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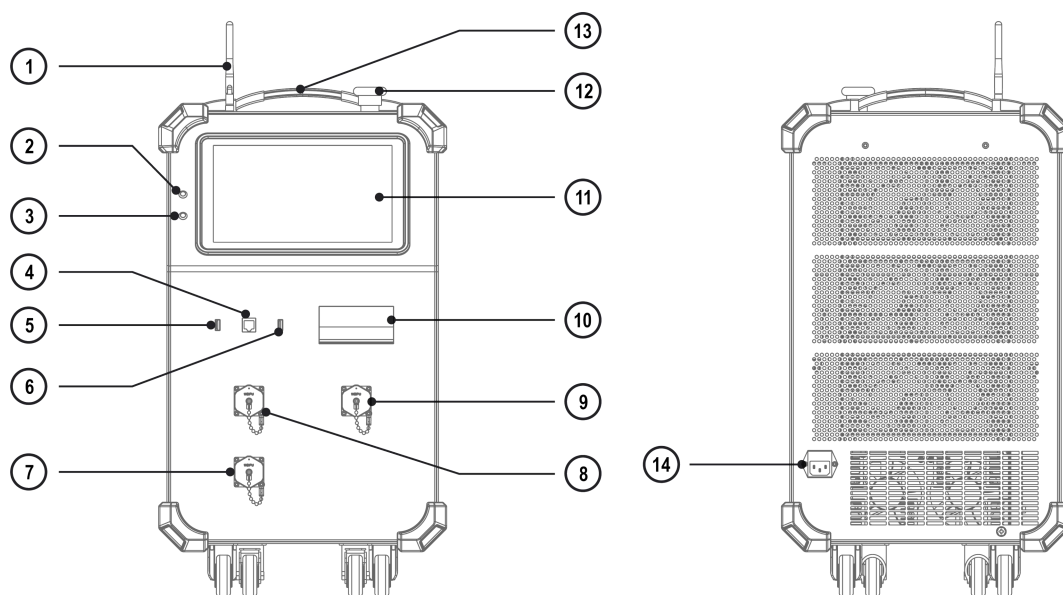
## 1. Precautions for Safe Use

- (1) Follow the relevant requirements in the user manual to operate the device.
- (2) When operating the device, please take insulation protection measures and wear dry and clean insulating gloves.
- (3) In case of abnormality, please disconnect the device's working power supply and test cable.

## 2. Product Description

EVB648 is a battery module wired equalizer developed by Launch, mainly used to balance the voltage between cells of new energy vehicle battery packs with excessive voltage difference, so as to improve the battery performance and extend its service life. This product mainly achieves independent balancing control for each connected battery cell, using low voltage and low current, and accurately configuring the connected battery cells to the same voltage level according to the voltage target set by the user.

### 2.1 Functional Description

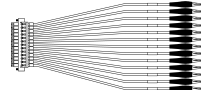


| No. | Name            | Description                                                                                                                                                                                                                                                                                             |
|-----|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Antenna         | Used to communication and networking.                                                                                                                                                                                                                                                                   |
| 2   | Power indicator | The red light will be on after turning on the device.                                                                                                                                                                                                                                                   |
| 3   | RUN             | Run indicator: <ul style="list-style-type: none"> <li>The green light remains on indicating that the device is connected to battery and in standby mode.</li> <li>Green light flashing indicates that the device is working.</li> <li>Red light flashing indicates device alarm/malfunction.</li> </ul> |
| 4   | CAN/RS485       | Used for communication.                                                                                                                                                                                                                                                                                 |

|    |                          |                                                                                                                                                                                                                                                                           |
|----|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5  | OTG                      | Used for data transmission.                                                                                                                                                                                                                                               |
| 6  | HOST                     | Used for data transmission.                                                                                                                                                                                                                                               |
| 7  | TEMP                     | Used to connect the temperature bus-harness.                                                                                                                                                                                                                              |
| 8  | VOLTAGE #1               | Channel 1 used to connect the voltage bus-harness.                                                                                                                                                                                                                        |
| 9  | VOLTAGE #2               | Channel 2 used to connect the voltage bus-harness.                                                                                                                                                                                                                        |
| 10 | AC input circuit breaker | Turn on/off the AC input.                                                                                                                                                                                                                                                 |
| 11 | Screen                   | 10.1-inch touch screen.                                                                                                                                                                                                                                                   |
| 12 | Emergency stop switch    | Used to cut off the power supply of the device in an emergency and stop the device immediately.<br>After pressing this emergency stop switch button, the emergency stop switch must be turned to the right to reset it before the AC circuit breaker can be closed again. |
| 13 | Handle                   | Easy to carry device.                                                                                                                                                                                                                                                     |
| 14 | Power socket             | Power input.                                                                                                                                                                                                                                                              |

## 2.2 Accessories Introduction

The following accessories are for reference only. For product configuration details, please consult from the local distributor or check the packing list supplied with this device together.

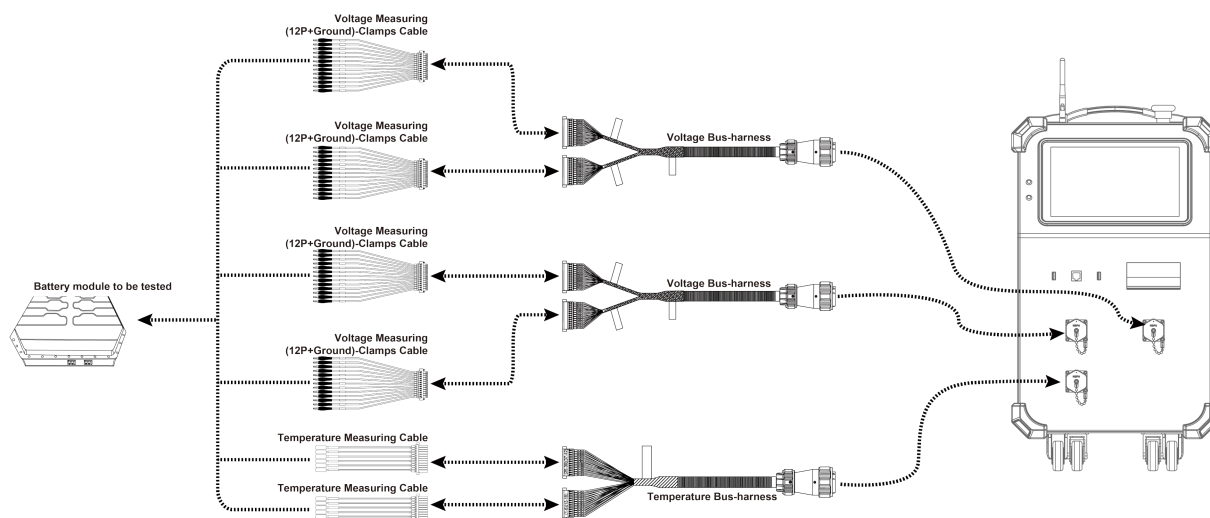
| No. | Name                                              | QTY | Reference Picture                                                                     |
|-----|---------------------------------------------------|-----|---------------------------------------------------------------------------------------|
| 1   | AC Power Cord (250V 10A)<br>(Include UK/US/EU/AU) | 1   |  |
| 2   | Voltage Bus-harness                               | 2   |  |
| 3   | Voltage Measuring<br>(12P+Ground)-Clamps Cable    | 4   |  |
| 4   | Temperature Bus-harness                           | 1   |  |
| 5   | Temperature Measuring Cable                       | 2   |  |
| 6   | User Manual                                       | 1   | -                                                                                     |
| 7   | Packing List                                      | 1   | -                                                                                     |

## 2.3 Technical Features

| Function Parameter                     |                                                                                                                                                                                                                                                         |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                                  | EVB648                                                                                                                                                                                                                                                  |
| Power input                            | AC 90~264V                                                                                                                                                                                                                                              |
| Discharge & charge voltage range       | 1.8~4.5V                                                                                                                                                                                                                                                |
| Voltage measurement accuracy           | $\pm(0.1\%FS\pm2mV)$                                                                                                                                                                                                                                    |
| Discharge & charge current range       | 0.1 ~ 5A                                                                                                                                                                                                                                                |
| Current measurement accuracy           | $\pm(1\%FS\pm0.05A)$                                                                                                                                                                                                                                    |
| Battery temperature detection accuracy | $\pm2^{\circ}C$ ( $-25^{\circ}C \sim 85^{\circ}C$ ) Charge and discharge temperature range is settable                                                                                                                                                  |
| Max pack quantity in single unit       | Up to 4 battery packs, with a maximum of 12 cells per pack                                                                                                                                                                                              |
| Discharge & charge power               | 1200W Max                                                                                                                                                                                                                                               |
| Voltage port                           | 26Pin*2                                                                                                                                                                                                                                                 |
| Temp port                              | 24Pin                                                                                                                                                                                                                                                   |
| Display                                | 10.1-inch TFT LCD screen, resolution 1280*800                                                                                                                                                                                                           |
| PC data communication                  | TCP/IP, USB-Device                                                                                                                                                                                                                                      |
| Wireless communication                 | Wi-Fi, BT                                                                                                                                                                                                                                               |
| Data storage mode                      | Internal storage of device or data transfer to USB flash drive                                                                                                                                                                                          |
| Charge mode                            | Constant current charging + constant voltage charging                                                                                                                                                                                                   |
| Discharge mode                         | CC+CA                                                                                                                                                                                                                                                   |
| Protection mechanism                   | Overcharge and over-discharge protection<br>Overvoltage, overcurrent, overtemperature protection<br>Battery short connection, reverse connection protection<br>Abnormal protection against power cord and main cable failure<br>Fan abnormal protection |
| Safety Testing                         |                                                                                                                                                                                                                                                         |
| Breaking down test                     | AC input-metal shell: 2200Vdc 1min                                                                                                                                                                                                                      |
|                                        | DC input-metal shell: 2200Vdc 1min                                                                                                                                                                                                                      |
| Working Environment                    |                                                                                                                                                                                                                                                         |
| Cooling                                | Forced air cooling                                                                                                                                                                                                                                      |
| Working temperature                    | $-5^{\circ}C \sim 45^{\circ}C$                                                                                                                                                                                                                          |
| Working humidity                       | 5% ~ 93%                                                                                                                                                                                                                                                |
| Dimension                              |                                                                                                                                                                                                                                                         |
| Dimension                              | 616.5 x 349.0 x 518.3 mm                                                                                                                                                                                                                                |

### 3. Operating Instructions

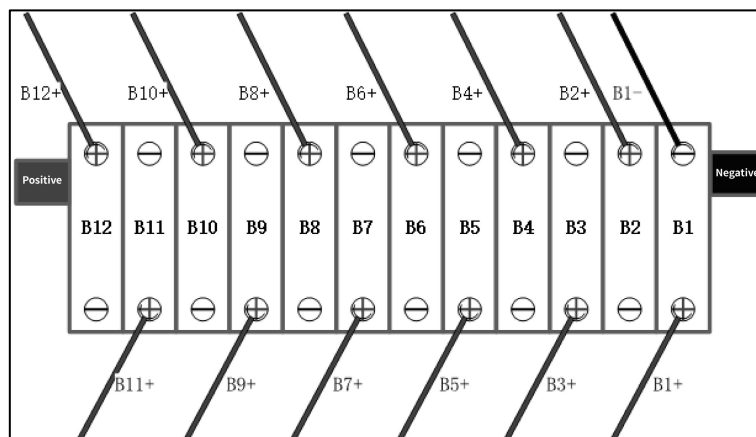
#### 3.1 Device Connection



- 1) First, connect the voltage bus-harness to the voltage #1 or voltage #2 terminals of the device, and then connect the voltage bus-harness and the voltage measuring (12P+Ground)-clamps cable by plugging them together; connect the temperature bus-harness to the TEMP terminal of the device, and then connect the temperature bus-harness to the temperature measuring cable.

*Note: Please make sure to turn off the power of the device before connecting the voltage bus-harness to avoid damage to the device.*

- 2) Connect the clamp end of the voltage measuring (12P+Ground)-clamps cable to the tested battery module.



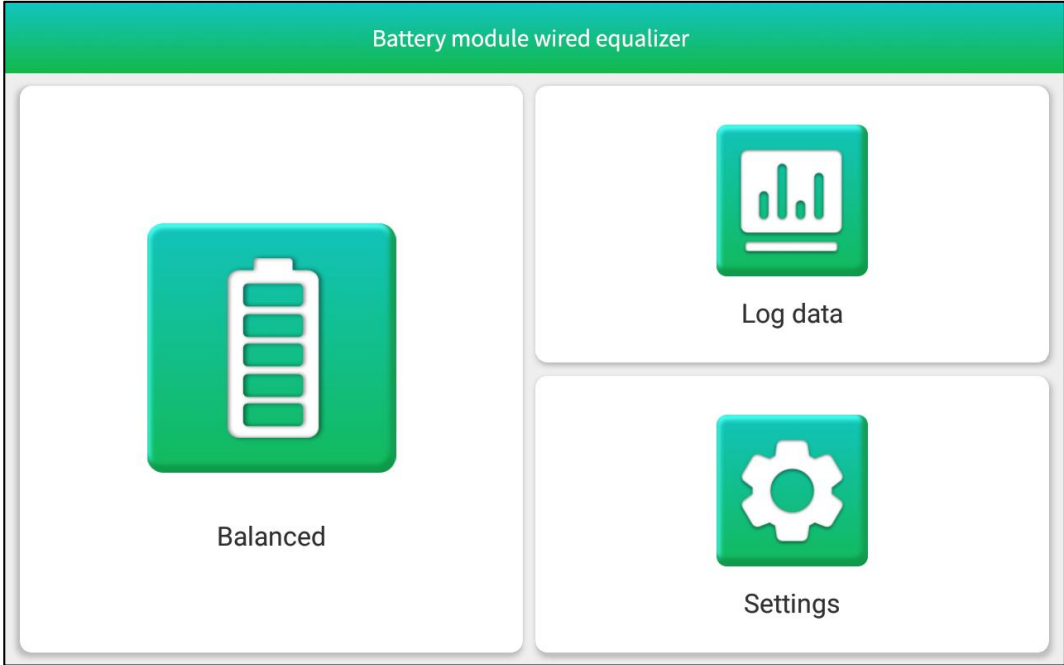
According to the wire label on the voltage measuring (12P+Ground)-clamps cable, B1 - is connected to the negative electrode of No. 1 cell (B1), B1 + is connected to the positive electrode of No. 1 single cell (B1), B2 + is connected to the positive electrode of No. 2 single cell (B2), and connected in sequence.

*Note: The nearest to the negative terminal of the battery module is the No. 1 battery cell.*

- 3) Connect the the probe end of the temperature measuring cable to the tested battery module.
- 4) Connect the provided power cord (include UK/US/EU/AU, choose the appropriate plug according to the region of use) to the power socket of the device and connect the other end to the power supply.

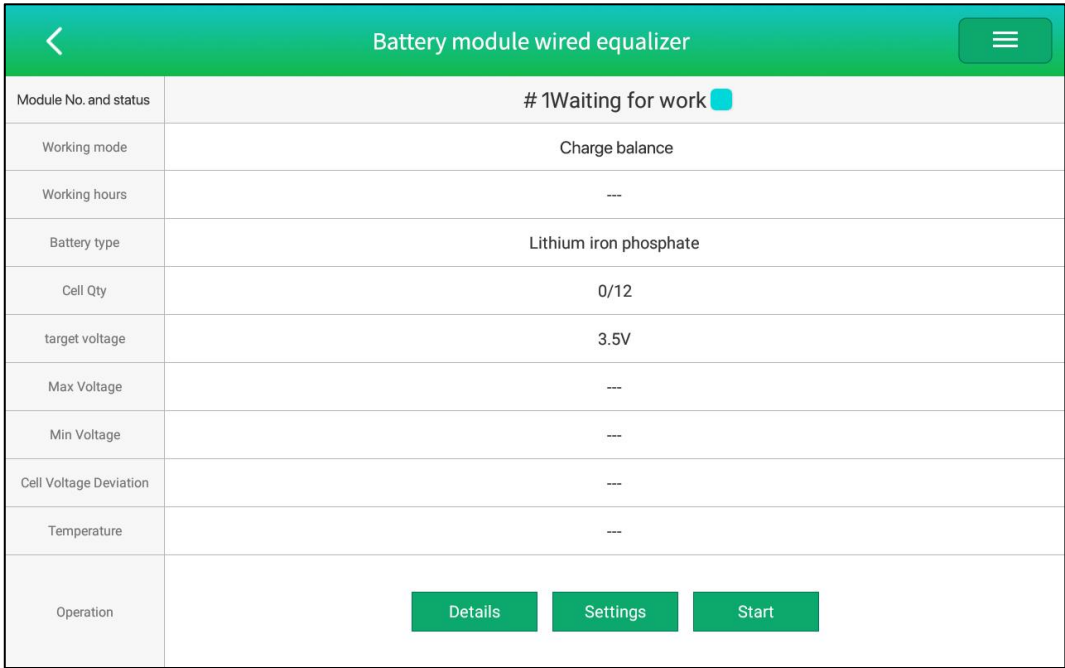
3.2 Main Menu

After the device is connected, close the AC input circuit breaker to turn on the device.  
The screen enters into the main menu. Click the function modules on the main menu to enter the corresponding function operation interface.



3.3 Balanced

Tap **Balanced** on the main interface to enter the following interface.



3.3.1 Equalization Function Settings

Tap  button in the upper right corner and select the option to be set in the expanded list, including **Cell quantity adjustment**, **Data storage interval**, **Battery protection temperature** and **Status color**

settings.

### 3.3.1.1 Cell Quantity Adjustment

Used to adjust the quantity of cells in the battery pack group.

The screenshot shows the 'Equalization function settings' interface. On the left is a sidebar with four menu items: 'Cell quantity adjustment' (selected), 'Data storage interval', 'Battery protection temperature', and 'Status color settings'. The main area displays three radio button options for cell quantity adjustment: '1 group, each group has 48 cells' (which is selected and has a green checkmark), '2 group, each group has 24 cells', and '4 group, each group has 12 cells'. A 'save' button is located at the bottom right of the screen.

### 3.3.1.2 Data Storage Interval

Used to set the data saving interval time of discharge, charge and equalization.

The screenshot shows the 'Equalization function settings' interface with the 'Data storage interval' option selected in the sidebar. The main area contains three dropdown menus for setting data storage intervals: 'Discharge data storage interval' (set to 30 sec), 'Charge data storage interval' (set to 30 sec), and 'Equalization data storage interval' (set to 30 sec). A 'save' button is located at the bottom right of the screen.

### 3.3.1.3 Battery Protection Temperature

Used to set the upper and lower limits of temperature protection for different types of lithium battery packs and equalizers. If the battery temperature exceeds the set range during the use of the device, it will stop working and pop up an alarm message.

*Warning: Setting these parameters may affect the stability of the equalizer. Please be careful when*

setting these parameters!

<

Equalization function settings

Cell quantity adjustment

Data storage interval

Battery protection temperature

Status color settings

10

10°C

10°C

10°C

<

Lithium iron battery temperature

<

70°C

<

Ternary lithium battery temperature

<

70°C

<

Lithium titanate battery temperature

<

70°C

<

Lithium manganate battery temperature

<

70°C

Heat sink max temperature

<

85°C

save

3.3.1.4 Status Color Settings

Used to set the display color of the equalizer in various working status.

<

Equalization function settings

Cell quantity adjustment

Data storage interval

Battery protection temperature

Status color settings

Unconnected

Equalizing

Discharging completed

Charging

Waiting for work

Equalizing completed

Discharging

Charging completed

Red

Green

Purple

Orange

Cyan

Grey

Yellow

Blue

save

3.3.2 Parameter Description

The equalizer can maintain up to 4 battery packs (with 12 cells in each pack) at a time. After powering on, if the battery pack is correctly connected, the current status will be displayed after the battery pack number. If the battery pack is not connected or there is a connection failure, the status is displayed as: **unconnected**.

7

| Battery module wired equalizer |                                                                                                       |
|--------------------------------|-------------------------------------------------------------------------------------------------------|
| Module No. and status          | # 1Waiting for work  |
| Working mode                   | Charge balance                                                                                        |
| Working hours                  | 00:00:26                                                                                              |
| Battery type                   | Lithium iron phosphate                                                                                |
| Cell Qty                       | 0/12                                                                                                  |
| target voltage                 | 2.8V                                                                                                  |
| Max Voltage                    | 3.314V                                                                                                |
| Min Voltage                    | 3.312V                                                                                                |
| Cell Voltage Deviation         | 0.002V                                                                                                |
| Temperature                    | --                                                                                                    |
| Operation                      | <div> <div>Details</div> <div>Settings</div> <div>Start</div> </div>                                  |

| Parameter                     | Parameter description                                                                                                                                                                                                                                          |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Module No. and status</b>  | Display the battery pack number and the status of the battery pack.                                                                                                                                                                                            |
| <b>Working mode</b>           | Discharge balance, charge balance, discharge and charge balance.                                                                                                                                                                                               |
| <b>Work hours</b>             | Work time since test started.                                                                                                                                                                                                                                  |
| <b>Battery type</b>           | The type of lithium battery pack.                                                                                                                                                                                                                              |
| <b>Cell Qty</b>               | Cell quantity in a battery pack.                                                                                                                                                                                                                               |
| <b>Target voltage</b>         | Cell balance target voltage value.                                                                                                                                                                                                                             |
| <b>Max voltage</b>            | The max voltage in all cells.                                                                                                                                                                                                                                  |
| <b>Min voltage</b>            | The min voltage in all cells.                                                                                                                                                                                                                                  |
| <b>Cell voltage deviation</b> | The voltage deviation between the highest and lowest cell voltages.                                                                                                                                                                                            |
| <b>Temperature</b>            | Max temperature measured in battery pack.                                                                                                                                                                                                                      |
| <b>Operation</b>              | <ul style="list-style-type: none"> <li>• <b>Start/stop:</b> Start/stop the working procedures.</li> <li>• <b>Details:</b> Check the specific test data of the battery cells under test.</li> <li>• <b>Settings:</b> Set the battery pack parameter.</li> </ul> |

### 3.3.3 Battery Pack Settings

The equalizer can maintain up to 4 battery packs (with 12 cells in each pack) at a time (depending on the number of cells connected).

- 1) Click **Settings** button below the corresponding battery pack to enter the setting interface for the battery pack.

| Parameter                      | Parameter description                                                                                                                                                                                   |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Module No.</b>              | Enter the battery pack number or corresponding work tag information to name it.                                                                                                                         |
| <b>Working mode</b>            | Click the drop-down menu and select the corresponding work mode (charge balance, discharge balance, charge and discharge balance).                                                                      |
| <b>Battery type</b>            | Select the battery type according to the battery pack to be tested, supporting lithium iron phosphate batteries, ternary lithium batteries, lithium titanate batteries and lithium manganate batteries. |
| <b>Test battery</b>            | Select all or part of the battery cells for testing.                                                                                                                                                    |
| <b>Target voltage</b>          | Cell balance target voltage value.                                                                                                                                                                      |
| <b>Working current</b>         | Set the maximum current limit for different working states of the device                                                                                                                                |
| <b>Number of battery cells</b> | Click the drop-down menu and select the corresponding quantity based on the tested battery pack.                                                                                                        |

- 2) After setting the parameters, click  to save the changes, and then click  button to return to the balance interface.

### 3.3.4 Start the Balance

- 1) Click **Start** button below the battery pack to start balancing. During working process, clicking **Stop** can end the working process. During the balancing process, real-time maintenance progress can be viewed and maintenance results can be awaited.

*Note: After starting the balancing, clicking the **Settings** button will only allow you to view the set parameters. The parameters cannot be changed during the balancing process!*

| Battery module wired equalizer |                                                                                                       |
|--------------------------------|-------------------------------------------------------------------------------------------------------|
| Module No. and status          | # 1Waiting for work  |
| Working mode                   | Charge balance                                                                                        |
| Working hours                  | 00:00:26                                                                                              |
| Battery type                   | Lithium iron phosphate                                                                                |
| Cell Qty                       | 0/12                                                                                                  |
| target voltage                 | 2.8V                                                                                                  |
| Max Voltage                    | 3.314V                                                                                                |
| Min Voltage                    | 3.312V                                                                                                |
| Cell Voltage Deviation         | 0.002V                                                                                                |
| Temperature                    | --                                                                                                    |
| Operation                      | <div>Details</div> <div>Settings</div> <div>Start</div>                                               |

- 2) Click **Details** to view parameters such as cell voltage, current, status and capacity of the corresponding test battery pack.

| Battery module wired equalizer |                                                                                                         |           |           |           |             |
|--------------------------------|---------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|-------------|
| Module No. and status          | # 1Waiting for work  |           |           |           |             |
| Working mode                   | No.                                                                                                     | Voltage.V | Current.A | Status    | Capacity.AH |
| Working hours                  | # 1                                                                                                     | 3.313     | 0.000     | Connected | 0.000       |
| Battery type                   | # 2                                                                                                     | 3.313     | 0.000     | Connected | 0.000       |
| Cell Qty                       | # 3                                                                                                     | 3.312     | 0.000     | Connected | 0.000       |
| target voltage                 | # 4                                                                                                     | 3.314     | 0.000     | Connected | 0.000       |
| Max Voltage                    | # 5                                                                                                     | 3.313     | 0.000     | Connected | 0.000       |
| Min Voltage                    | # 6                                                                                                     | 3.312     | 0.000     | Connected | 0.000       |
| Cell Voltage Deviation         | # 7                                                                                                     | 3.312     | 0.000     | Connected | 0.000       |
| Temperature                    | # 8                                                                                                     | 3.313     | 0.000     | Connected | 0.000       |
|                                | # 9                                                                                                     | 3.314     | 0.000     | Connected | 0.000       |
|                                | # 10                                                                                                    | 3.312     | 0.000     | Connected | 0.000       |
|                                | # 11                                                                                                    | 3.313     | 0.000     | Connected | 0.000       |
|                                | # 12                                                                                                    | 3.313     | 0.000     | Connected | 0.000       |
| Operation                      |                                                                                                         |           |           |           |             |
|                                |                                                                                                         |           |           |           |             |
|                                |                                                                                                         |           |           |           |             |

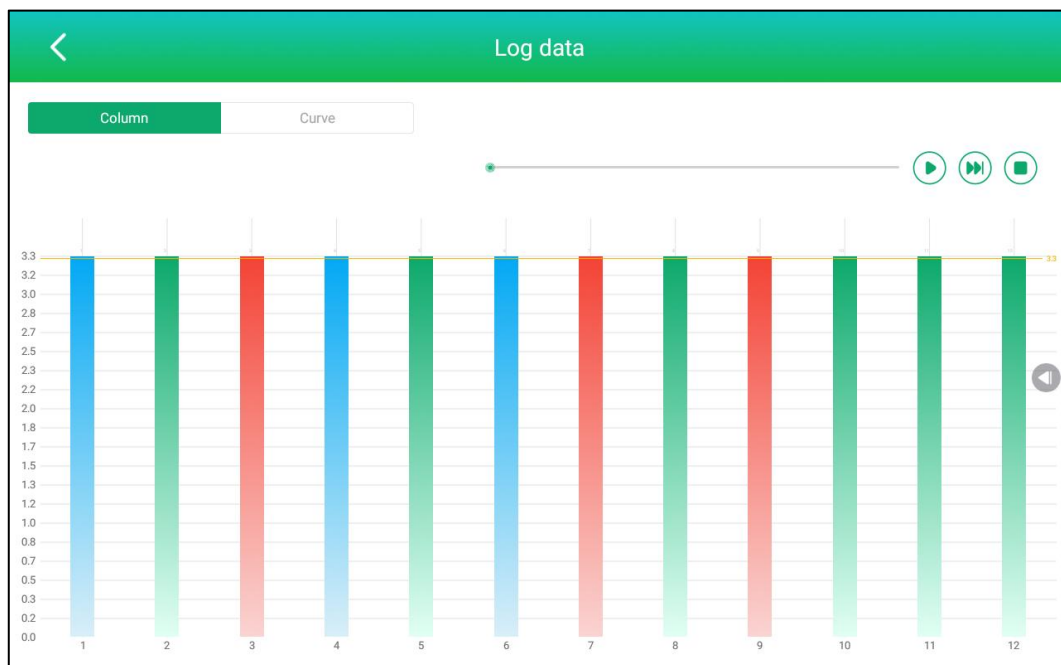
- 3) Click **Stop** to end the current balancing process.

### 3.4 Log Data

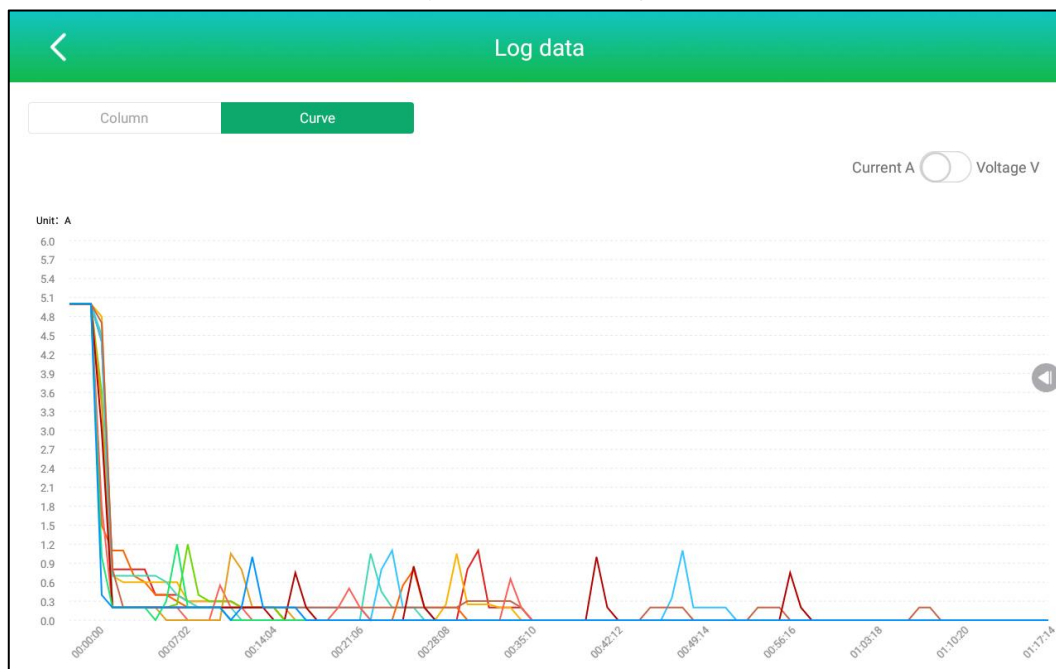
- 1) Click **Log data** on the main interface to enter the log data interface, where you can view and manage all saved balance data.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                         |                         |                    |                         |                            |                            |              |                         |                    |                         |                            |                 |                        |                         |       |                |       |            |                     |           |                     |               |          |       |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------|--------------------|-------------------------|----------------------------|----------------------------|--------------|-------------------------|--------------------|-------------------------|----------------------------|-----------------|------------------------|-------------------------|-------|----------------|-------|------------|---------------------|-----------|---------------------|---------------|----------|-------|---|
| <div><div>&lt;</div><div>Log data</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                         |                         |                    |                         |                            |                            |              |                         |                    |                         |                            |                 |                        |                         |       |                |       |            |                     |           |                     |               |          |       |   |
| <div><div>Please enter log name</div><div><div></div><div></div></div></div> <div><div>1.20241127155359-#1junheng</div><div>2.20241127155111-#1junheng</div><div>3.20241127155041-#1junheng</div><div>4.20241127153834-#1junheng</div><div>5.20241127141155-#1junheng</div><div>6.20241127112215-#1junheng</div><div>7.20241127095042-#1junheng</div><div>8.20241126171938-#1junheng</div><div>9.20241126170255-#1junheng</div><div>10.20241126163918-#1junhe...</div><div>11.20241126102738-#1junhe...</div><div>12.20241126101304-#1junhe...</div><div>13.20241126101000-#1junhe...</div><div>14.20241126100834-#1junhe...</div></div> <div>20 records in total</div> | <div>Battery pack basic information</div> <table><tr><td>Battery pack serial number</td><td>1</td><td>Module No.</td><td>#1junheng</td><td>Working mode</td><td>Charge equalization</td></tr><tr><td>Battery type</td><td>Lithium iron phosphate</td><td>Number of battery cells</td><td>12</td><td>Target voltage</td><td>3.5</td></tr><tr><td>Start time</td><td>2024/11/27 15:53:59</td><td>Stop time</td><td>2024/11/27 15:54:30</td><td>Test duration</td><td>00:00:31</td></tr></table> |                         |                         |                    |                         |                            | Battery pack serial number | 1            | Module No.              | #1junheng          | Working mode            | Charge equalization        | Battery type    | Lithium iron phosphate | Number of battery cells | 12    | Target voltage | 3.5   | Start time | 2024/11/27 15:53:59 | Stop time | 2024/11/27 15:54:30 | Test duration | 00:00:31 |       |   |
| Battery pack serial number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Module No.              | #1junheng               | Working mode       | Charge equalization     |                            |                            |              |                         |                    |                         |                            |                 |                        |                         |       |                |       |            |                     |           |                     |               |          |       |   |
| Battery type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Lithium iron phosphate                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Number of battery cells | 12                      | Target voltage     | 3.5                     |                            |                            |              |                         |                    |                         |                            |                 |                        |                         |       |                |       |            |                     |           |                     |               |          |       |   |
| Start time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2024/11/27 15:53:59                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Stop time               | 2024/11/27 15:54:30     | Test duration      | 00:00:31                |                            |                            |              |                         |                    |                         |                            |                 |                        |                         |       |                |       |            |                     |           |                     |               |          |       |   |
| <div>Test data</div> <table><tr><td></td><td>Max cell (V)</td><td>Min cell (V)</td><td>Cell dropout voltage(V)</td><td>Average voltage(V)</td><td>Average temperature(°C)</td><td>Temperature difference(°C)</td></tr><tr><td>Before the test</td><td>3.313</td><td>3.310</td><td>0.003</td><td>3.311</td><td>127.5</td><td>0.6</td></tr><tr><td>After the test</td><td>3.313</td><td>3.310</td><td>0.003</td><td>3.311</td><td>127.5</td><td>-</td></tr></table>                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                         |                         |                    |                         |                            | Max cell (V)               | Min cell (V) | Cell dropout voltage(V) | Average voltage(V) | Average temperature(°C) | Temperature difference(°C) | Before the test | 3.313                  | 3.310                   | 0.003 | 3.311          | 127.5 | 0.6        | After the test      | 3.313     | 3.310               | 0.003         | 3.311    | 127.5 | - |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Max cell (V)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Min cell (V)            | Cell dropout voltage(V) | Average voltage(V) | Average temperature(°C) | Temperature difference(°C) |                            |              |                         |                    |                         |                            |                 |                        |                         |       |                |       |            |                     |           |                     |               |          |       |   |
| Before the test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.313                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.310                   | 0.003                   | 3.311              | 127.5                   | 0.6                        |                            |              |                         |                    |                         |                            |                 |                        |                         |       |                |       |            |                     |           |                     |               |          |       |   |
| After the test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3.313                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.310                   | 0.003                   | 3.311              | 127.5                   | -                          |                            |              |                         |                    |                         |                            |                 |                        |                         |       |                |       |            |                     |           |                     |               |          |       |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Edit                    |                         | View details       |                         |                            |                            |              |                         |                    |                         |                            |                 |                        |                         |       |                |       |            |                     |           |                     |               |          |       |   |

- 2) Select a single data of the list and then click **View details** button and you can check the balancing data details displayed in column chart. Click  button to review the data during the balancing process.
- Click  button and select some or all of the battery cells in the list on the right to view their corresponding data charts.



Clicking **Curve** button can switch the display mode to curve graph.



### 3.5 Settings

Click **Settings** on the main interface to enter the system settings interface, which includes Language, Wi-Fi, Device upgrade, Development and maintenance and About.

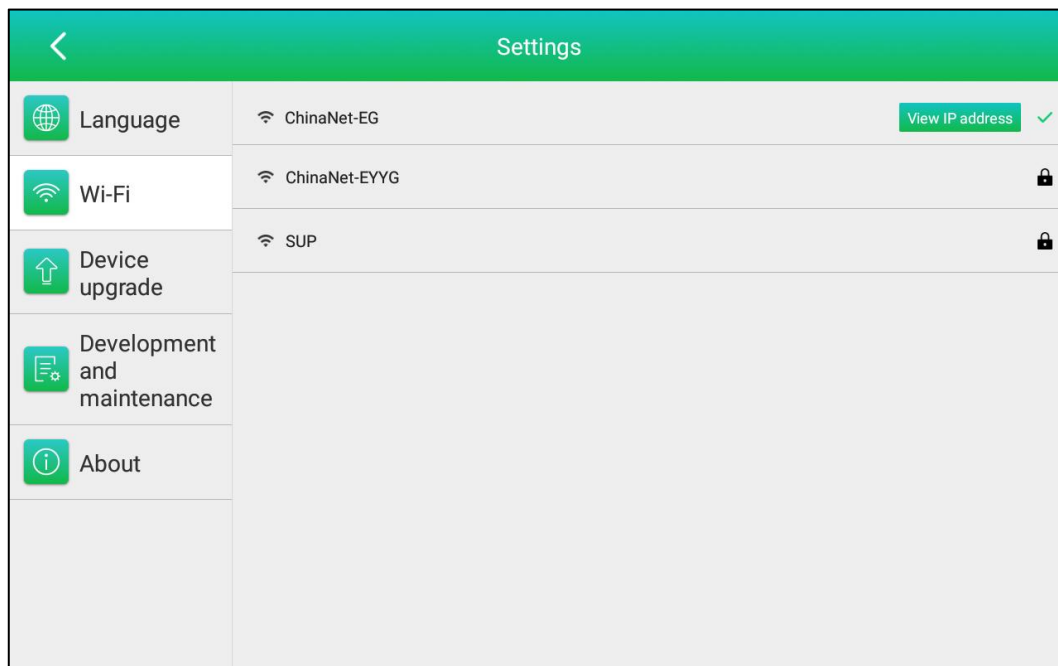
#### 3.5.1 Language

Used to change the system language.



### 3.5.2 Wi-Fi

Used to connect the Wi-Fi networks.



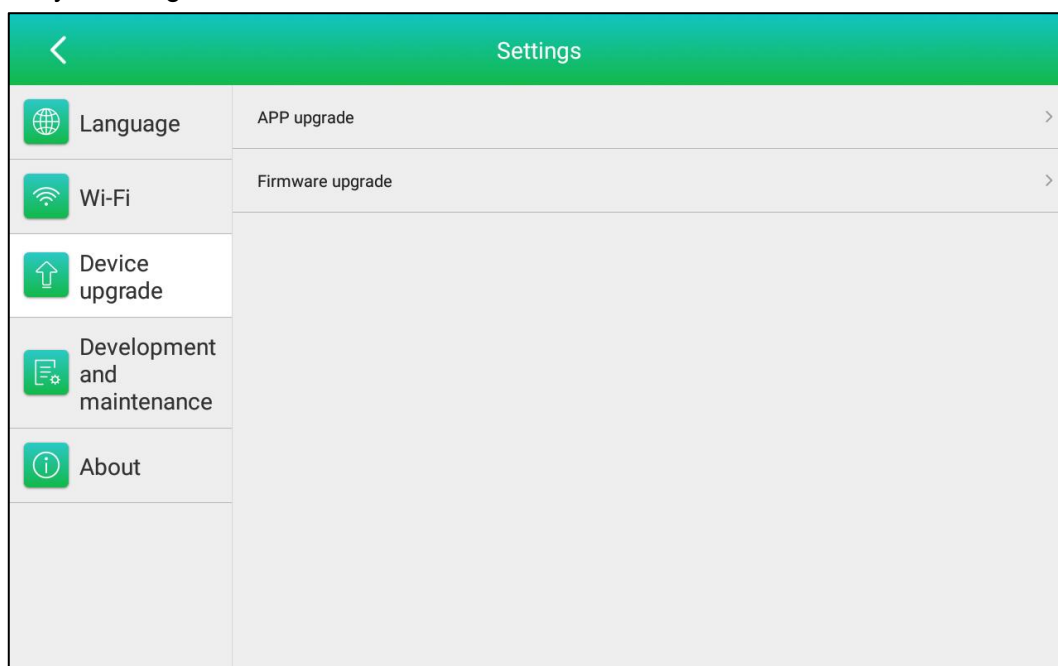
### 3.5.3 Device Upgrade

Used for device upgrade, including App upgrade and Firmware upgrade.

- 1) Click **APP upgrade**. If a higher version is available, the system will download and install the latest version APP. You can also use local upgrade by inserting a USB stick with new version APP.

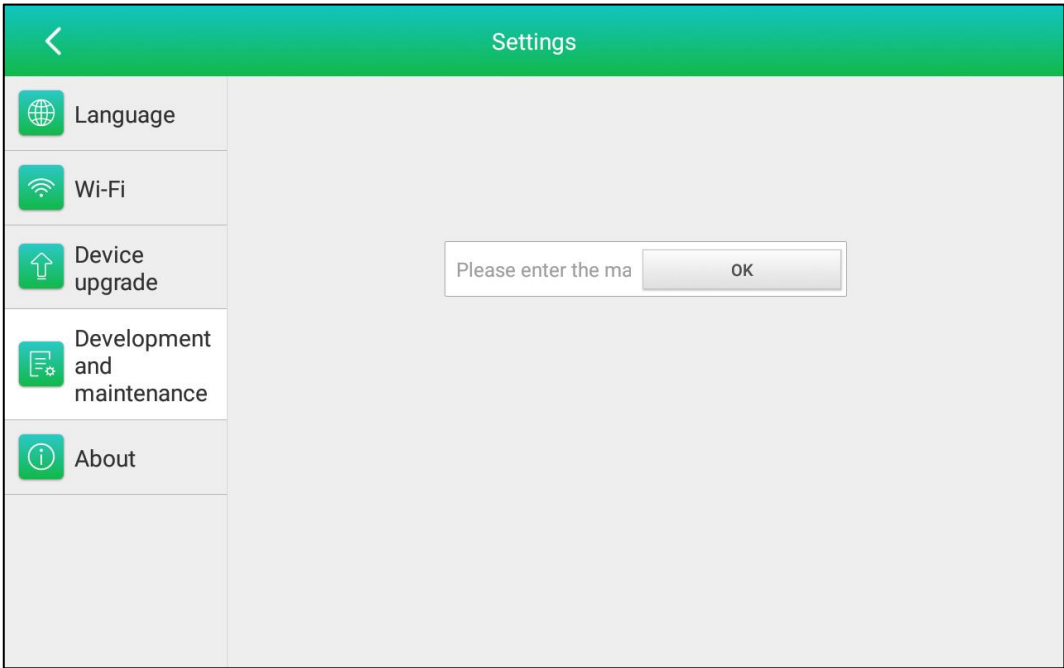
*Note: For online upgrade, you need to connect to Wi-Fi first; to ensure the upgrade goes smoothly, make sure the network is stable during the download and upgrade process.*

- 2) Click **Firmware upgrade** to upgrade the firmware to latest version online. You can also use local upgrade by inserting a USB stick with new version firmware.



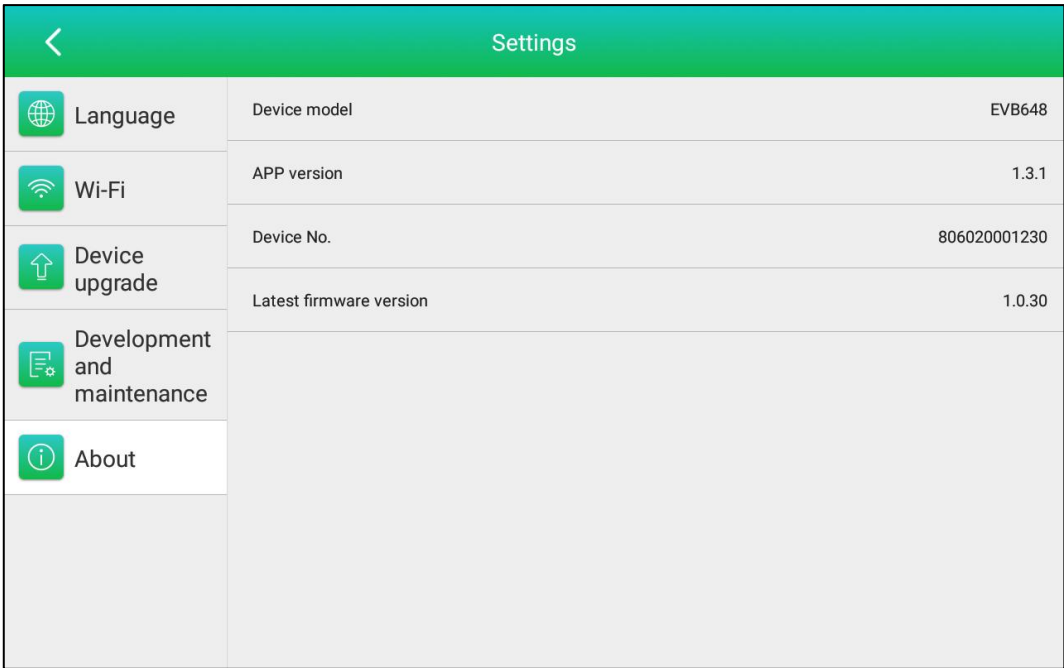
3.5.4 Development and Maintenance

This function is only for development and maintenance.



3.5.5 About

Used to view device model, APP version, device serial number, latest firmware version, etc.



Compliance Information:

FCC ID: XUJEVB648

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 B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

#### RF Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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 1 year 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.

**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 send email to [overseas.service@cnlaunch.com](mailto: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:**

Customer Service Center of LAUNCH TECH CO., LTD.

No.4012, Launch Industrial Park, North Wuhe Rd, Bantian Street, Longgang District, Shenzhen, China,  
Zip Code: 518129

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

**Statement:**

LAUNCH reserves the rights to make any change to product designs and specifications without notice.

The product interface may differ from what is displayed in the manual. Please refer to the actual product for accuracy. We have tried our best to make the descriptions and illustrations in the manual as accurate as possible, and defects are inevitable. If you have any question, please contact local distributor or after-sale service center of LAUNCH. LAUNCH does not bear any responsibility arising from misunderstandings.