



**ABYSS
BATTERY**
POWER YOUR PURSUIT.



BLUETOOTH® BATTERY MONITOR

Quick Guide



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1. OVERVIEW

1.1 BRIEF INTRODUCTION

The **Abyss Battery Bluetooth® APP** allows real-time monitoring of your battery pack and makes it easy to manage insight data on your battery's current health status.

1.2 FUNCTION

- See information

SOC, Current, Battery Voltage, Remaining capacity, Status of battery, Cell Voltage, Protection record, Real-time charge and discharge status curve, Temperature, Cycle time, Log, Sound alarm and Fault information, etc.

- Parameter Settings

2. OPERATING ENVIRONMENT

3. MANUAL

3.1 INSTALL

Android mobile phone users can search "**ABYSS BATTERY**" in Google Mall to download and install.


Apple mobile phone users can search "**ABYSS BATTERY**" in Appstore to download and install.

3.2 SOFTWARE OPERATION

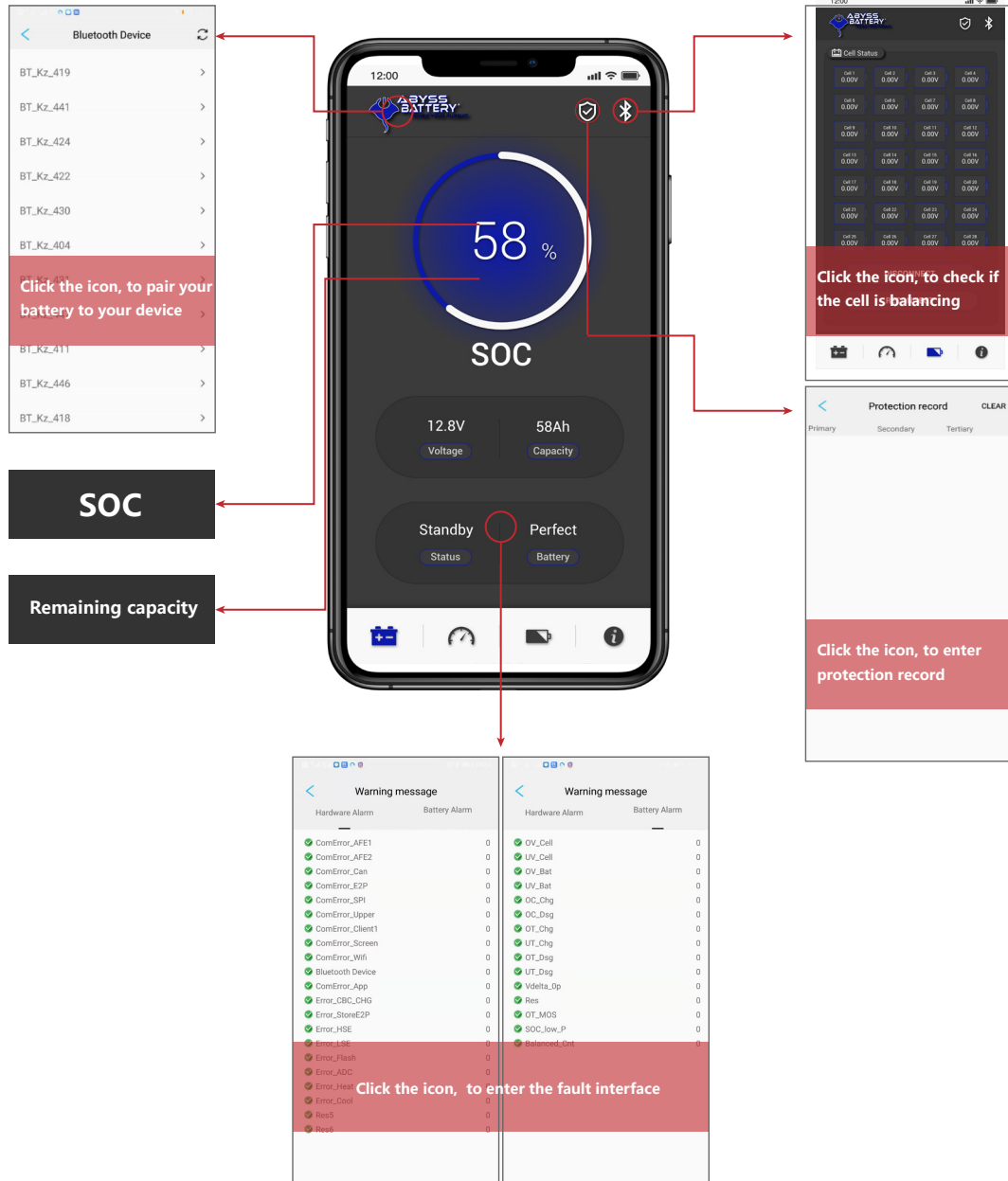
3.2.1 Overall interface



3.2.2 Interface operation

After download, turn on the Bluetooth of the mobile phone and click  to enter. Enter Pre-interface, after 3S pause, automatically enter page 1. You can switch to other pages through clicking the menu bar at the bottom of the interface.

3.2.3 Interface Introduction



Bluetooth Device

- BT_Kz_419
- BT_Kz_441
- BT_Kz_424
- BT_Kz_422
- BT_Kz_430
- BT_Kz_404
- BT_Kz_401
- BT_Kz_411
- BT_Kz_446
- BT_Kz_418

Click the icon, to pair your battery to your device

SOC

Remaining capacity

Cell Status

Cell 1	Cell 2	Cell 3	Cell 4
0.00V	0.00V	0.00V	0.00V
Cell 5	Cell 6	Cell 7	Cell 8
0.00V	0.00V	0.00V	0.00V
Cell 9	Cell 10	Cell 11	Cell 12
0.00V	0.00V	0.00V	0.00V
Cell 13	Cell 14	Cell 15	Cell 16
0.00V	0.00V	0.00V	0.00V
Cell 17	Cell 18	Cell 19	Cell 20
0.00V	0.00V	0.00V	0.00V
Cell 21	Cell 22	Cell 23	Cell 24
0.00V	0.00V	0.00V	0.00V
Cell 25	Cell 26	Cell 27	Cell 28
0.00V	0.00V	0.00V	0.00V

Click the icon, to check if the cell is balancing

Protection record

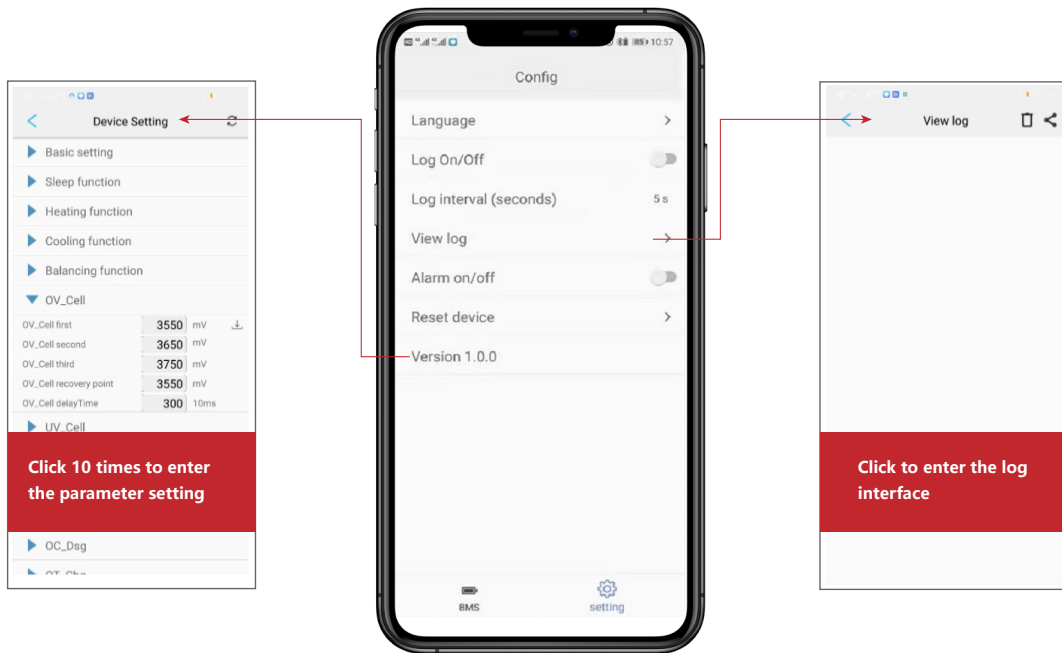
Primary Secondary Tertiary

Click the icon, to enter protection record

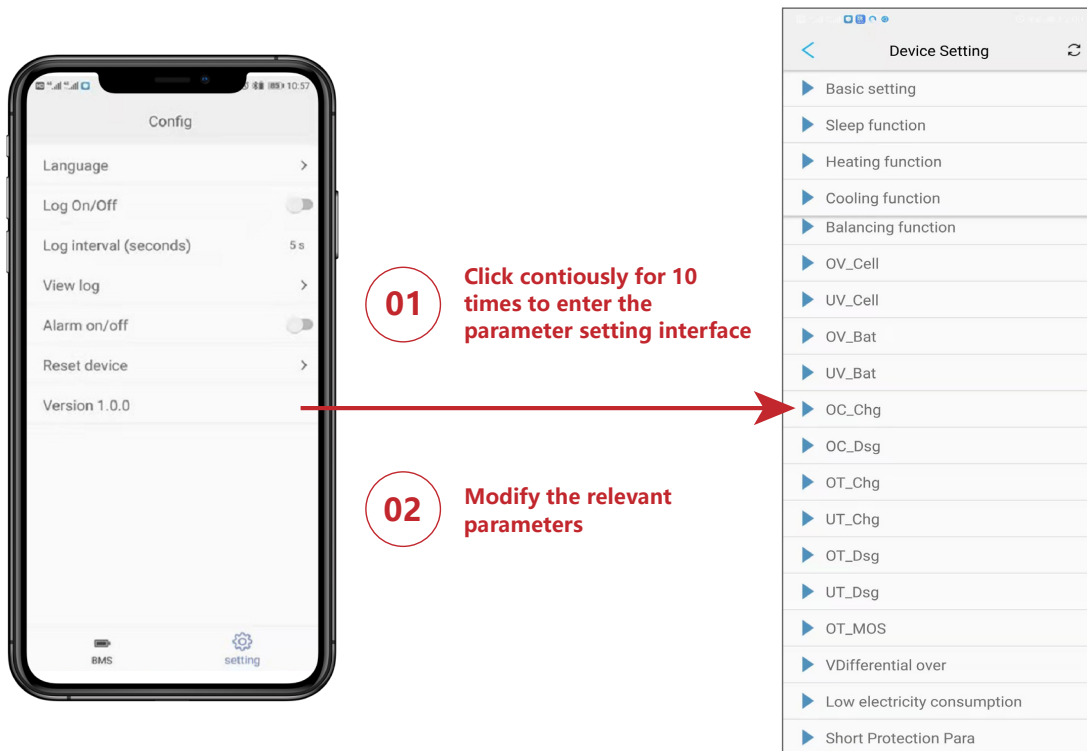
Warning message

Hardware Alarm	Battery Alarm	Hardware Alarm	Battery Alarm
ComError_AFE1	0	OV_Cell	0
ComError_AFE2	0	UV_Cell	0
ComError_Can	0	OV_Bat	0
ComError_E2P	0	UV_Bat	0
ComError_SPI	0	OC_Chg	0
ComError_Upper	0	OC_Diag	0
ComError_Client1	0	OT_Chg	0
ComError_Screen	0	UT_Chg	0
ComError_Wifi	0	OT_Diag	0
Bluetooth Device	0	UT_Diag	0
ComError_App	0	Vdelta_Dp	0
ComError_CHG	0	Res	0
Error_StoreE2P	0	OT_MOS	0
Error_HSE	0	SOC_low_P	0
Error_LSE	0	Balanced_On	0
Error_Flash	0		
Error_ADC	0		
Error_Hot	0		
Error_Cool	0		
Reed	0		
Reed	0		

Click the icon, to enter the fault interface



4. SETTING PARAMETER MODIFICATIONS



4.1 BASIC SETTINGS

▼ Basic setting

MOS_Same_Gate ↓

MOS_Split_Gate

Relay_Same_Gate

Relay_Split_Gate

Battery type: ternary battery ↓

Battery type: lithium iron phosphate

MoS Relay

SeriesNum	4	↓
Battery capacity	20 Ah	↓
Recycle count	5	↓
PreChg_Time	10 Sec	↓
Cs_Res	1 mΩ	↓
Cs_ResNum	6	↓

After modify the data,
click this button to save data

MOS-Same-Gate

MOS-Split-Gate

Relay-Same-Gate

Relay-Split-Gate

This function has not been
opened.

Battery type:ternary battery

Battery type:lithium iron phosphate

This function has
not been opened.

MoS Relay

This button can force the MOS
and Relay to be on

Series Num 4 series
Battery Capacity Actual capacity
Recycle count Needn' t be revised
PreChg-Time Input 10S

Cs-Res Sampling resistor

**This is determined
by the hardware
resistor**

Cs-Res Num Number of sampling resistors

**This is determined
by the number of
hardware resistor.**

4.2 SLEEP FUNCTIONS

▼ Sleep function	
Sleep function	↓ <input checked="" type="checkbox"/>
VNor	<input type="text" value="4200"/> mV
TNor	<input type="text" value="10800"/> Min
VLow	<input type="text" value="2900"/> mV
TLow	<input type="text" value="1"/> Min
VirCurChg	<input type="text" value="1.0"/> A
VirCurDsg	<input type="text" value="1.0"/> A
RTC_WT	<input type="text" value="240"/> Min

VNor: Sleep voltage under normal condition

TNor: Sleep time under normal condition

VLow: Sleep voltage under low voltage condition

TLow: Sleep time under low voltage condition

VirCurChg: Charging current filtering

VirCurDsg: Discharge current filtration

RTC-WT: RTC wake up time

Parameter Analysis:

- When the voltage range of single series is 2900-4200mv and the charge&-discharge current is less than 1a, it will enter sleep after 10800min.
- When the voltage range of single string is less than 2900mv and the charge discharge current is less than 1a, it will go into sleep after 1min.
- Every 240Min, the protection board will automatically wake up to scan whether it is still in static state. If yes, it will continue to sleep.

4.3 HEATING FUNCTIONS

Heating function	
Heating function	↓ <input type="checkbox"/>
HeatDsg_High	-40.0 °C
HeatDsg_Mid	-40.0 °C
HeatDsg_Low	-40.0 °C
HeatChg_High	-40.0 °C
HeatChg_Mid	-40.0 °C
HeatChg_Low	-40.0 °C
HeatCur_Max	0.0 A
HeatCur_Min	5.0 A
HeatTime	0 Min

This function has not been opened.

4.4 COOLING FUNCTIONS

Cooling function	
Cooling function	↓ <input type="checkbox"/>
CoolDsg_High	-40.0 °C
CoolDsg_Low	-40.0 °C
CoolChg_High	-40.0 °C
CoolChg_Low	-40.0 °C
CoolCur_Max	0.0 A
CoolCur_Min	0.0 A
CoolTime	0 Min

This function has not been opened.

4.5 BALANCING FUNCTIONS

▼ Balancing function

Balancing function ↓

Bn_OpenV mV

Bn_OpenW mV

Bn_CloseW1 mV

Bn_CloseW2 mV

Bn_TimeOdd Seco

Bn_TimeEven Seco

Bn_TimeMos Seco

Bn-OpenV: Voltage for open Balance

Bn-OpenW: Voltage differential for open balance

Bn-CloseW1: Balance close condition 1

Bn-CloseW2: Balance close condition 2

Bn-TimeOdd: Even serial time slice

Bn-TimeEven: Odd serial time slice

Bn-TimeMos: MOS time slice

Analysis:

The condictios to open balance:

- A) When the "**single section maximum voltage**" is higher than the "**open voltage**", balance begins.
- B) When the "**voltage differential between cells**" is higher than the "**open voltage differential**", the balance begins.

Conditions to close balance:

The balance started by the above condition A, when the voltage differential is less than "**Bn-CloseW1**", the balance stops.

The balance started by the above condition B, when the voltage differential is less than "**Bn-CloseW2**", the balance stops.

Balance time:

Odd series time slice and even series time slice:

Due to the hardware limitation, it is impossible to balance all cells at the same time. Only the odd string can be balanced for a period of time, then the even serial can be balanced for a period of time, and then the odd serial.

MOS time slice:

Due to different customer needs, there are two strategies:

Forbid charging/discharging during balancing - when using this strategy, balance and charging & discharging are carried out alternately, that is, after balancing for a period of time, charging/discharging are allowed for a period of time, and then balance for a period of time again...

Balance and charging/discharging can be carried out simultaneously - when using this strategy, "**MOS time slice**" must be set to 0.

4.6 OV-CELL (Overcharge parameter setting of single string cell)

▼ OV_Cell		
OV_Cell first	<input type="text" value="3650"/>	mV ↓
OV_Cell second	<input type="text" value="3650"/>	mV
OV_Cell third	<input type="text" value="3750"/>	mV
OV_Cell recovery point	<input type="text" value="3600"/>	mV
OV_Cell delayTime	<input type="text" value="100"/>	10ms

OV-Cell First - First-level warning of Battery string overvoltage. When the maximum single serial voltage exceeds the critical value, the first-level warning will be generated.

OV-Cell Second - Secondary warning of battery string overvoltage. When the maximum single string voltage exceeds the critical value, the secondary warning will be generated.

OV-Cell Third - Third-level warning of battery string overvoltage. When the maximum single string voltage exceeds the critical value, the third-level warning will be generated.

OV-Cell recovery point - Recovery point of battery string overvoltage protection. After the battery string overvoltage protection is generated, when the maximum voltage of the battery string is lower than the value, the over-voltage protection of the battery string will be turned off.

OV-Cell delay Time - After exceeding the critical value, delay for a certain time, and then trigger the protection (or generate a warning). This function is to prevent misoperation caused by abrupt peak signal.



4.7 UV-CELL (Over discharge parameter setting of single string cell)

▼ UV_Cell			
UV_Cell first	<input type="text" value="2500"/>	mV	↓
UV_Cell second	<input type="text" value="2500"/>	mV	
UV_Cell third	<input type="text" value="2500"/>	mV	
UV_Cell recovery point	<input type="text" value="2600"/>	mV	
UV_Cell delayTime	<input type="text" value="100"/>	10ms	

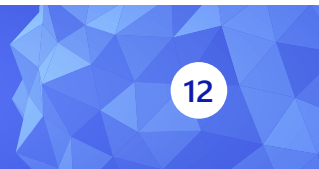
UV-Cell First - First-level warning of Battery string undervoltage. When the maximum single serial voltage lower than the critical value, the first-level warning of battery string undervoltage will be generated.

UV-Cell Second - Secondary warning of battery string undervoltage. When the maximum single string voltage of battery string is lower than the critical value, the secondary warning of under voltage of battery string will be generated.

UV-Cell Third - Third-level warning of battery string undervoltage. When the maximum single string voltage of battery string is lower than the critical value, the third-level warning of under voltage of battery string will be generated.

UV-Cell recovery point - Recovery point of battery string undervoltage protection. After the battery string overvoltage protection is generated, when the maximum voltage of the battery string is higher than the value, the under-voltage protection of the battery string will be turned off.

UV-Cell delay Time - When it is lower than the critical value, it will delay for a certain time, and then trigger the protection (or generate a warning]. This function is to prevent misoperation caused by abrupt wave crest signal.



4.8 OV-BAT (Total voltage overcharge parameters setting of battery pack)

▼ OV_Bat			
OV_Bat first	14.60	V	↓
OV_Bat second	14.60	V	
OV_Bat third	15.00	V	
OV_Bat recovery point	14.40	V	
OV_Bat delayTime	100	10ms	

OV-Bat First - First-level warning of Battery pack overvoltage. When the total voltage of the battery exceeds the critical value, the first-level warning of battery pack over-voltage will be generated.

OV-Bat Second - Secondary warning of Battery pack overvoltage. When the total voltage of the battery exceeds the critical value, the secondary warning of battery pack over-voltage will be generated.

OV-Bat Third - Third-level warning of Battery pack overvoltage. When the total voltage of the battery exceeds the critical value, the third-level warning of battery pack over-voltage will be generated.

OV-Bat recovery point - Recovery point of battery pack overvoltage protection. After the battery pack overvoltage protection is generated, when the total voltage of the battery pack is lower than the value, the over-voltage protection of the battery pack will be turned off.

OV-Bat delay Time - After exceeding the critical value, delay for a certain time, and then trigger the protection (or generate a warning). This function is to prevent misoperation caused by abrupt peak signal.

4.9 UV-BAT (Parameter setting of battery pack under-voltage)

▼ UV_Bat			
UV_Bat first	10.00	V	↓
UV_Bat second	10.00	V	
UV_Bat third	10.00	V	
UV_Bat recovery point	10.40	V	
UV_Bat delayTime	100	10ms	

UV-Bat First - First-level warning of Battery pack undervoltage. When the total voltage of the battery pack is lower than the critical value, the first-level warning of battery pack under-voltage will be generated.

UV-Bat Second - Secondary warning of Battery pack undervoltage. When the total voltage of the battery pack is lower than the critical value, the secondary warning of battery pack under-voltage will be generated.

UV-Bat Third - Third-level warning of Battery pack undervoltage. When the total voltage of the battery pack is lower than the critical value, the third-level warning of battery pack under-voltage will be generated.

UV-Bat recovery point - Recovery point of battery pack overvoltage protection. After the battery pack under-voltage protection is generated, it will be turned off when the total voltage recovers to above the value.

UV-Bat delay Time - After exceeding the critical value, delay for a certain time, and then trigger the protection (or generate a warning). This function is to prevent misoperation caused by abrupt peak signal.

4.10 OC-Chg (Charging over-current protection parameters)

▼ OC_Chg			
OC_Chg first	<input type="text" value="220.0"/>	A	↓
OC_Chg second	<input type="text" value="220.0"/>	A	
OC_Chg third	<input type="text" value="220.0"/>	A	
OC_Chg recovery point	<input type="text" value="100.0"/>	A	
OC_Chg delayTime	<input type="text" value="100"/>	10ms	

OC-Chg First - First-level warning of Battery charging over-current. When the charging current of battery exceeds the critical value, the first-level warning of Battery charging over-current will be generated.

OC-Chg Second - Secondary warning of Battery charging over-current. When the charging current of battery exceeds the critical value, the secondary warning of Battery charging over-current will be generated.

OC-Chg Third - Third-level warning of Battery charging over-current. When the charging current of battery exceeds the critical value, the third-level warning of Battery charging over-current will be generated.

OC-Chg recovery point - Recovery point of battery charging over current protection. When the charging current is lower than this value, the battery charging over-current protection will be turned off.

OC-Chg delay Time - After exceeding the critical value, delay a certain time, and then trigger the protection (or generate a warning). This function is to prevent misoperation caused by sudden wave crest signal.

4.11 OC-Dsg (Discharge over-current protection parameters)

OC_Dsg			
OC_Dsg first	<input type="text" value="520.0"/>	A	↓
OC_Dsg second	<input type="text" value="580.0"/>	A	
OC_Dsg third	<input type="text" value="600.0"/>	A	
OC_Dsg recovery point	<input type="text" value="100.0"/>	A	
OC_Dsg delayTime	<input type="text" value="100"/>	10ms	

OC-Dsg First - First-level warning of Battery discharging over-current. When the discharging current of battery exceeds the critical value, the first-level warning of discharging over-current will be generated.

OC-Dsg Second - Secondary warning of Battery discharging over-current. When the discharging current of battery exceeds the critical value, the secondary level warning of discharging over-current will be generated.

OC-Dsg Third - Third-level warning of Battery discharging over-current. When the discharging current of battery exceeds the critical value, the third-level warning of discharging over-current will be generated.

OC-Dsg recovery point - Recovery point of battery discharging over current protection. When the discharging current is lower than this value, the battery charging over-current protection will be turned off.

OC-Dsg delay Time - After exceeding the critical value, delay a certain time, and then trigger the protection (or generate a warning). This function is to prevent misoperation caused by sudden wave crest signal.

4.12 OT-Chg (Charging over temperature protection parameters)

▼ OT_Chg			
OT_Chg first	<input type="text" value="50.0"/>	°C	↓
OT_Chg second	<input type="text" value="60.0"/>	°C	
OT_Chg third	<input type="text" value="65.0"/>	°C	
OT_Chg recovery point	<input type="text" value="50.0"/>	°C	
OT_Chg delayTime	<input type="text" value="100"/>	10ms	

OT-Chg First - First-level warning of Battery charging over temperature. When the temperature of battery exceeds the critical value during charging, the first-level warning of Battery charging over temperature will be generated.

OT-Chg Second - Secondary warning of Battery charging over temperature. When the temperature of battery exceeds the critical value during charging, the secondary warning of Battery charging over temperature will be generated.

OT-Chg Third - Third-level warning of Battery charging over temperature. When the temperature of battery exceeds the critical value during charging, the third-level warning of Battery charging over temperature will be generated.

OT-Chg recovery point - Recovery point of battery charging over temperature protection. When the temperature is lower than this value during charging, the battery charging over temperature protection will be turned off.

OT-Chg delay Time - After exceeding the critical value, delay for a certain time, and then trigger the protection (or generate a warning). This function is to prevent misoperation caused by abrupt peak signal.

4.13 UT-Chg (Charging low temperature protection parameters)

▼ UT_Chg		
UT_Chg first	<input type="text" value="-10.0"/>	°C ↓
UT_Chg second	<input type="text" value="-15.0"/>	°C
UT_Chg third	<input type="text" value="-30.0"/>	°C
UT_Chg recovery point	<input type="text" value="-10.0"/>	°C
UT_Chg delayTime	<input type="text" value="100"/>	10ms

UT-Chg First - First-level warning of Battery charging low-temperature. When the temperature of battery is lower than the critical value during charging, the first-level warning of Battery charging low-temperature will be generated.

UT-Chg Second - Secondary warning of Battery charging low-temperature. When the temperature of battery is lower than the critical value during charging, the secondary warning of Battery charging low-temperature will be generated.

UT-Chg Third - Third-level warning of Battery charging low-temperature. When the temperature of battery is lower than the critical value during charging, the third-level warning of Battery charging low-temperature will be generated.

UT-Chg recovery point - Recovery point of battery charging low-temperature protection. When the temperature exceeds this value during charging, the low temperature protection of battery charging will be turned off.

UT-Chg delay Time - When it is lower than the critical value, it will delay for a certain time, and then trigger the protection (or generate a warning). This function is to prevent misoperation caused by abrupt wave crest signal.

4.14 OT-Dsg (Discharging over-temperature protection parameters)

▼ OT_Dsg		
OT_Dsg first	<input type="text" value="50.0"/>	°C ↓
OT_Dsg second	<input type="text" value="60.0"/>	°C
OT_Dsg third	<input type="text" value="65.0"/>	°C
OT_Dsg recovery point	<input type="text" value="50.0"/>	°C
OT_Dsg delayTime	<input type="text" value="100"/>	10ms

OT-Dsg First - First-level warning of Battery discharging over temperature. When the temperature of battery exceeds the critical value during charging, the first-level warning of Battery discharging over temperature will be generated.

OT-Dsg Second - Secondary warning of Battery discharging over temperature. When the temperature of battery exceeds the critical value during charging, the secondary warning of Battery discharging over temperature will be generated.

OT-Dsg Third - Third-level warning of Battery discharging over temperature. When the temperature of battery exceeds the critical value during charging, the third-level warning of Battery discharging over temperature will be generated.

OT-Dsg recovery point - Recovery point of battery discharging over temperature protection. When the temperature is lower than the value during charging, the battery discharging over temperature protection will be turned off.

OT-Dsg delay Time - After exceeding the critical value, delay for a certain time, and then trigger the protection (or generate a warning). This function is to prevent misoperation caused by abrupt peak signal.

4.15 UT-Dsg (Discharging low temperature protection parameters)

▼ UT_Dsg		
UT_Dsg first	<input type="text" value="-10.0"/>	°C ↓
UT_Dsg second	<input type="text" value="-15.0"/>	°C
UT_Dsg third	<input type="text" value="-20.0"/>	°C
UT_Dsg recovery point	<input type="text" value="-10.0"/>	°C
UT_Dsg delayTime	<input type="text" value="100"/>	10ms

UT-Dsg First - First-level warning of Battery discharging low-temperature. When the temperature of battery is lower than the critical value during charging, the first-level warning of Battery discharging low-temperature will be generated.

UT-Dsg Second - Secondary warning of Battery discharging low-temperature. When the temperature of battery is lower than the critical value during charging, the secondary warning of Battery discharging low-temperature will be generated.

UT-Dsg Third - Third-level warning of Battery discharging low-temperature. When the temperature of battery is lower than the critical value during charging, the third-level warning of Battery discharging low-temperature will be generated.

UT-Dsg recovery point - Recovery point of battery discharging low-temperature protection. When the temperature exceeds this value during discharging, the low temperature protection of battery charging will be turned off.

UT-Dsg delay Time - When it is lower than the critical value, it will delay for a certain time, and then trigger the protection (or generate a warning). This function is to prevent misoperation caused by abrupt wave crest signal.

4.16 OT-MOS (MOS Over temperature protection parameters)

OT_MOS	
OT_MOS first	80.0 °C ↓
OT_MOS second	80.0 °C
OT_MOS third	80.0 °C
OT_MOS recovery point	60.0 °C
OT_MOS delayTime	100 10ms

OT-MOS First - First-level warning of MOS over temperature. When the MOS temperature exceeds the critical value during battery charging/discharging, the first-level warning of MOS over temperature will be generated.

OT-MOS Second - Secondary warning of MOS over temperature. When the MOS temperature exceeds the critical value during battery charging/discharging, the secondary warning of MOS over temperature will be generated.

OT-MOS Third - Third-level warning of MOS over temperature. When the MOS temperature exceeds the critical value during battery charging/discharging, the third-level warning of MOS over temperature will be generated.

OT-MOS recovery point - Recovery point of MOS over temperature protection during charging/ discharging. When the MOS temperature is lower than this value, the MOS over temperature protection will be turned off.

OT-MOS delay Time - After exceeding the critical value, delay for a certain time, and then trigger the protection (or generate a warning). This function is to prevent misoperation caused by abrupt peak signal.

4.17 VDifferential over (Voltage differential parameter setting)

▼ VDifferential over		
VDifferential over first	<input type="text" value="1000"/>	mV ↓
VDifferential over second	<input type="text" value="1000"/>	mV
VDifferential over third	<input type="text" value="1000"/>	mV
VDifferential over recovery point	<input type="text" value="900"/>	mV
VDifferential over delayTime	<input type="text" value="100"/>	10ms

VDifferential over First - First-level warning of battery voltage differential. When the battery voltage differential exceeds the critical value, the first-level warning of battery voltage differential will be generated.

VDifferential over Second - Secondary warning of battery voltage differential. When the battery voltage differential exceeds the critical value, the secondary warning of battery voltage differential will be generated.

VDifferential over Third - Third-level warning of battery voltage differential. When the battery voltage differential exceeds the critical value, the third-level warning of battery voltage differential will be generated.

VDifferential over recovery point - Recovery point of voltage differential protection. When the battery differential pressure returns below this value, the battery differential pressure protection will be turned off.

VDifferential over delay Time - After exceeding the critical value, delay for a certain time, and then trigger the protection (or generate a warning). This function is to prevent misoperation caused by abrupt peak signal.



4.18 Low electricity consumption (Low electricity protection parameters)

▼ Low electricity consumption		
Low electricity consumption first	<input type="text" value="3"/>	% ↓
Low electricity consumption	<input type="text" value="2"/>	%
Low electricity consumption third	<input type="text" value="1"/>	%
Low electricity consumption	<input type="text" value="2"/>	%
Low electricity consumption	<input type="text" value="100"/>	10ms

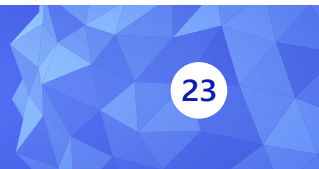
Low electricity consumption - First-level warning of low electricity. When the battery electricity is lower than the critical value, the First-level warning of low electricity will be generated.

Low electricity consumption Second - Secondary warning of low electricity. When the battery electricity is lower than the critical value, the Secondary warning of low electricity will be generated.

Low electricity consumption Third - Third-level warning of low electricity. When the battery electricity is lower than the critical value, the third-level warning of low electricity will be generated.

Low electricity consumption - Recovery point of Low electricity alarm. When the battery electricity returns to higher than the value, the low battery electricity alarm will be turned off.

Low electricity consumption delay Time - When it is lower than the critical value, it will delay for a certain time, and then trigger a warning. This function is to prevent misoperation caused by abrupt peak signal.



4.19 Short Protection Para (Short circuit protection parameters)

▼ Short Protection Para			
CS_CurCHG(A)	<input type="text" value="700"/>	A	↓
CS_CurDSG(A)	<input type="text" value="700"/>	A	
CBC_CurCHG(A)	<input type="text" value="100"/>	A	
discharge current	<input type="text" value="699"/>	A	
passW_Once	<input type="text" value="500"/>		
passW_Forever	<input type="text" value="400"/>		
Res1	<input type="text" value="500"/>		
Res2	<input type="text" value="400"/>		

CS-CurCHG(A) - Maximum charging current collected by protection board

CS-CurDSG(A) - Maximum discharging current collected by protection board

CBC-CurCHG(A) - Charging short circuit current

Discharge current - Setting of short-circuit protection current, that is, when the short-circuit protection current reaches the set value, BMS turns off the discharge MOS at the set time

PassW-Once - One time password

Input one-time password into the protection board, and the protection board can only be used once!

PassW-Forever - Permanent password

The protection board can only be used permanently if the permanent password is input!

Res1 - Reserve 1

Res2 - Reserve 2

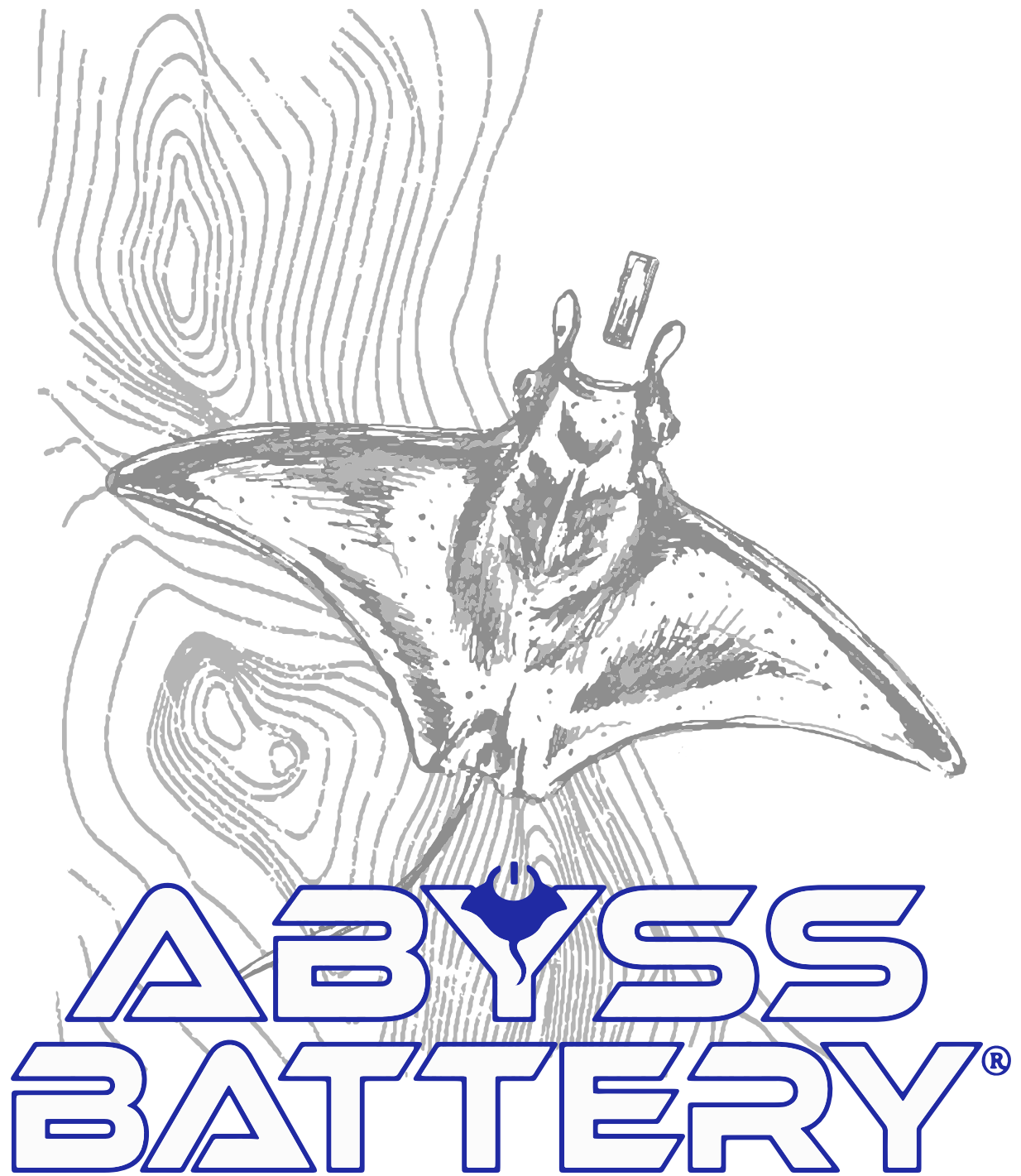
5. APP ERROR AND SOLUTIONS

APP Error description	Solution
<p>1. ComError_AFE1: The analog front-end 1 (1-15 series) has an error in the acquisition process.</p>	<p>Generally, it is AFE communication fails or chip not welded, and it needs to be returned to the factory for maintenance</p>
<p>2. ComError_AFE2: The analog front-end 1 (16-30 series) has an error in the acquisition process.</p>	<p>Generally, it is AFE communication fails or chip not welded, and it needs to be returned to the factory for maintenance</p>
<p>3. ComError_Can: The CAN signal is not received normally, indicating an error</p>	<p>Generally, the CAN communication fails and the code needs to be upgraded or returned to the factory for maintenance</p>
<p>4. ComError_E2P: E2P chip (the function of storing data) is not well soldered or interfered, and an error is reported</p>	<p>Generally, it is the IK communication in EEPROM fails or the chip is not soldered and needs to be returned to the factory for repair</p>
<p>5. ComError_SPI: SPI signal is not received normally, indicating error (the signal is not designed at present)</p>	<p>Reserved: SPI communication is not designed yet</p>
<p>6. ComError_Upper: Communication error of upper computer</p>	<p>Generally, BMS and upper computer have not communicated successfully. Please check the wiring or judge whether the PC terminal has been connected</p>
<p>7. ComError_Client1: Communication error with customer back end</p>	<p>Generally, the communication between BMS and backend load is not successful. Check the wiring or judge whether the protocol is correct</p>

APP Error description	Solution
8. ComError_Screen: LCD display is abnormal or data is not interworking or data communication error	If the LCD fails to connect, check whether the RX TX is reversely connected, or whether the power on of the LCD is normal
9. ComError_WiFi:WiFi communication error	WiFi module failed to communicate successfully
10. Bluetooth Device: Bluetooth communication error	Bluetooth module failed to communicate successfully
11. ComError_APP:APP Communication error	App and BMS communication error, check the wiring or check whether the BMS is in sleep, power off state
12. Error_CBC_CHG: Charging short circuit protection is triggered (this function is not easily triggered)	Charging short-circuit protection, Generally, it is the current of the charging gun is too high, or there is a relay or a large capacitive element inside the gun, and the specific problems need to be modified
13. Error_StoreE2P: E2P storage error, which is caused by some data setting errors of the software	To reset other parameters, click, and then reselect the correct and reasonable parameters
14. Error_HSE: Internal crystal oscillator error (crystal oscillator is used for timing)	Ignore, generally use external crystal oscillator
15. Error_LSE:External crystal error	Hardware error, return to factory

APP Error description	Solution
16. Error_Flash: Internal flash storage error will cause abnormal data reading	Internal code logic problem, upgrade code
17. Error_ADC: Single chip sampling error, generally for voltage or temperature display abnormal, common abnormal temperature 105	If the temperature wire is not inserted or inserted tightly, check the wiring or unplug it again
18. Error_HEAT: Heating error	HT is wrong for some reason and needs to check the code logic
19. Error_COOL: Condensation error	Need to check the logic code for some reason
20. Error_CBC_DSG: Triggered discharge short circuit protection (this function is not easily triggered)	Discharge short circuit protection, generally, the discharge current of the load is too large or there is a relay or a large capacitive element inside the load, and the specific problems need to be modified
21. OV_Cell: Single section over voltage error	When the voltage falls back to the recovery point, it will be released automatically
22. UV_Cell: Single undervoltage error	Automatically release when the voltage rises to the recovery point
23. OV_Bat: Total voltage over-voltage error	When the voltage falls back to the recovery point, it will be released automatically

APP Error description	Solution
24. UV_BAT: Total voltage under-voltage error	When the voltage rises to the recovery point, it will be released automatically
25. OC_Chg: Charging over current error reporting	When the current is less than the recovery point, it will be released automatically
26. OC_Dsg: Discharge over current error	When the current is less than the recovery point, it will be released automatically
27. OT_CHG: Charging over temperature error	It will be released automatically when the temperature is lower than the recovery point
28. OT_DSG: Discharge over temperature error	It will be released automatically when the temperature is lower than the recovery point
29. UT_DSG: Error reporting at low temperature of discharge	When the temperature is higher than the recovery point, it will be released automatically
30. Vdelta_OP: Error report for excessive differential voltage	When the voltage differential is less than the recovery point, it will be released automatically
31. RES: Reserved	Reserved
32. OT_MOS: MOS Over temperature error	
33. SOC_LOW_P: SOC Low alarm (this will not trigger protection, only alarm)	
34. Balanced_Cnt: The times of trigger balance	



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