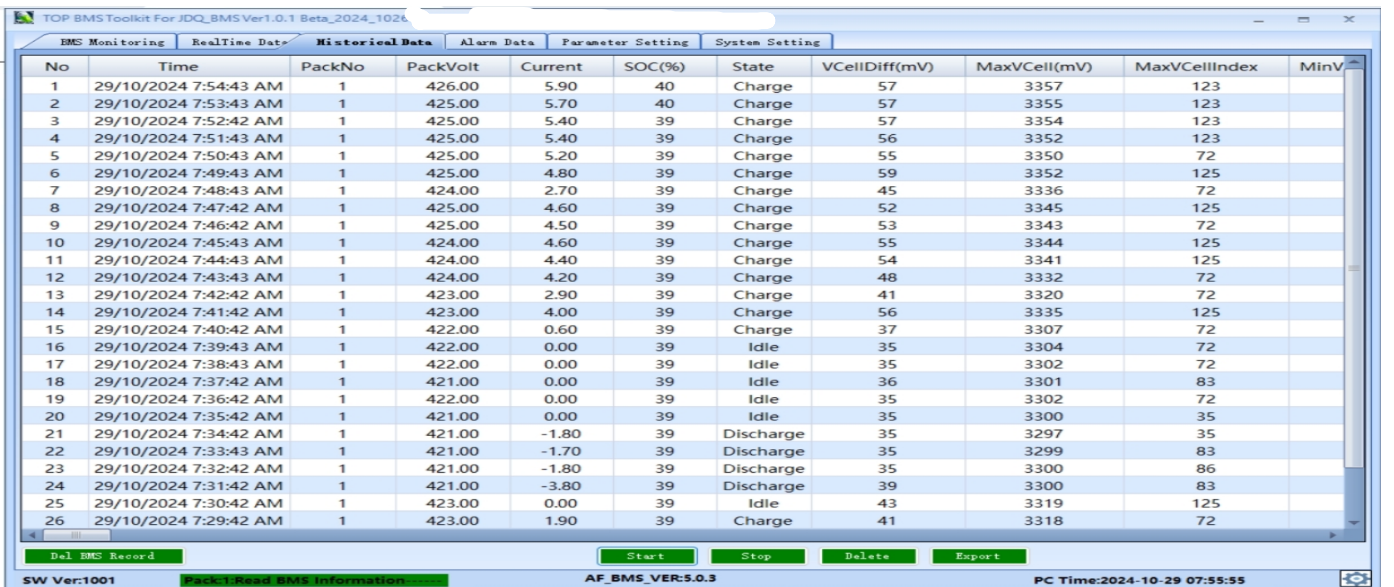
Data Clearance: Clear up the collected data.

Four、Parameters Information



1. New data can be entered in the parameter value column of the left table. Other columns cannot be entered.
2. Function control: represents the basic function Settings of the BMS board.
- 3, alarm and protection control: Set BMS board function on or off.
- 4, other control: select the balance mode (there are forbidden balance, charging balance, charging static balance, charging static discharge balance of the four modes) and Short circuit protection current (short circuit protection voltage/sampling resistance).
5. Protocol type: Select the inverter protocol according to the inverter; RS485 supports six protocols and CAN supports 10 protocols.
6. Read parameters: Read data from the device to the computer and display it in the table on the left.
7. Write parameter: write the data in the left table to the device.
8. Export parameters: Export the data in the left table to a file.
9. Import parameters: Import the exported parameter file into the table on the left, which is mainly used for maintenance and plate replacement.
10. Restore default parameters: If this item is selected, no matter what value is entered in the table on the left, the device will be restored to the factory setting when clicking "Write Parameter".

Five 、Data Record



1. Read: Read the data records saved on the device.
2. Stop: Stop the ongoing data reading process.
3. Delete: clears the current read data.
4. Export: Export the read device data records to a file.

Six、Alarm Record

Current	SOC(%)	State	AlarmNo	AlarmInfo	VCellDiff(mV)	MaxVCell(mV)	MaxVCellIndex	MinVCell(mV)	MinVCellIndex
-18.7	99	Discharge	49	VCell OVR,	275	3494	107	3219	125
-12.9	99	Discharge	2	VCell OVR,	277	3535	107	3258	123
0.0	100	Idle	1	VCell OVP,	311	3651	107	3340	32
-2.4	99	Discharge	2	VCell OVR,	220	3548	107	3328	127
0.0	100	Idle	1	VCell OVP,	309	3652	107	3343	32
-3.0	99	Discharge	2	VCell OVR,	224	3547	107	3323	127
4.6	100	Charge	1	VCell OVP,	313	3660	107	3347	64
-2.6	99	Discharge	2	VCell OVR,	221	3549	107	3328	127
1.2	100	Charge	1	VCell OVP,	309	3653	107	3344	32
-15.3	99	Discharge	2	VCell OVR,	274	3549	107	3275	123
-0.6	100	Discharge	1	VCell OVP,	315	3655	107	3340	128
-2.5	99	Discharge	2	VCell OVR,	222	3549	107	3327	127
4.0	100	Charge	1	VCell OVP,	315	3663	107	3348	64
-2.1	99	Discharge	2	VCell OVR,	223	3553	107	3330	127
4.1	100	Charge	1	VCell OVP,	311	3658	107	3347	17
-2.9	99	Discharge	2	VCell OVR,	220	3547	107	3327	127
4.9	100	Charge	1	VCell OVP,	317	3666	107	3349	64
2.4	98	Charge	33	VCell OV,	217	3556	107	3339	17
-11.4	98	Discharge	49	VCell OVR,	222	3499	107	3277	125
2.6	99	Charge	33	VCell OV,	214	3554	107	3340	17
-10.9	99	Discharge	49	VCell OVR,	212	3494	107	3282	125
-2.8	99	Discharge	2	VCell OVR,	220	3549	107	3329	127
3.2	100	Charge	1	VCell OVP,	305	3655	107	3350	17
-2.2	99	Discharge	2	VCell OVR,	214	3549	107	3335	127
1.2	100	Charge	1	VCell OVP,	310	3665	107	3355	126
2.8	51	Charge	33	VCell OV,	197	3554	107	3357	1

1. Read: Read the data records saved on the device.
2. Stop: Stop the ongoing data reading process.
3. Delete: clears the current read data.
4. Export: Export the read device data records to a file.

Seven、System Configuration

VCell OV Alarm(mV)	3550	Pack OV Alarm(V)	454.4	CHG OT Alarm(°C)	50	DSG OT Alarm(°C)	60
VCell OV Pprotect(mV)	3650	Pack OV Pprotect(V)	467.2	CHG OT Protect(°C)	55	DSG OT Protect(°C)	65
VCell OV Release(mV)	3550	Pack OV Release(V)	454.4	CHG OT Release(°C)	50	DSG OT Release(°C)	60
VCell OV Delay(ms)	3000	Pack OV Delay(mS)	3000	CHG UT Alarm(°C)	0	DSG UT Alarm(°C)	-10
VCell UV Alarm(mV)	2800	Pack UV Alarm(V)	358.4	CHG UT Protect(°C)	-10	DSG UT Protect(°C)	-20
VCell UV Pprotect(mV)	2550	Pack UV Pprotect(V)	326.4	CHG UT Release(°C)	0	DSG UT Release(°C)	-10
VCell UV Release(mV)	2800	Pack UV Release(V)	358.4	VCellDiff Alarm(mV)	500	BMS HW VER	171
VCell UV Delay(ms)	3000	Pack UV Delay(mS)	3000	VCellDiff Protect(mV)	800	BMS SW VER	503
CHG OC Alarm(A)	100.0	DSG OC Alarm(A)	300.0	TemprDiff Alarm(°C)	30	FL 75mV/xxxA	200
CHG OC Protect(A)	150.0	DSG OC Protect(A)	360.0	TemprDiff Protect(°C)	40	Staby Curr(mA)	300
CHG OC Delay(ms)	3000	DSG OC Delay(mS)	3000	SOC low Alarm(%)	10.0	ZeroDiff Curr(mA)	500
CHG OC Release(S)	600.0	DSG OC Release(S)	300.0	SOC Low Protect(%)	1.0	Zero Curr(mA)	0
Start Fan Tempr(°C)	45	UPS MaxVoltage(V)	454.4	Remain Capacity	40.5	Balance Mode	3:Chg Dsg Idele Balar
Stop Fan Tempr(°C)	35	UPS MinVoltage(V)	358.4	Full Capacity	100.0	Balance On VCell(mV)	3400
Start Heat Tempr(°C)	-10	UPS MaxChg Curr(A)	100.0	Design Capacity	100.0	Balance ΔVCell(mV)	50
Stop Heat Tempr(°C)	10	UPS MaxDsg Curr(A)	300.0				

1. Data: read and set the date of the device.

2. Storage: We will not store data by default. If you want to save data, you need to fill in data in the "Data interval" item
Data is saved based on the interval. You are advised not to set the interval too small because the storage space on the board is limited. "Delete Data" and "Delete Alarm"
Erase past data records and alarm records (erase the data store on the board).
3. Capacity: Read and set the capacity of the battery pack corresponding to the device to facilitate the calculation of other data.
4. Charge and discharge cycle: read and set the number of charge and discharge cycles of battery packs. The system accumulates from this data
I'm going to use.
5. Production information: The code information set by the manufacturer board can also be modified into its own code with a maximum of 30 characters.
- 6, voltage calibration: only useful for old products, new products are not used;
- 7, current calibration: now only open zero calibration, read the calibration value, fill in 0 in the box behind, click calibration, if wrong, please click reset after
The calibration.
- 8, temperature calibration: the front box is the read temperature, the back box fill in the actual temperature, and then click the calibration, if the error, please click reset
In the calibration.
9. Product information: The user reads and sets the company name, module name, version number, battery type, serial number and remarks of the device (the longest Both are 30 characters long).
- 10, forced hibernation is the upper computer to send instructions to shut down the BMS board.
- 11, firmware upgrade button like is a serial port upgrade function module, CAN upgrade without this function button.