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Contents

1. Product Overview

EVB624 Battery Pack Module Wireless Equaliser is a split equalization maintenance device developed by Launch, which is designed based on the charge and discharge characteristics of lithium batteries. It can effectively repair the problem of battery performance degradation, which caused by excessive pressure difference of single battery. The charger and wireless discharge module of the equaliser use split design, which are communicated through wireless networking, and maximum configuration 6 wireless discharge modules (24 channels). The 10.1-inch touch screen is easy to operate and visualizes information of battery, such as voltage, current, status, capacity,etc. The wireless equaliser supports three modes: equilibrium, discharge and charge, it can automatically save historical equilibrium data records and supports data USB disk export. Suitable for lithium iron phosphate, ternary lithium, Lithium manganate and other common lithium battery type.

2. Precautions for Safe Use

(1) Please follow the user manual to use this device.
(2) Please wear dry and clean insulating gloves when operating device.
(3) Please use the outlet and cable comply with 16A standard.
(4) Please disconnect the device power supply and test cables when happened emergency.

3. Packing list

The product includes charger(main unit), wireless discharge module, AC power cord, DC high-voltage output cable, equalizer test cable, temperature acquisition cable, etc. Please refer to the actual packing list delivered with the package.

4. Technical Features

Charger parameter	
Model	EVB 624
Power input	AC 90~264V 50/60Hz
Voltage range	DC 0~112V
Voltage accuracy	≤±1% @48~112V DC; ≤±0.5V @10~48V DC
Current range	1~40A
Current accuracy	≤±1% @Output≥4A
Single device supports number of discharge module	Support up to 6 wireless discharge modules(24 channels)
Pow er	3200W
Display	10.1-inch touch screen

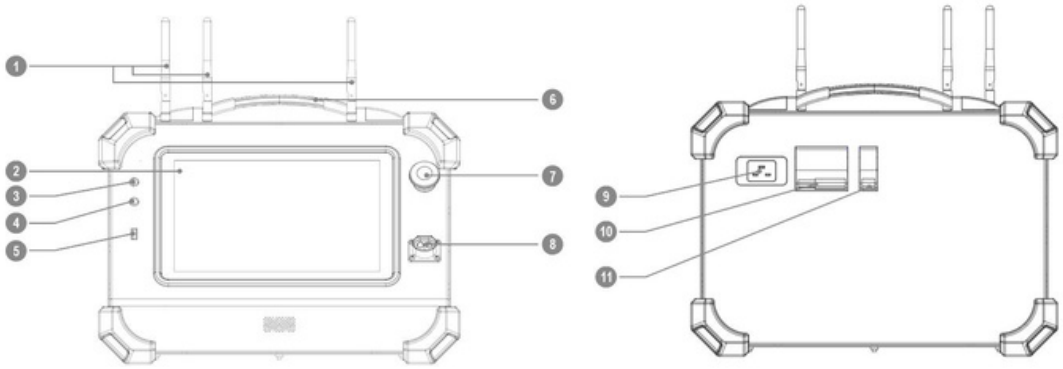
Data communication	Wi-Fi; Bluetooth
Data Storage	32G
Data dump	U disk
Main unit protection	Over voltage, Under voltage, Over current, Power-down, Over temperature, Reverse connection protection
Cool ing	Fan
Temperature	Operating temperature range: -10-50 ℃; storage temperature: -20~70℃
Environment Humidity	Related humidity 5%-90% RH
Dimension	381.0*270.0*275.0mm

Wireless Discharge module parameter	
Powerinput	5V2A
Dischargingvoltagerange	DC2.8~4.2V
Discharging voltage accuracy	±(0.1%FS+5mV)(Max.range 5V)
DischargingCurrentrange	1~10A(singlechannel)
Discharging Current accuracy	±1%FS(Max.range 10A)
Single discharge module supports number of cell	4
Pow er	Maximum 42W for single channel; 168W for four channels
Data Export	Wi-Fi; Bluetooth
Main unit protection	Over current, Over temperature, Reverse connection protection
Cool ing	Fan
Temperature	Operating temperature range: -10-50 ℃ Storage temperature: -20~70℃
Environment Humidity	Related humidity 5%-90% RH
Dimension	215.0*100.0*130.0mm

5. Operating Instructions

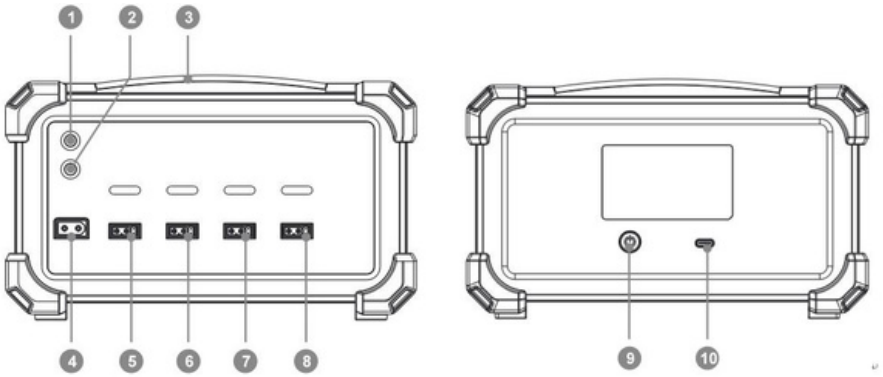
5.1 Panel Description

Charger:



No.	Name	Description
1	**Antenna**	Used to communication and networking.
2	**Screen**	10.1-inch touch screen.
3	**POW ER**	Power indicator: ①In the equilibrium mode---the cell discharging , the red light always on. ②In the equilibrium mode---the cell charging, the red light flashes. ③In discharge mode, the red light always on. ④In charge mod, the red light flashes.
4	**COMM**	Communication indicator: ①After the device turned on, the blue light always on. ②When the device is communicating, the blue flashes.
5	**I/O Port**	Export to USB.
6	**Hand le**	Easy to carry device.
7	**Emergency Stop Switch**	Device stop working when emergency stop switch is pressed; reset switch to start device after troubleshooting. Device startup needs to close AC switch again.
8	**DC High-Voltage Output Port**	Control host output DC current .
9	**Power Switch**	Power input.
10	**AC Input Circuit breaker**	Control charger input AC current.
11	**DC Output Circuit breaker**	Control charger output DC current.

Wireless Discharge module:



No.	Name	Description
1	POW ER	Power indicator: ①After the device is turned on, the red light always on. ② The red light flashes when power supply is below 30%.
2	COMM	Communication indicator: ①After the device turned on, the blue light not on. ②Double-click power switch to enter blue tooth communication mode, the blue light flashes quickly. ③After communicated with charger, the blue light flashes slowly.
3	Han dl e	Easy to move device.
4	Temperature test Terminal	Connect temperature test cable.
5	Equalizing test terminals #1	Connect equalizing cable.
6	Equalizing test terminals #2	Connect equalizing cable.
7	Equalizing test terminals #3	Connect equalizing cable.
8	Equalizing test terminals #4	Connect equalizing cable.
9	Power Switch	Device turn on/off: ①Long press power switch to turn on/off. ②Double-click power switch to enter network communication mode with charger.
10	USB Type-C Port	Connect supply adapter to charge for discharge module.

5.2 Device Connection

Step1: First, connect the plug of DC high-voltage output cable into the high-voltage output port of the charger, and then connect the positive and negative output cable of DC high-voltage cable to the positive and negative terminals of the battery pack respectively (the red cable is the positive, the black cable is the negative).

Step2: Connecting one end of the AC power cord to the power supply port of the charger and the other end to AC power.

Step3: The device turns on when closed the AC breaker.

Step4: Long press the power button on the back of the wireless discharge module to turn it on, double press the power button and enter the networking mode when the blue light blinks to pair with the charger.

Step5:

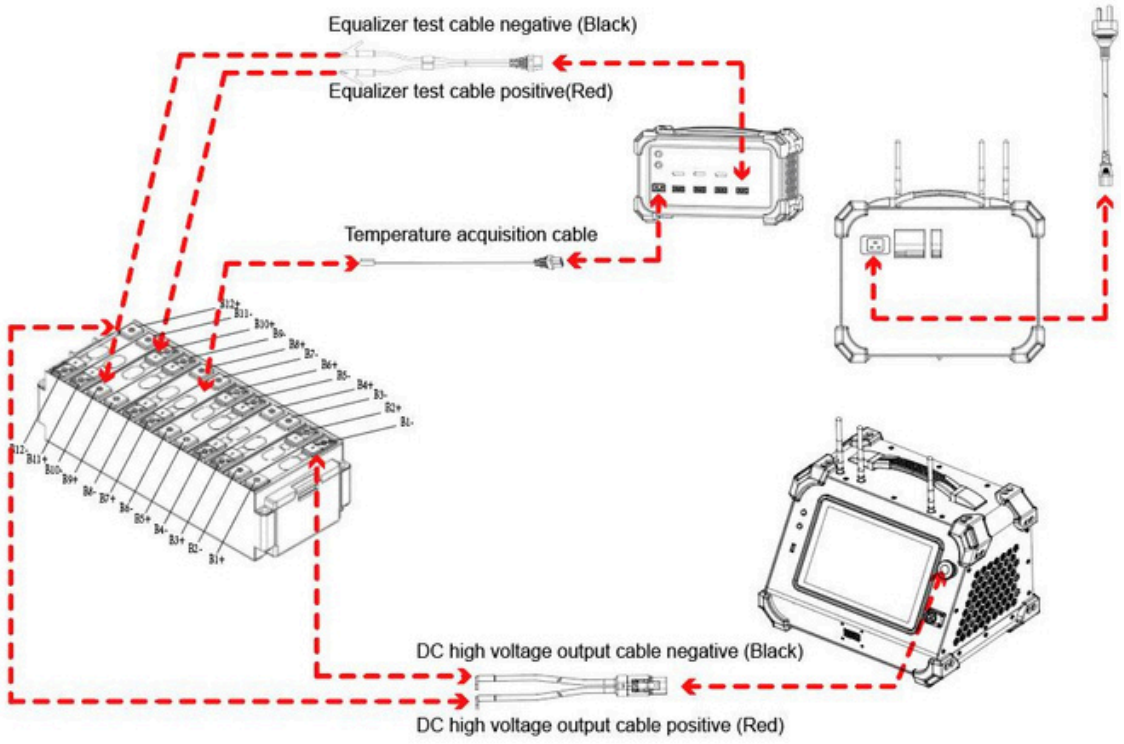
1) Connect the connector end of equalizer test cable to the channel #1 of the discharge, the other end of equalizer test cable are connected to the positive and negative of the battery cell respectively (the red clip is the positive cable, the black clip is the negative cable).The light indicator above the channel #1 is on, it means that the positive and negative poles are connected correctly. If the light is not on, it means that the positive and negative poles are connected incorrectly. Check whether the battery cell is normal on the charger screen after correctly connected. If the voltage is normal, then connecting the channel #2/3/4 in turn.

2) Then connect the connector end of temperature acquisition cable to the temperature port, and the probe end of temperature acquisition cable is connected to the corresponding battery packs.

3) And follow steps1) and 2) to connect the other wireless discharge module until all battery cells are connected.

4) If the cell voltage is unnormal during connection, you need to troubleshoot whether the cell or connecting wire is normal firstly.

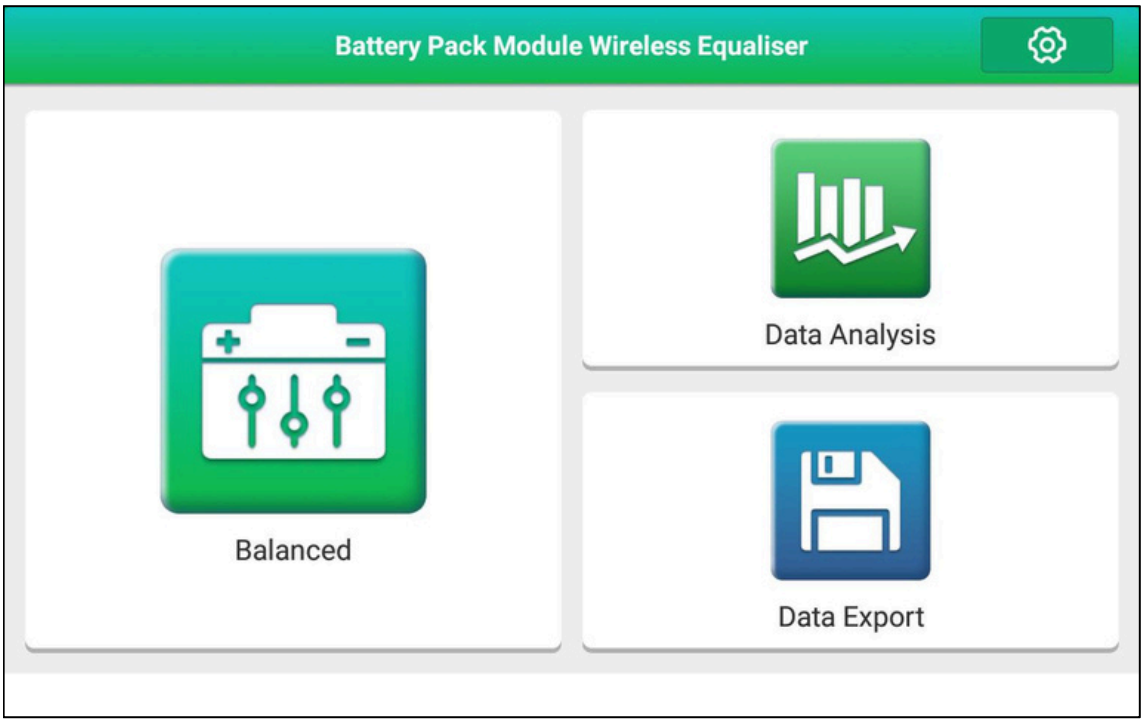
Step6: Setting the equilibrium/discharge parameters to start the equilibrium/discharge test.



5.3 Main Unit Operation

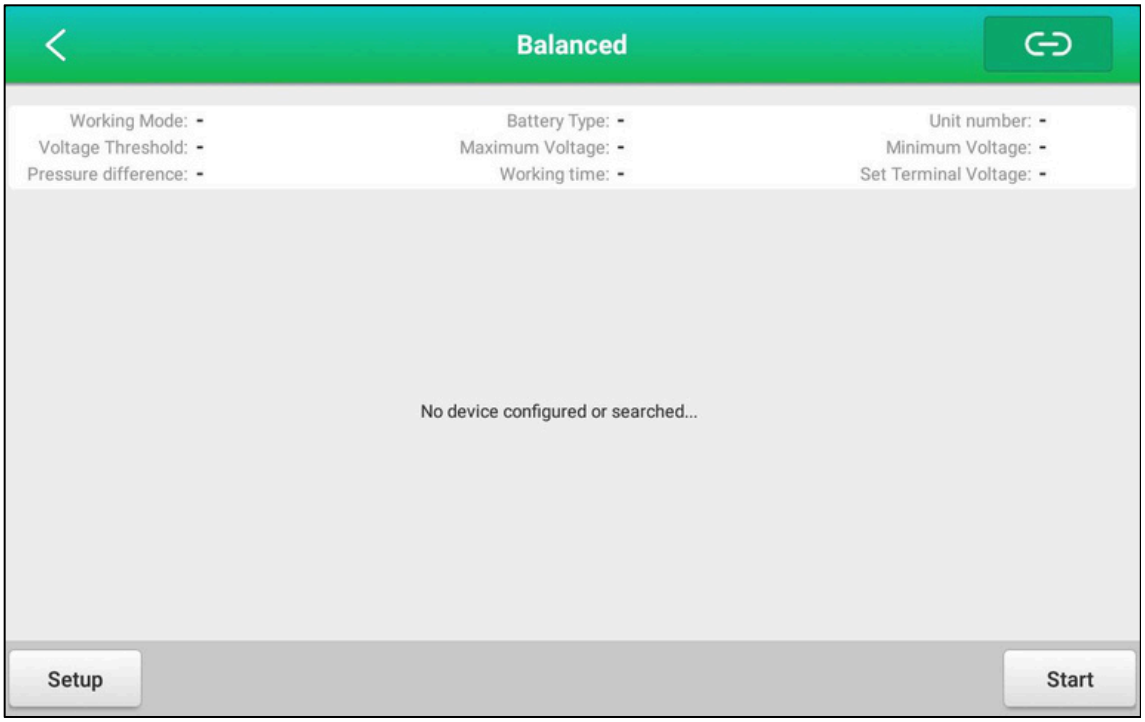
5.3.1 Main Menu

After charger is turned on, enter to the main interface. The main interface functions include Balanced, Data Analysis and Export Data.

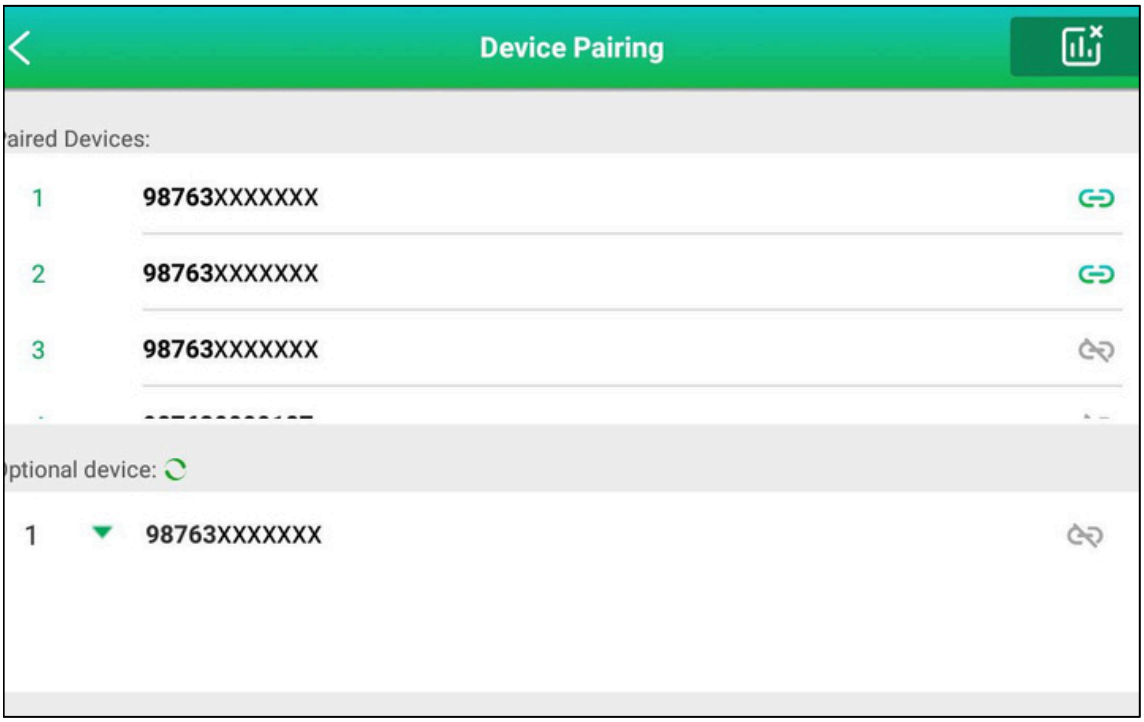


5.3.2 Balanced Maintenance

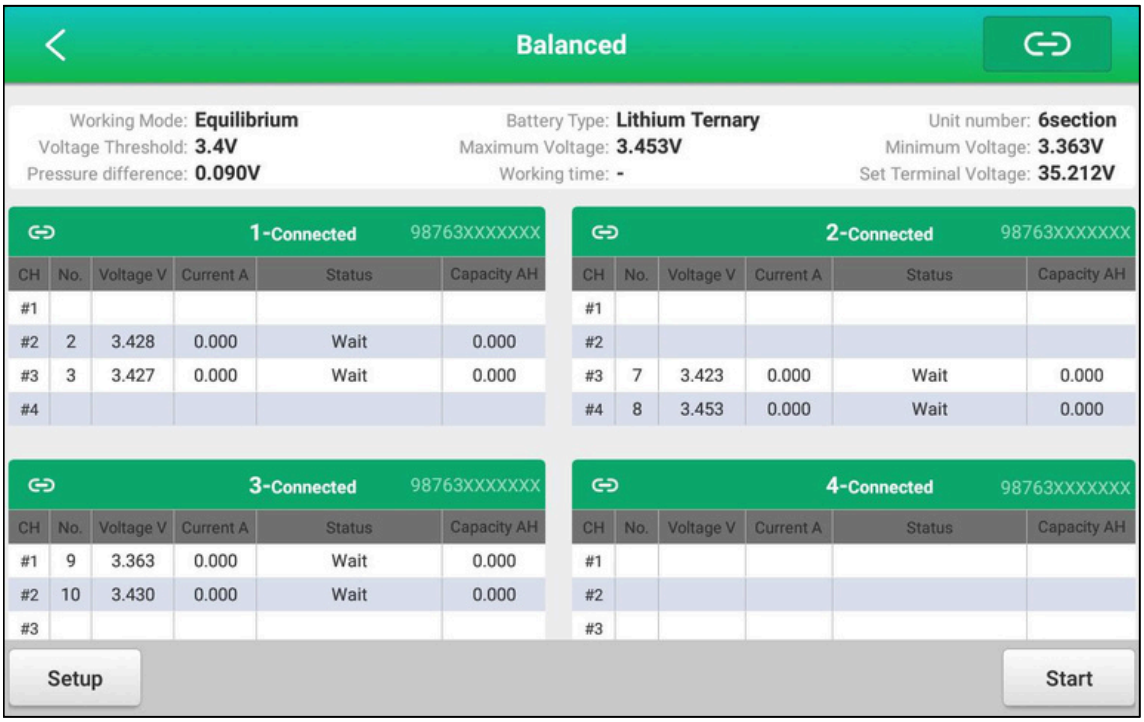
Click **"Balanced"** on main interface to enter Balanced interface.



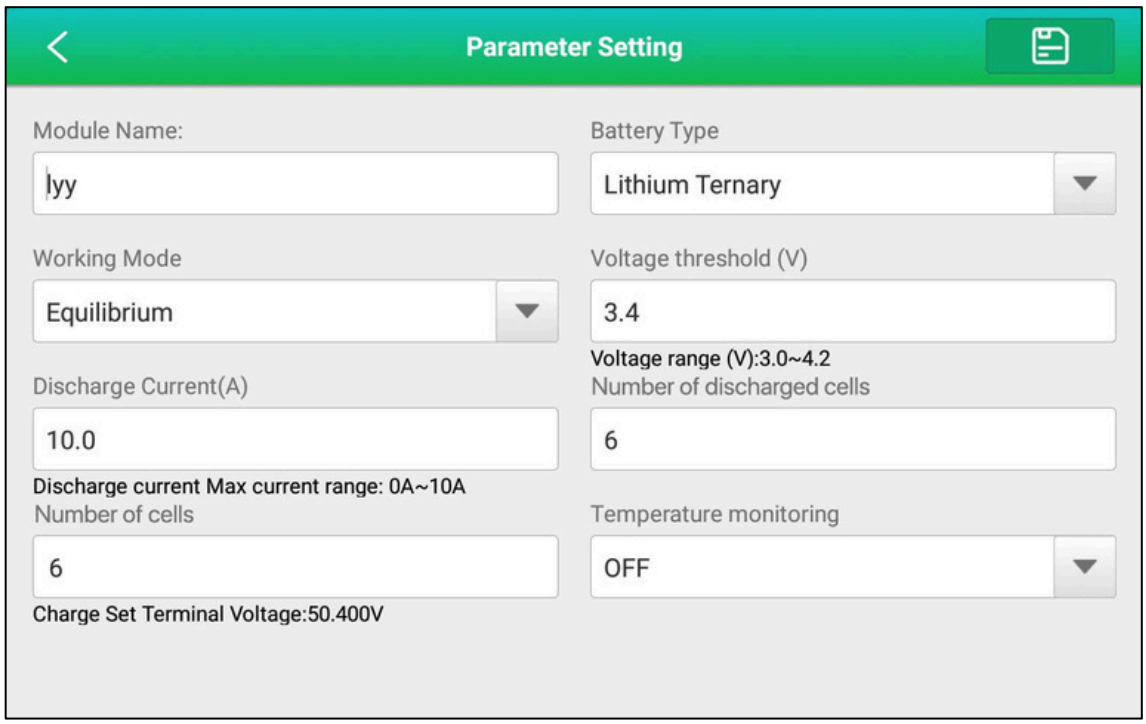
Click“ ”buttonintheupperrightcornerofbalancedinterfacetoenterthedevicepairinginterface, which can connect with optional devices. “ ” button in the upper right corner of device pairing interface is the clear device pairing button, which deletes all current devices when clicked. If you need to delete a single paired device, long press on the device serial number to delete the device.



Click “ ” **Reback button** to enter the balanced interface after completing the device pairing, which displays the each channel of single battery’s information such as voltage, current, status, capacity and temperature at currently.



Click **"Setup"** to set parameter and tap "" to save the current parameter.

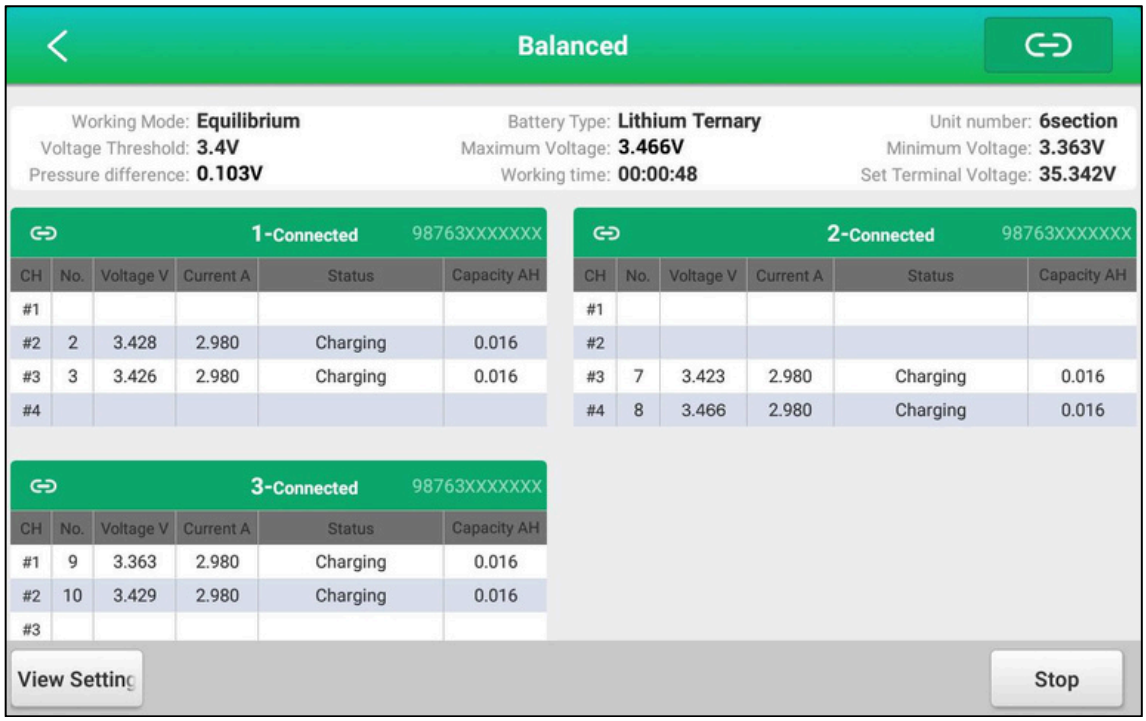


In addition, due to the unit end of charger does not participate in the discharge test process in discharge mode, number of cells does not need to be set.

Parameter Description:

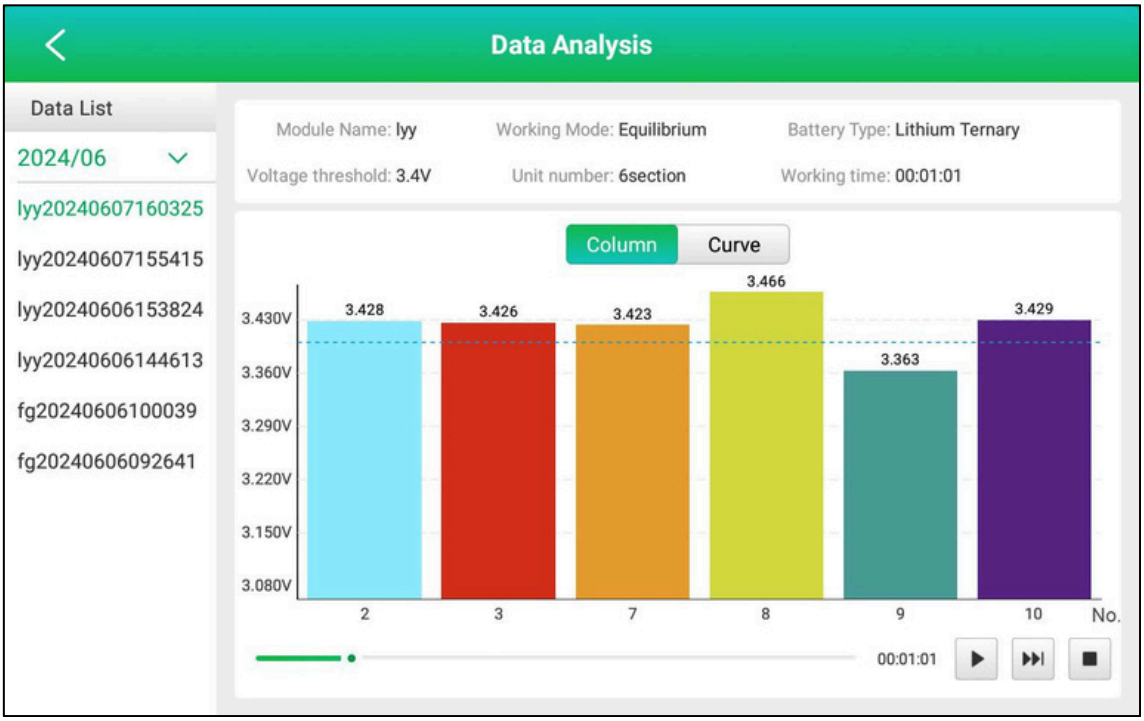
No.	Name	Description
1	**ModuleName**	Name the battery pack
2	**BatteryType**	Select actual battery type
3	**WorkingMode**	Optional equilibrium, discharge and charge modes
4	**Voltagethreshold**	Set target voltage value of equilibrium
5	**DischargeCurrent**	Set discharge current value
6	**Numberofdischargedcells**	Actual equilibrium channel number
7	**Numberofcells**	Total number of cell s in battery modules
8	**Temperaturemonitoring**	Monitor real-time cell temperature after turned on

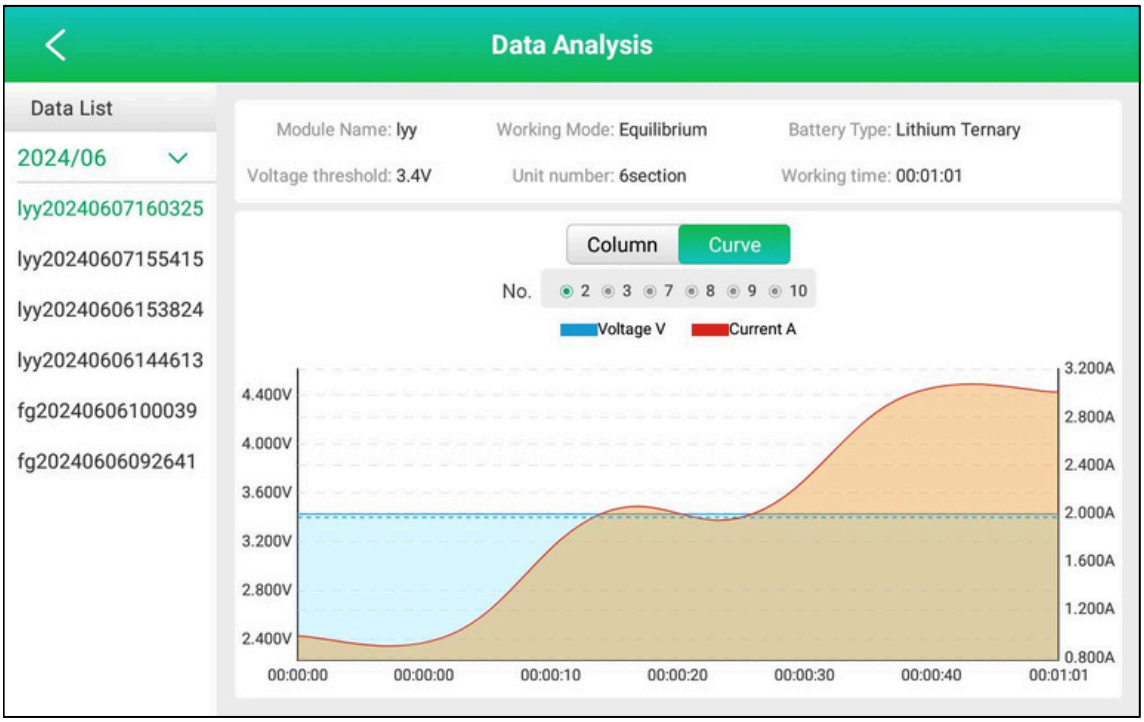
Click **"Start"** button to enter balanced interface which displays real-time information of each channel such as voltage, current, status, discharge capacity, etc. Then wait for working mode to complete.During working mode, tap "Stop" to end working mode.



5.3.3 Data Analysis

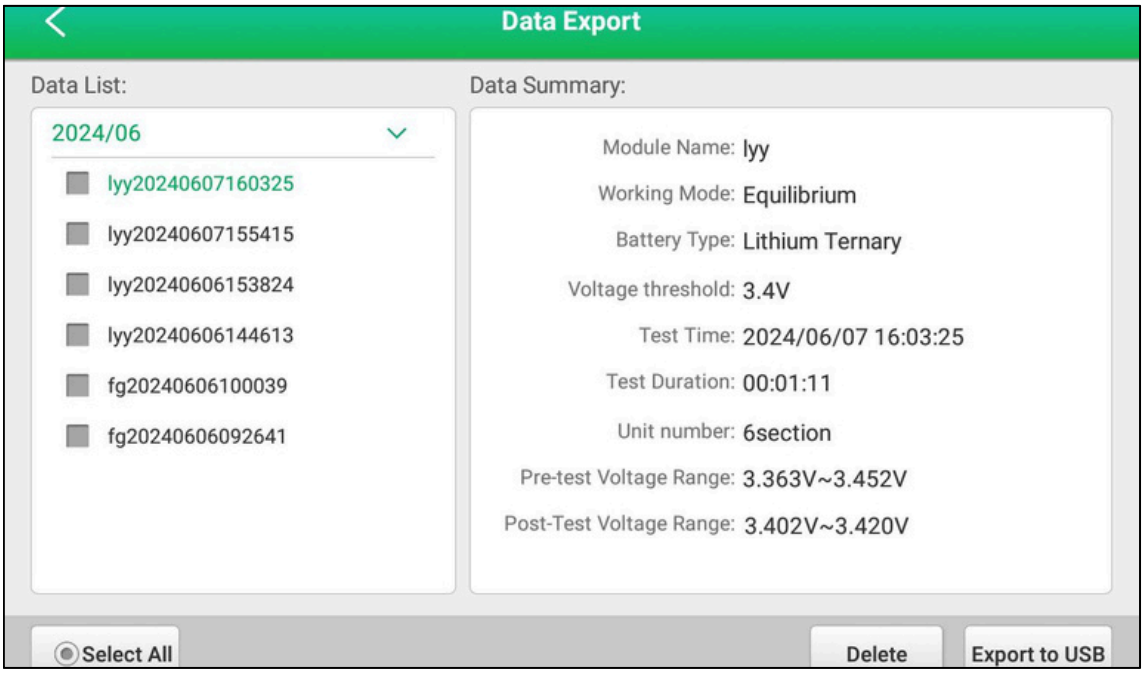
Click **"Data Analysis"** onthemaininterfacetoenterthedataanalysisinterface,whichsupportsColumn Chart and Curve Chart. Click " ▶ " button to review the data during the test.





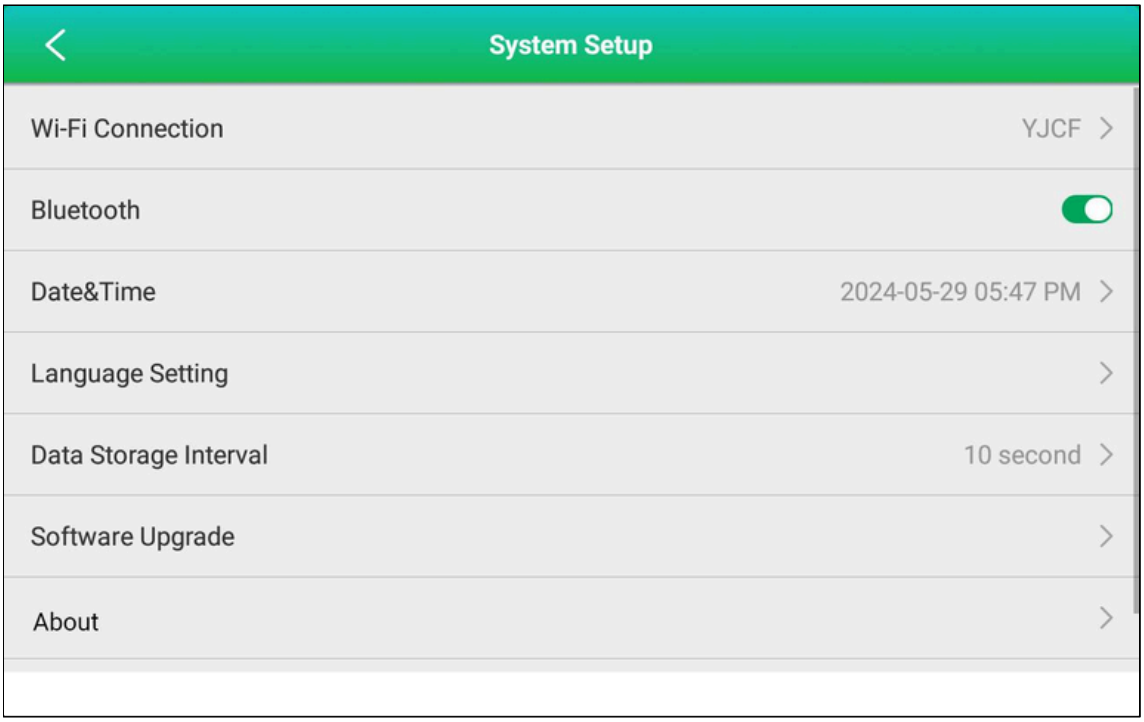
5.3.4 Data Export

Click **"Data Export"** onthemaininterfacetoenterthedataexportinterface,selectabatterypackinthe data list, insert the U disk into the I/O port on the panel, and click **“Export to USB”** to transfer the historical data of discharge and charge to the U disk.

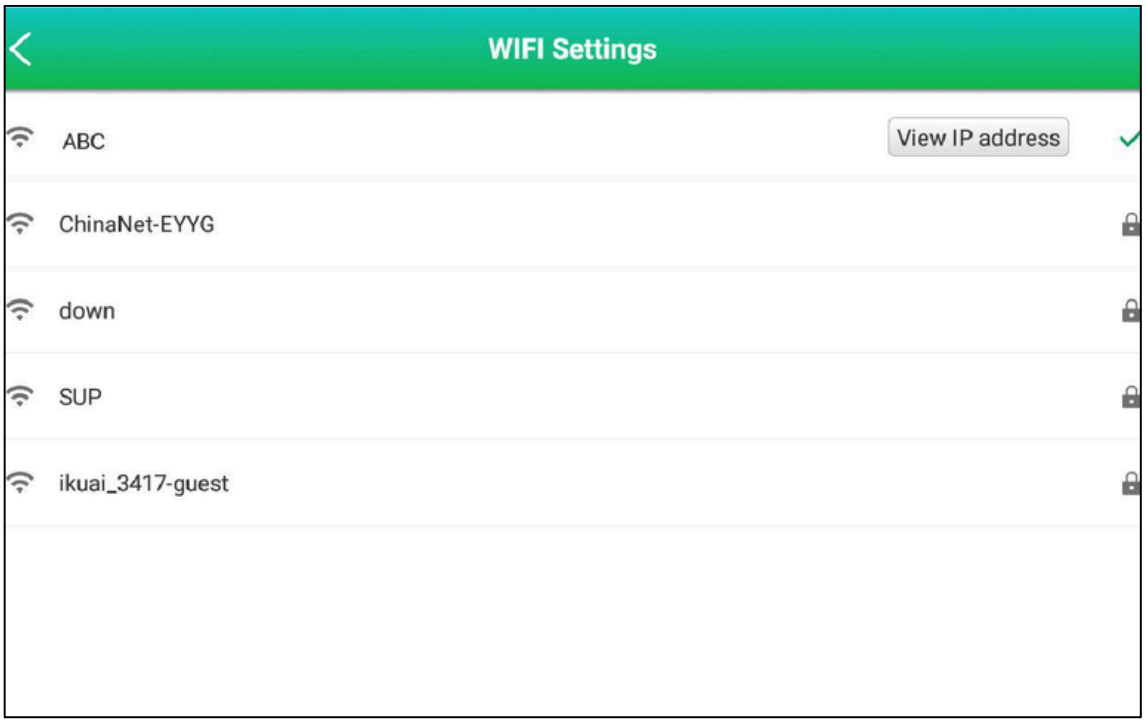


5.3.5 System Setting

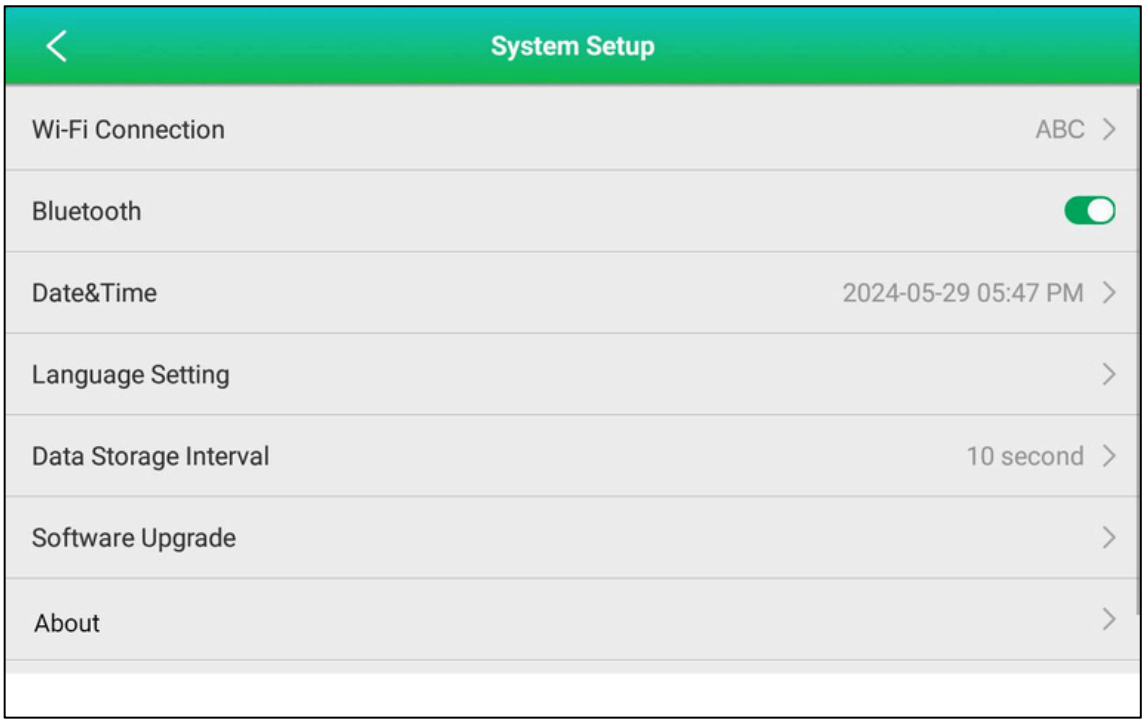
Click " " button on the main interface to enter the system setup interface, which includes Wi-Fi connection, Bluetooth, Data&Time, Language Setting, Data Storage Interval, Software Upgrade and About.



W i-Fi: Used to connect to Wi-Fi and check the IP address.

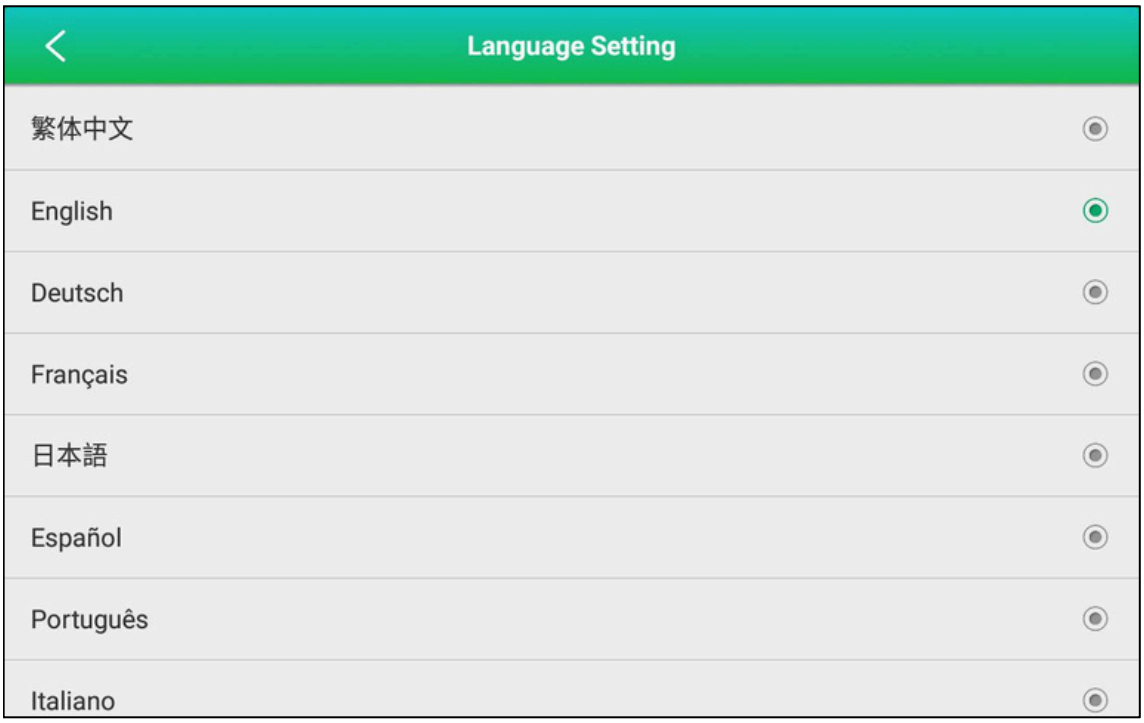


Bluetooth：Open or close the bluetooth.

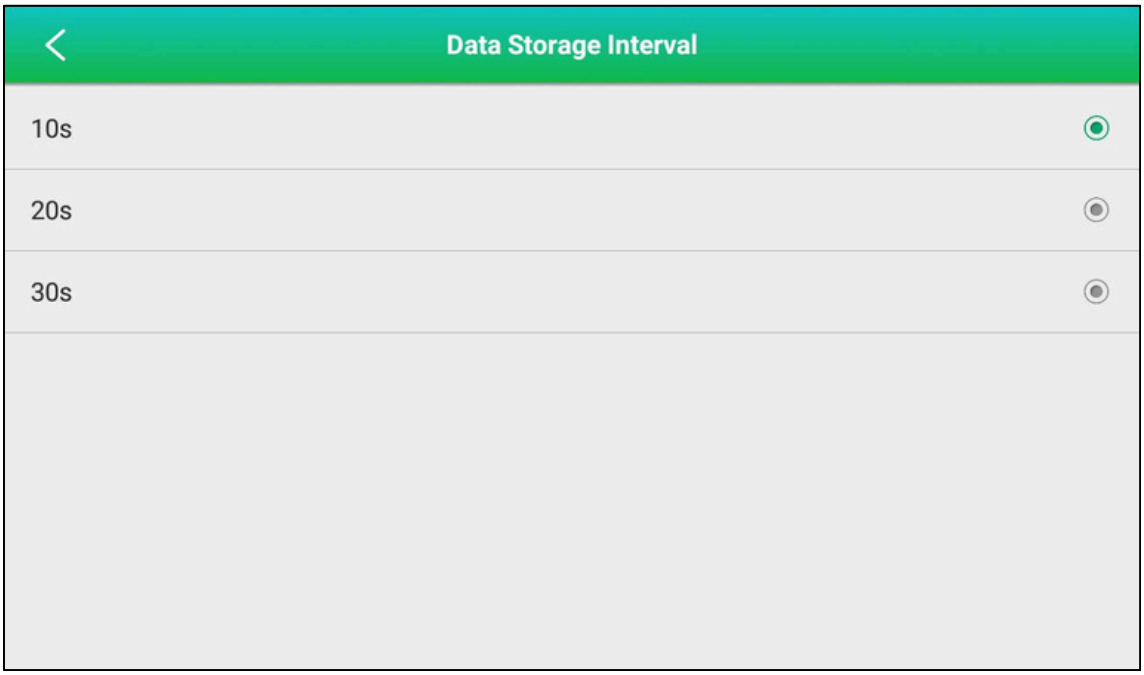


Data & Time: Used to set data and time.

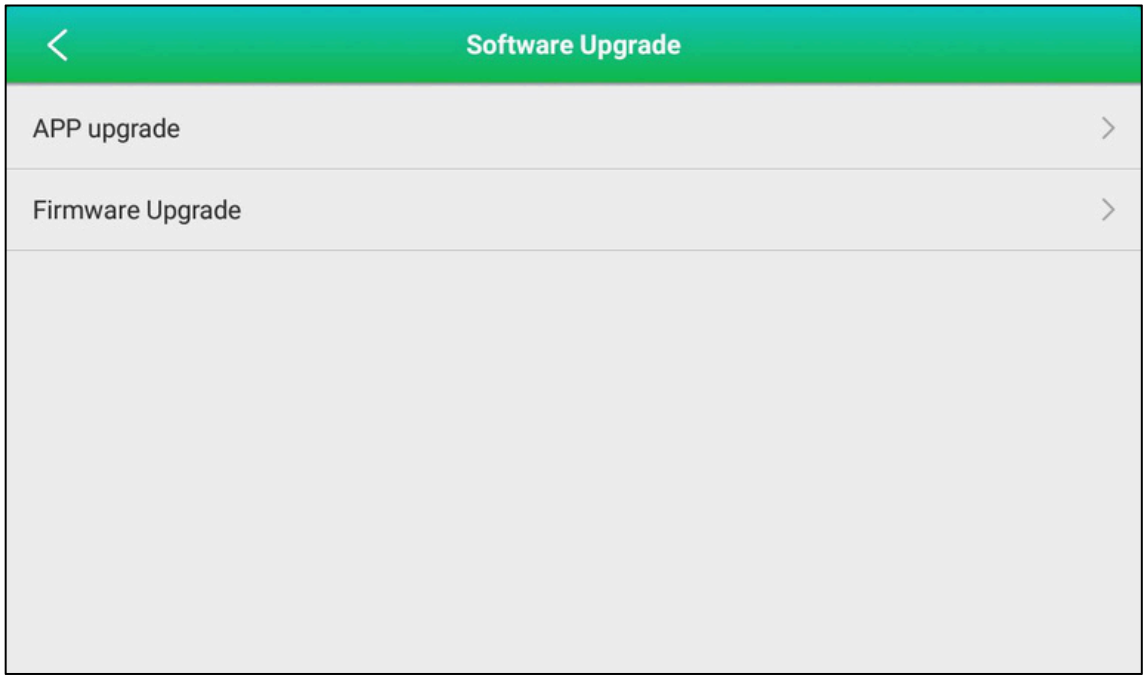
Language Setting：Used to select language.



Data Storage Interval：Used to set the data storage interval.

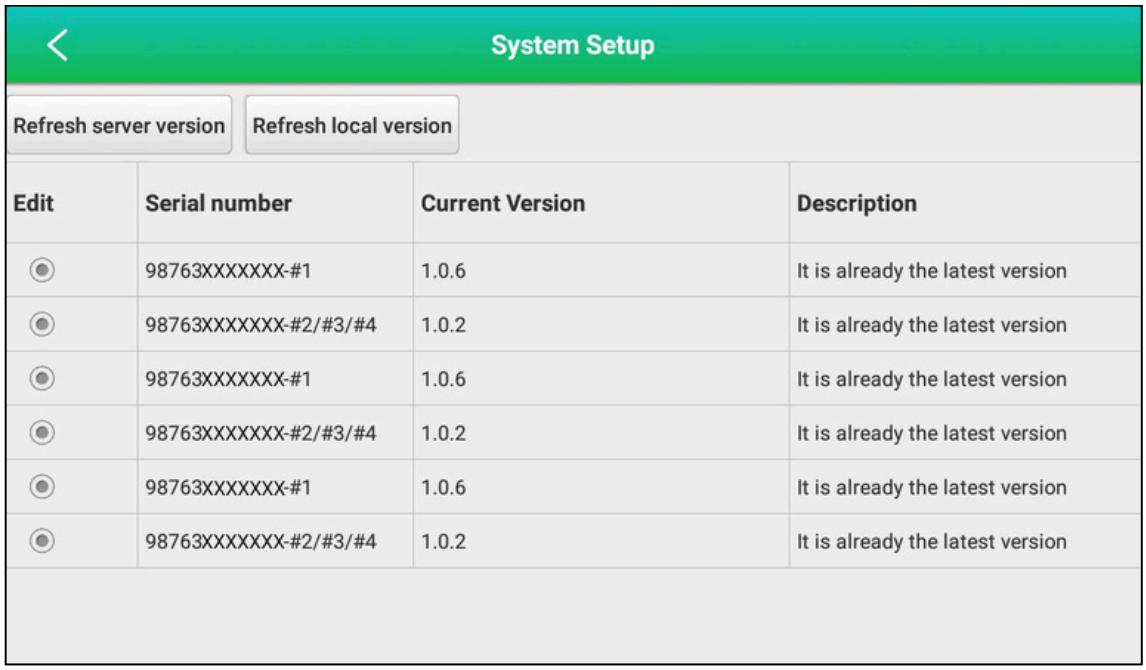


Software Upgrade: Used for software upgrade, including App upgrade and Firmware upgrade.



1. Tap **"APP Upgrade",** you can can be upgraded online by connecting to Wi-Fi or locally by inserting a USB stick.
2. Tap **"Firmware Upgrade",** you can can be upgraded online by connecting to Wi-Fi or locally by inserting a USB stick.

1) Enter to "Firmware Upgrade" interface that displays the serial number of discharge module and the current firmware version of balanced channel. Equalizer channel #1 and equalizer channels #2, #3 and #4 of each discharge module may be different and their firmware versions may be different.



Ab o ut: Used to view device model,APP version, system update, etc.