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1. Product Overview

Modularized Wireless Equalizer 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 modularized wireless equalizer uses split design, EVB624 and EVB624-D are wirelessly networked, and can achieve simultaneous equalization of up to 24 channels (1pc EVB624 with 6pcs EVB624-D). 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: charge and discharge equalization, discharge equalization, and charge equalization, 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 EVB624, EVB624-D, 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

EVB624 parameter	
Model	EVB624
Power input	AC 90~264V 50/60Hz
Voltage range	DC 0~112V
Voltage accuracy	$\leq \pm 1\%$ @48~112V DC; $\leq \pm 0.5V$ @10~48V DC
Current range	1~40A
Current accuracy	$\leq \pm 1\%$ @Output $\geq 4A$
Single device supports number of EVB624-D	Support up to 6pcs EVB624-D (24 channels)
Power	3200W
Display	10.1-inch touch screen

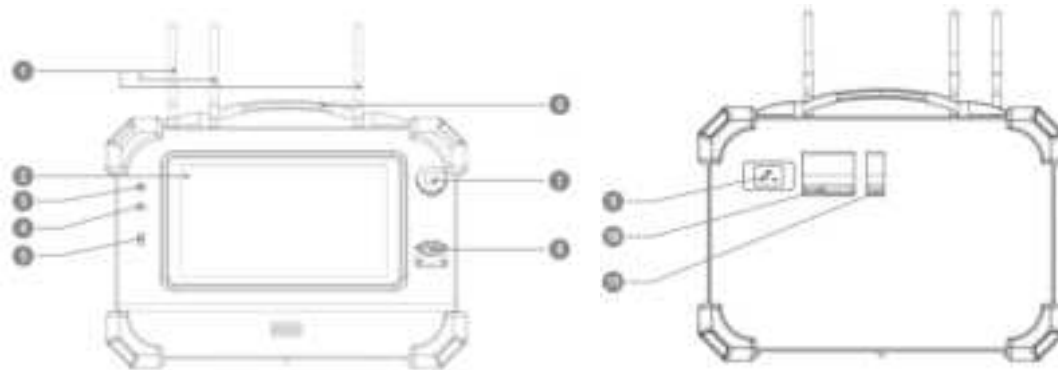
Data communication	Wi-Fi; Bluetooth
Data Storage	32G
Data dump	U disk
Main unit protection	Over voltage, Under voltage, Over current, Power-down, Over temperature, Reverse connection protection
Cooling	Fan
Temperature	Operating temperature range: -10-50 °C; storage temperature: -20~70°C
Environment Humidity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

EVB624-D parameter	
Model	EVB624-D
Power input	5V 2A
Discharging voltage range	DC 2.8~4.2V
Discharging voltage accuracy	±(0.1%FS+5mV)(Max.range 5V)
Discharging Current range	0~10A(single channel)
Discharging Current accuracy	±1%FS(Max.range 10A)
Single discharge module supports number of cell	4
Power	Maximum 42W for single channel; 168W for four channels
Data Export	Wi-Fi; Bluetooth
Main unit protection	Over current, Over temperature, Reverse connection protection
Cooling	Fan
Temperature	Operating temperature range: -10-50 °C; Storage temperature: -20~70°C
Environment Humidity	Related humidity 5%-90% RH
Dimension	215.0*100.0*130.0mm

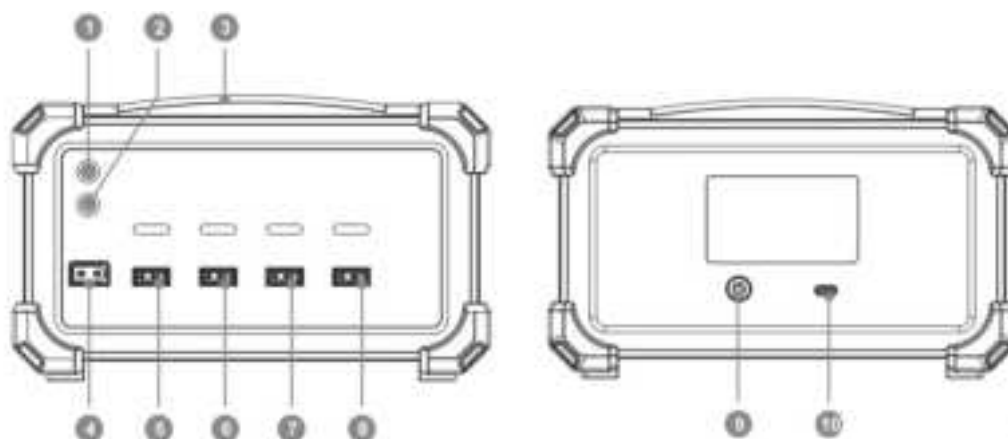
5. Operating Instructions

5.1 Panel Description

EVB624:



No.	Name	Description
1	Antenna	Used to communication and networking.
2	Screen	10.1-inch touch screen.
3	POWER	Power indicator: ①In the charge and discharge equalization mode---the cell discharging , the red light always on. ②In the charge and discharge equalization mode---the cell charging, the red light flashes. ③In discharge equalization mode, the red light always on. ④In charge equalization mode, 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	Handle	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 EVB624 output DC current .
9	Power socket	Power input.
10	AC Input Circuit breaker	Control EVB624 input AC current.
11	DC Output Circuit breaker	Control EVB624 output DC current.

EVB624-D:

No.	Name	Description
1	POWER	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 EVB624 , the blue light flashes slowly.
3	Handle	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 EVB624 .
10	USB Type-C Port	Connect supply adapter to charge for EVB624-D .

5.2 Device Connection

Step1: First, connect the plug of DC high-voltage output cable into the high-voltage output port of the EVB624, 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 EVB624 and the other end to AC power.

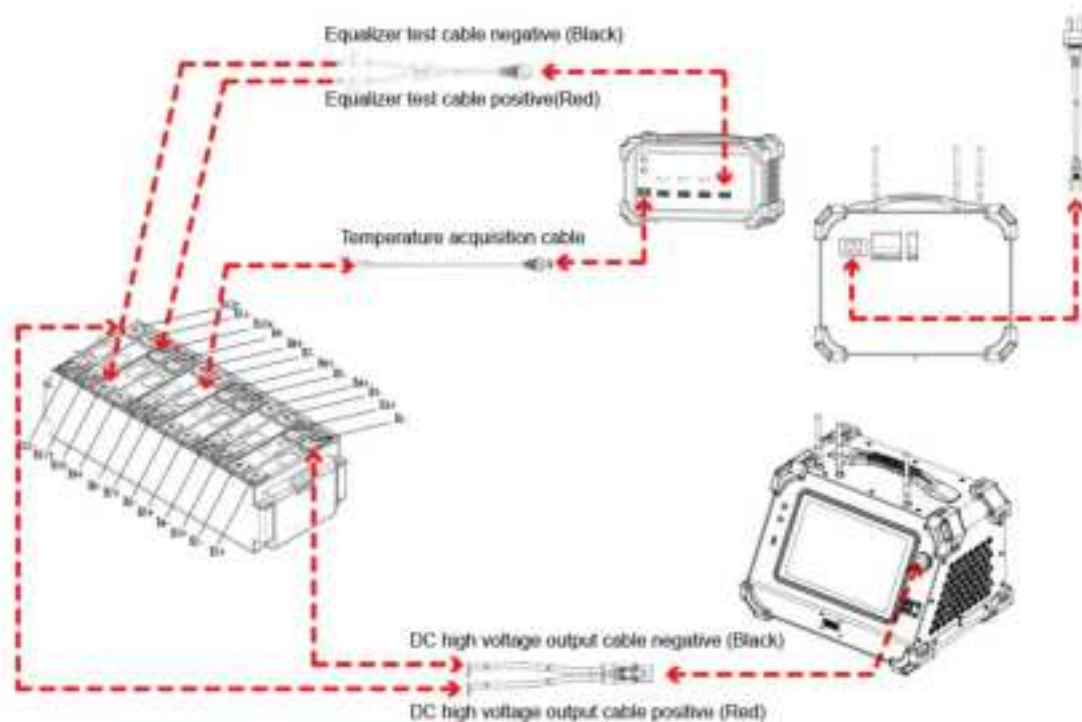
Step3: The device turns on when closed the AC breaker.

Step4: Long press the power button on the back of the EVB624-D to turn it on, double press the power button and enter the networking mode when the blue light blinks to pair with the EVB624.

Step5:

- 1) Connect the connector end of equalizer test cable to the channel #1 of the EVB624-D, 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 EVB624 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 steps 1 and 2 to connect the other EVB624-D 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.

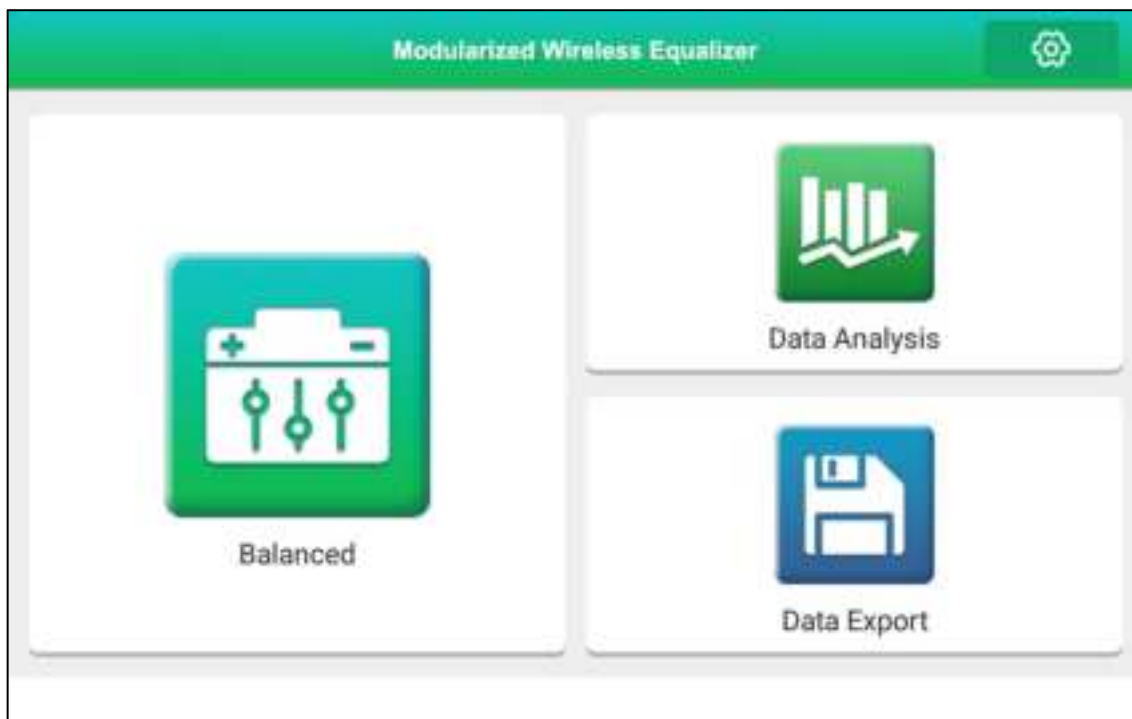
Step6: Setting the charge and discharge equalization, discharge equalization, and charge equalization parameters to start the charge and discharge equalization, discharge equalization, and charge equalization test.



5.3 Main Unit Operation

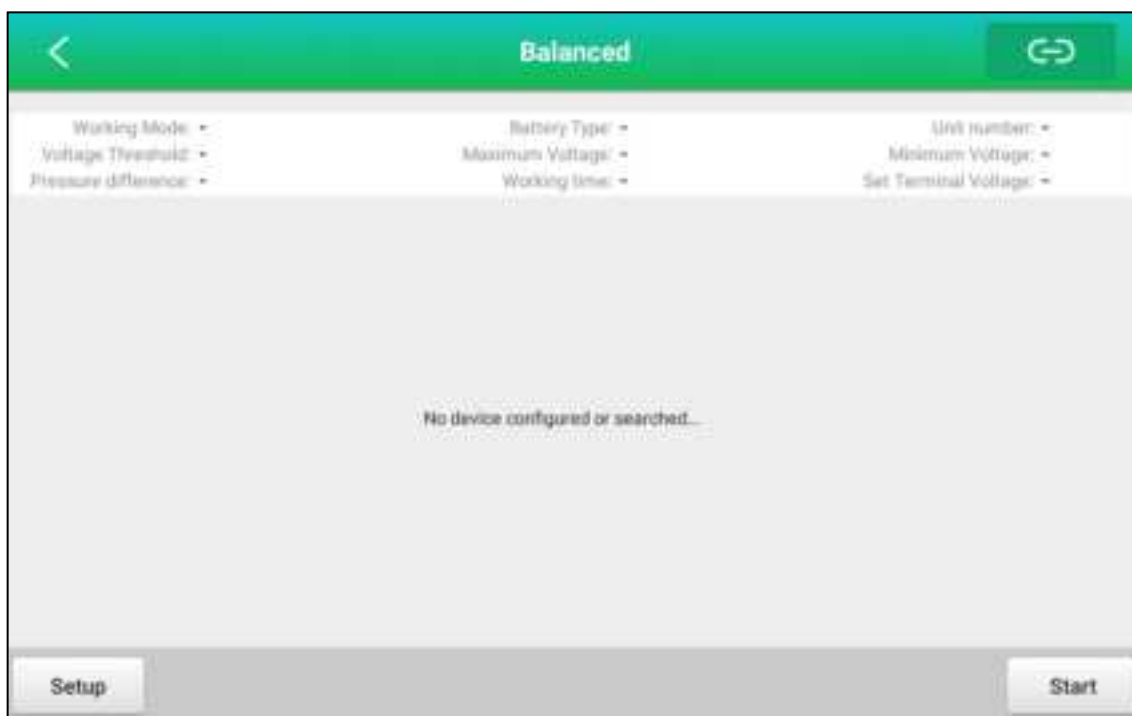
5.3.1 Main Menu

After **EVB624** is turned on, enter to the main interface. The main interface functions include Balanced, Data Analysis and Export Data.



5.3.2 Balanced Maintenance

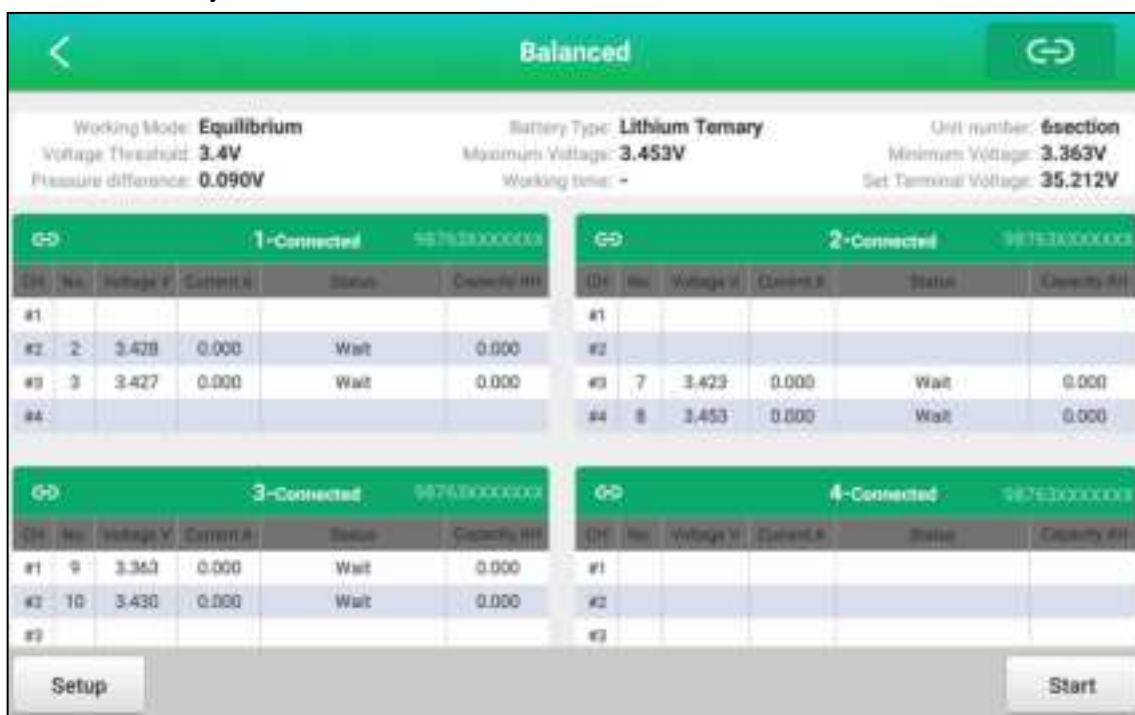
Click “**Balanced**” on main interface to enter Balanced interface.



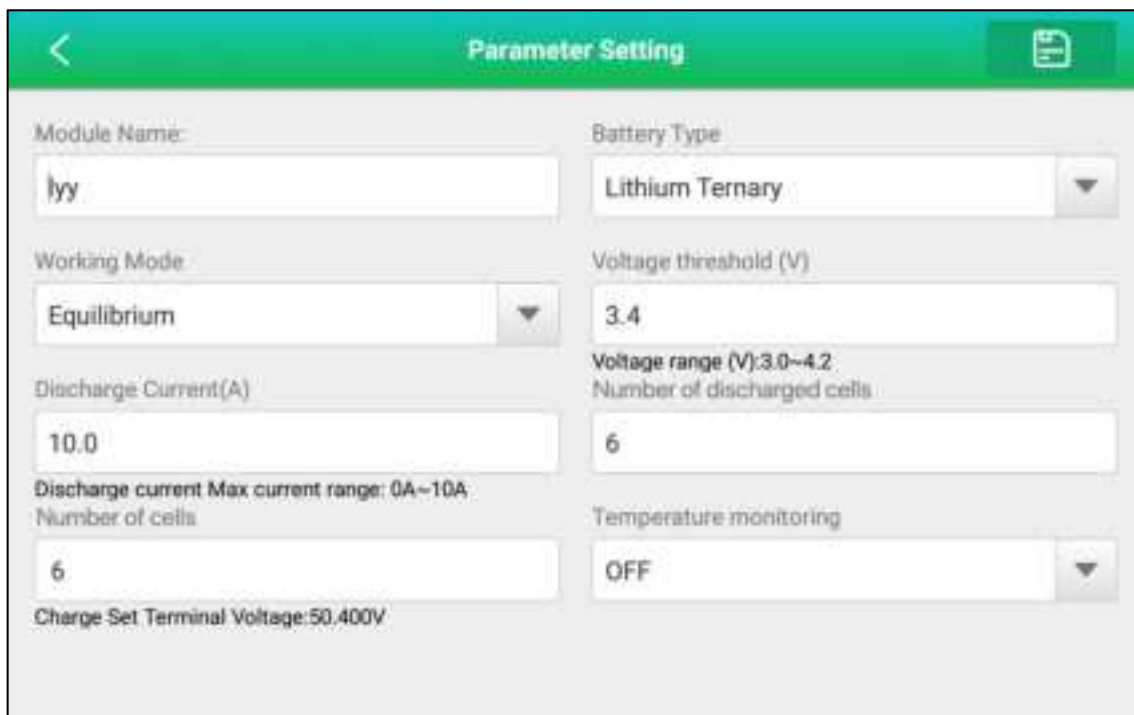
Click “” button in the upper right corner of balanced interface to enter the device pairing interface, which can connect with optional devices. “” button in the upper right corner of device pairing interface is the clear device pairing button, which deletes all current devices when clicked. If you need 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.

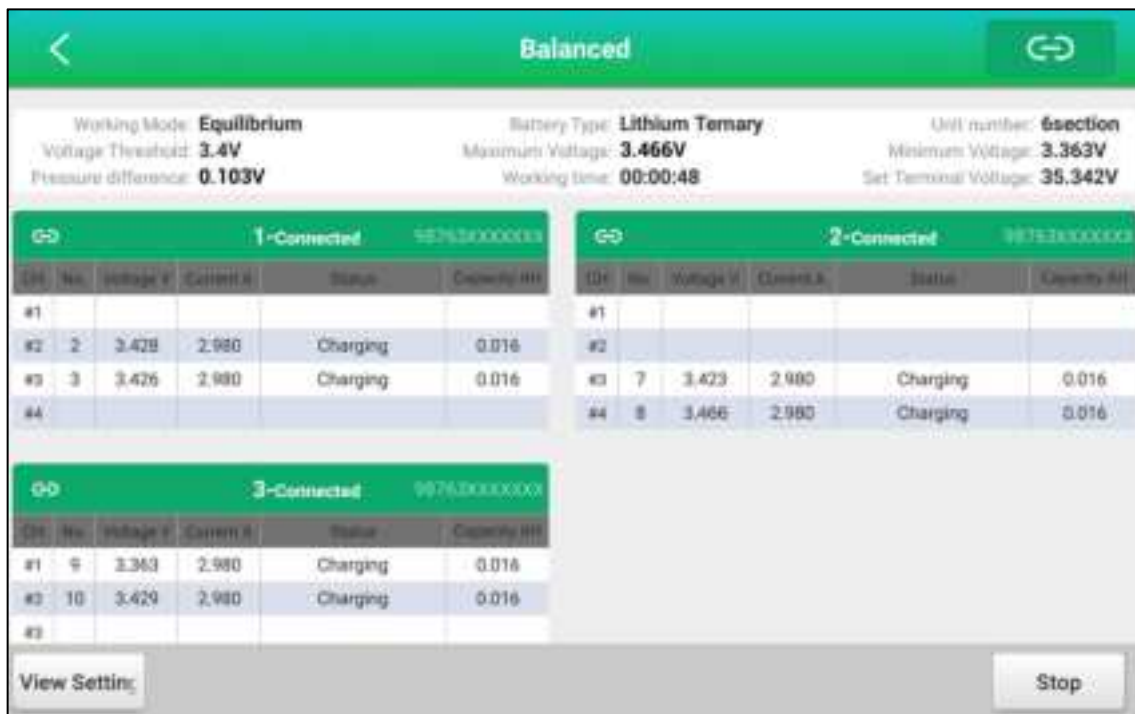


In addition, due to the **pack terminal** of **EVB624** does not participate in the discharge test process in discharge **equalization** mode, number of cells does not need to be set.

Parameter Description :

No.	Name	Description
1	Module Name	Name the battery pack
2	Battery Type	Select actual battery type
3	Working Mode	Optional charge and discharge equalization, discharge equalization, and charge equalization modes
4	Voltage threshold	Set target voltage value of equilibrium
5	Discharge Current	Set discharge current value
6	Number of discharged cells	Actual equilibrium channel number
7	Number of cells	Total number of cell s in battery modules
8	Temperature monitoring	Monitor real-time cell temperature after turned on

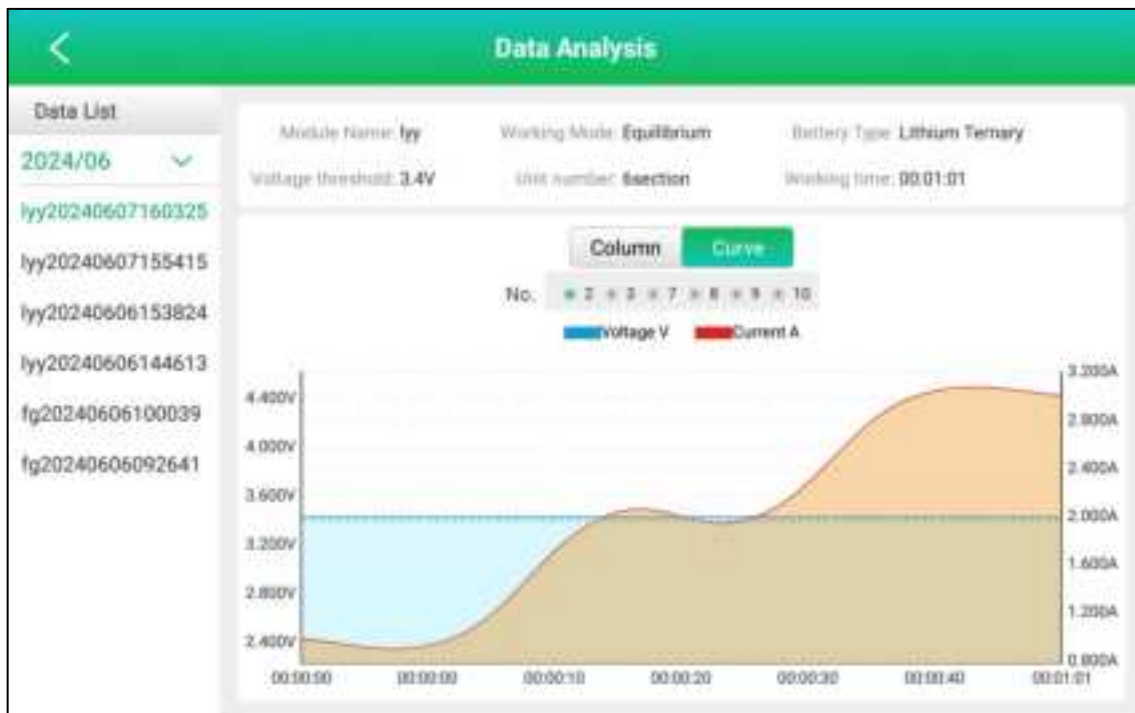
Click **"Start"** button to enter balanced interface which displays real-time information of each channel such as voltage, current, status, discharge capacity, etc. Then wait for working mode to complete. During working mode, tap **"Stop"** to end working mode.



5.3.3 Data Analysis

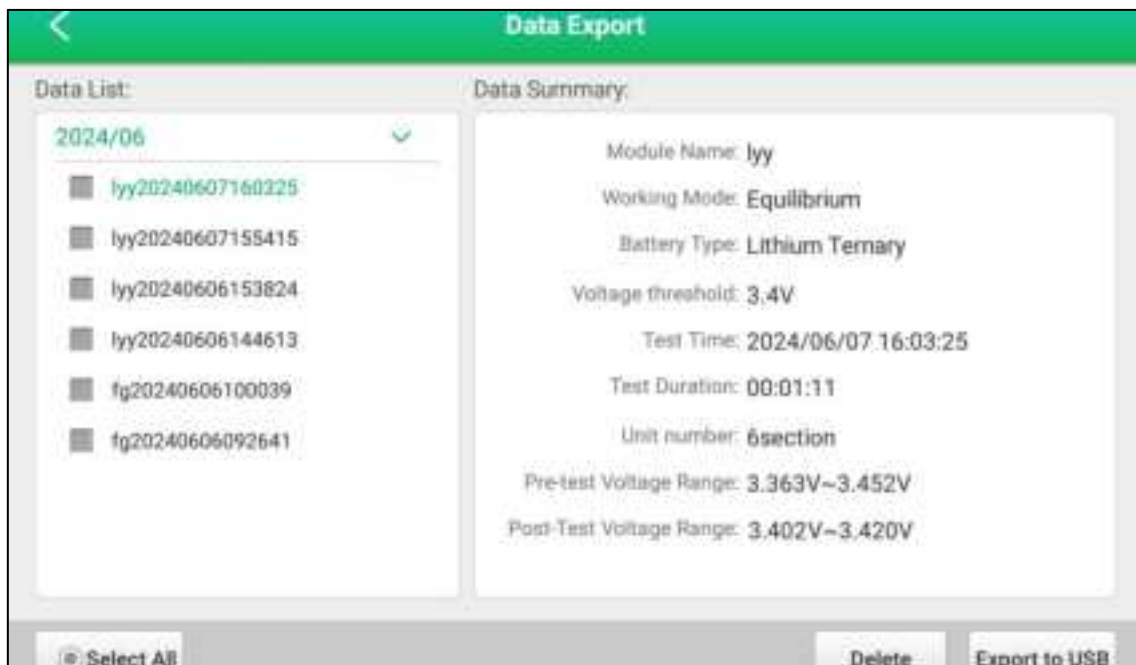
Click **"Data Analysis"** on the main interface to enter the data analysis interface, which supports Column Chart and Curve Chart. Click **"▶"** button to review the data during the test.





5.3.4 Data Export

Click **"Data Export"** on the main interface to enter the data export interface, select a battery pack in the data list, insert the U disk into the I/O port on the **EVB624** panel, and click **"Export to USB"** to transfer the historical data of discharge and charge to the U disk.

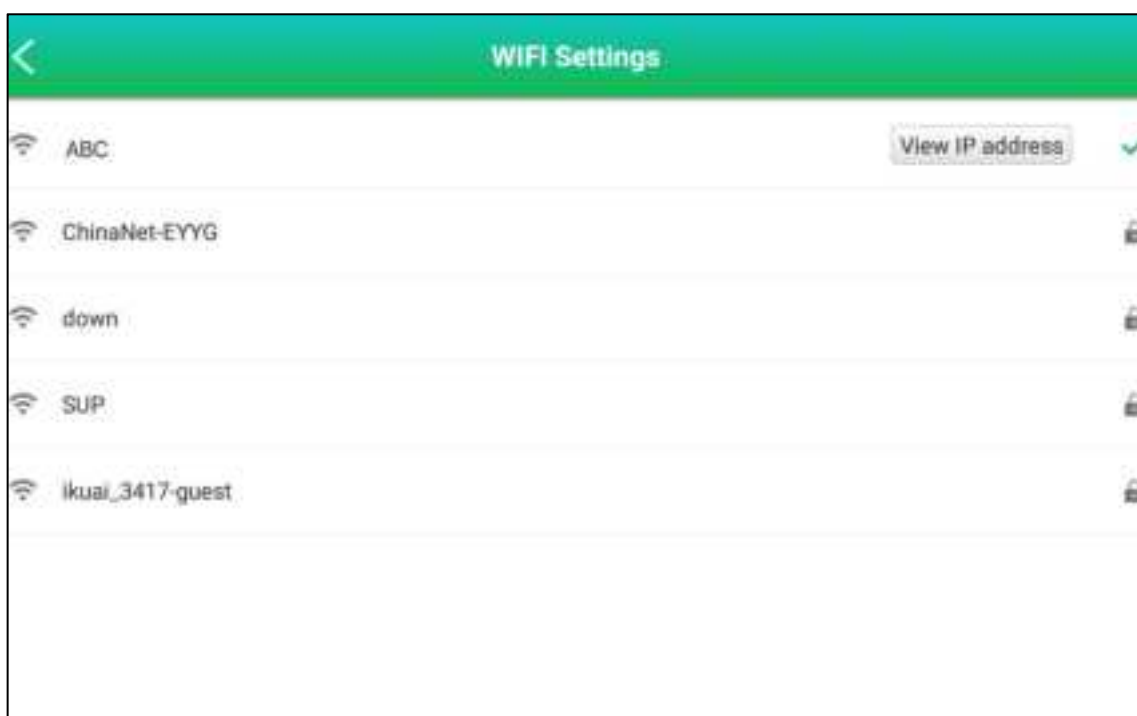


5.3.5 System Setting

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.



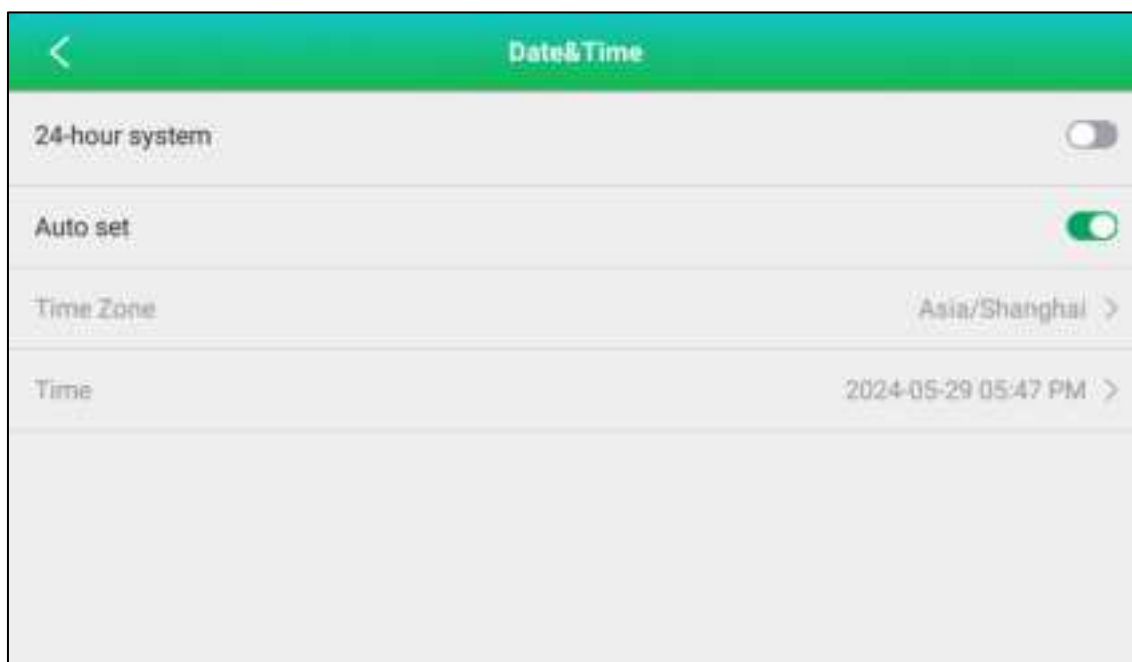
Wi-Fi: Used to connect to Wi-Fi and check the IP address.



Bluetooth: Open or close the Bluetooth.



Data & Time: Used to set data and time.



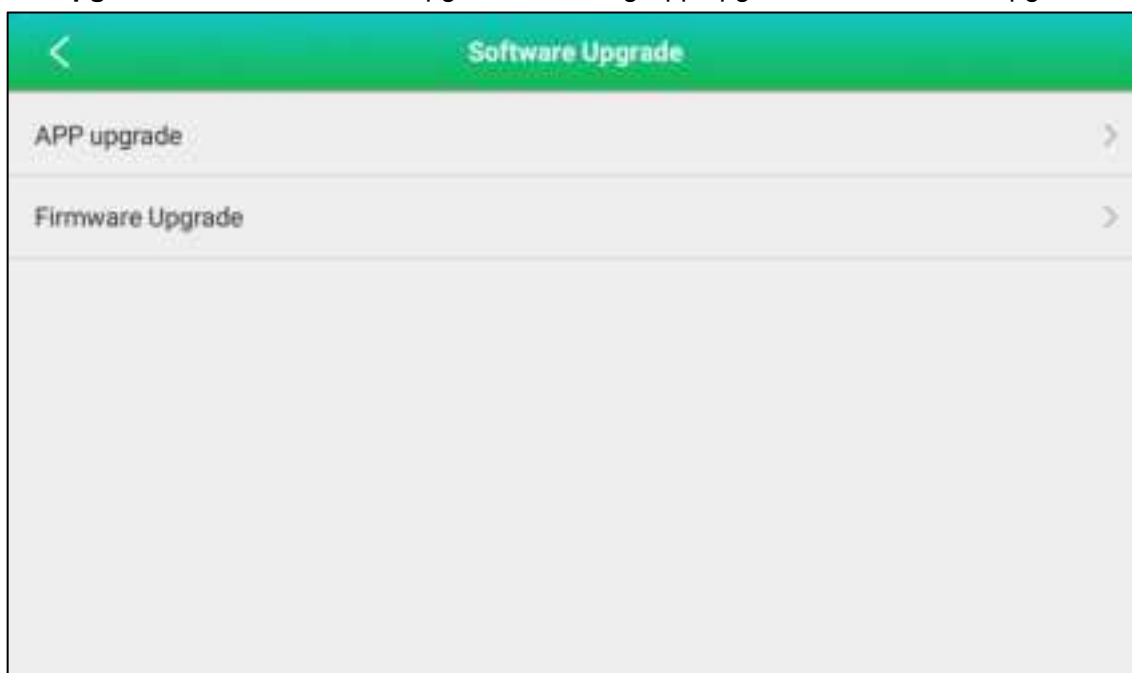
Language Setting : Used to select language.



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 **EVB624-D** and the current firmware version of balanced channel. Equalizer channel #1 and equalizer channels #2, #3 and #4 of each **EVB624-D** may be different and their firmware versions may be different.

System Setup			
Refresh server version		Refresh local version	
Edit	Serial number	Current Version	Description
⊕	98763XXXXXX-#1	1.0.6	It is already the latest version
⊕	98763XXXXXX-#2/#3/#4	1.0.2	It is already the latest version
⊕	98763XXXXXX-#1	1.0.6	It is already the latest version
⊕	98763XXXXXX-#2/#3/#4	1.0.2	It is already the latest version
⊕	98763XXXXXX-#1	1.0.6	It is already the latest version
⊕	98763XXXXXX-#2/#3/#4	1.0.2	It is already the latest version

About: Used to view device model, APP version, system update, etc.

About	
Device Model	EVB624
APP Version	V1.0.22
Device Serial Number	98761XXXXXX
Latest Firmware Version (#1)	V1.0.6
Latest Firmware Version (#2/#3/#4)	V1.0.2
System update	V1.2.2 >
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Compliance Information

Model: EVB624

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference; and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

The device for operation in the band 5150-5250MHz is only for indoor use.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The device has been evaluated to meet general RF exposure requirement.

To maintain compliance with FCC's RF exposure guidelines, the distance must be at least 20 cm between the radiator and your body, and fully supported by the operating and installation.

This device is in compliance with the essential requirements and other relevant provisions of Radio Equipment Directive 2014/53/EU. The RF frequencies can be used in Europe without restriction.

Model: EVB624-D

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference; and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The device has been evaluated to meet general RF exposure requirement.

To maintain compliance with FCC's RF exposure guidelines, the distance must be at least 20 cm

between the radiator and your body, and fully supported by the operating and installation.

This device is in compliance with the essential requirements and other relevant provisions of Radio Equipment Directive 2014/53/EU. The RF frequencies can be used in Europe without restriction.

Warranty

This warranty applies only to users and distributors who have purchased Launch's products through regular procedures.

Launch shall provide a warranty against material or craftsmanship defects for 15 months from the date of delivery on its electronic products. Damages to the device or its components caused by abuses, unauthorized modifications, uses for a purpose other than for which it is intended, or operations not following the manner specified in the manual, etc. are not covered by this warranty. Compensation for the damage to instrument of the automobile due to the defect of the device is limited to repair or replacement, Launch is not responsible for any indirect or accidental loss. Launch will judge the attributes of the equipment damage according to its specified test method. None of Launch's dealers, employees and business representatives has the authority to make any confirmations, reminders or promises related to the company's products.

Disclaimer Statement

The above warranty can substitute warranties in any other forms.

Order Notice

Replaceable and optional parts can be ordered directly from LAUNCH authorized distributors. Your order should include the following information:

Order quantity

Part number

Part name

Customer Service Center

For any problem met during the operation, please call +86-0755-84528767, or send email to overseas.service@cnlaunch.com.

If the device needs to be repaired, please send it back to Launch, and attach the Warranty Card, Product Qualification Certificate, Purchase Invoice and problem description. Launch will maintain and repair the device for free when it is within warranty period. If it is out of warranty, Launch will charge the repair cost and return freight.

Launch Address:

Launch Tech Co., Ltd, Launch Industrial Park, North of Wuhe Road, Bantian Street, Longgang District, Shenzhen City, Guangdong Province, P.R.China,
Zip Code: 518129

Launch Website: <https://www.cnlaunch.com>

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