

## Warranty

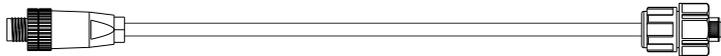
The product is covered by a 2-year warranty starting from the date of purchase.

The manufacturer does not provide warranty coverage under the following conditions:

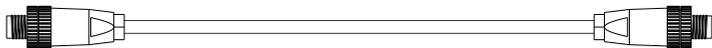
1	The product is used beyond the specifications outlined in the product documentation, or damage resulting from prolonged exposure to improper environments such as direct sunlight, extreme cold, chemical corrosion, etc.
2	Damage caused by human activities, including disassembly, physical impact, dropping, scratching by hard objects, or other manual mishandling.
3	Inability to provide proof of purchase or if the product has exceeded the warranty period.

### Display screen accessories

1#Line---Cable between NMEA2000 battery and display (optional)



6#Line---Cable between E-series battery and display (optional)



7#Line---Display Power cable



## LILEAD Battery Display User Manual



This manual is applicable to L7N and L7E display

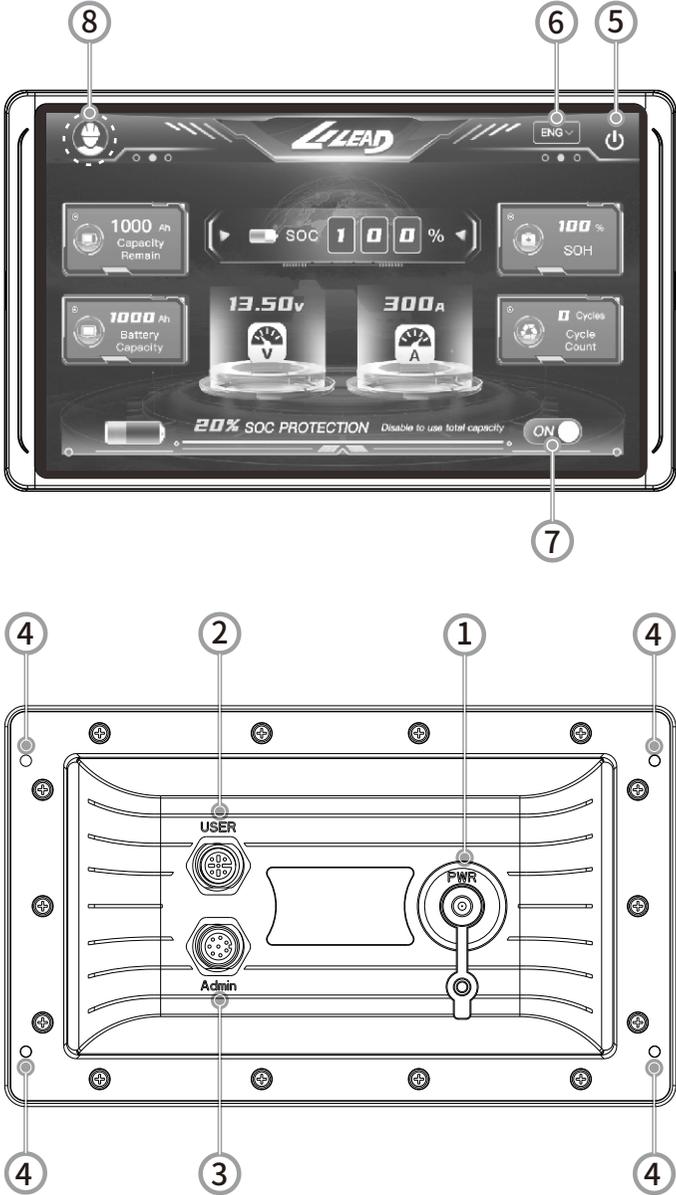
Please make sure to read this manual thoroughly before installation.

# Catalogue

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## L7N Display Diagram

NMEA battery display is applicable to battery model S220PRO,S24110PRO,S3665PRO.

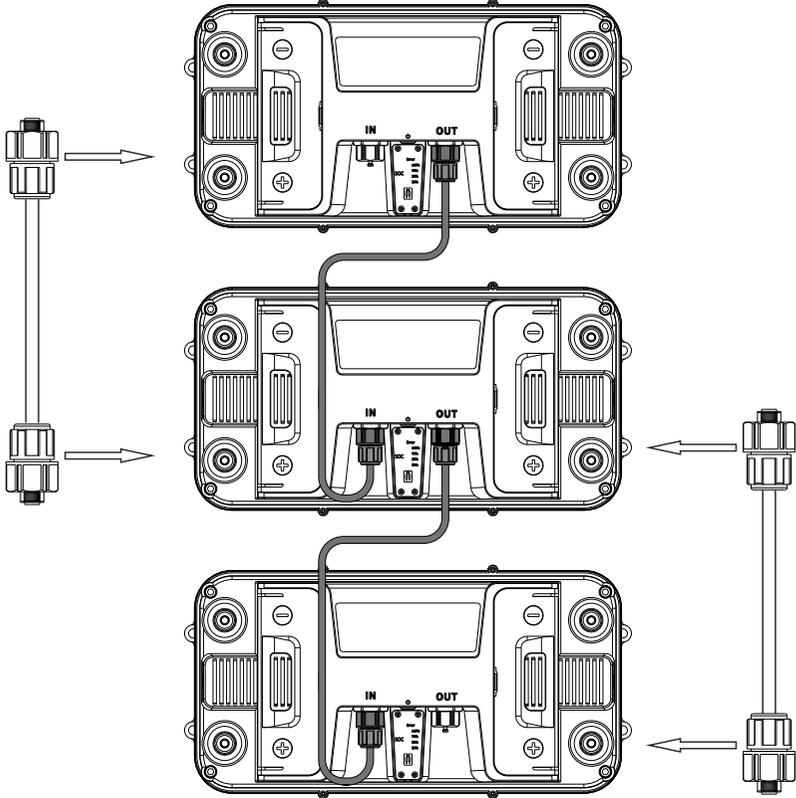


### Connection Steps between L7N display and NMEA2000 Battery

No.	Description
1	<p>Power Interface (PWR) Function: Display power input port. The display must be connected to a power source to operate.</p> <p>Features: Supports wide voltage input (10V-57.6V) and can be directly powered by 12V, 24V, 36V, or 48V battery systems.</p> <p>The screen cannot be turned off manually once powered on. It automatically enters sleep mode after 3 minutes of inactivity and wakes up with a touch anywhere on the screen.</p>
2	<p>User Interface (USER) Function: Standard communication interface.</p> <p>Use: Connects to the battery to enable data communication between the display and the battery packs.</p>
3	<p>Admin Debug Interface (Admin) Function: Administrative debugging communication interface.</p> <p>Use: Dedicated interface for manufacturer debugging, writing, and configuring device communication protocols.</p>
4	<p>Mounting Screw Holes Function: fixing points for device installation</p> <p>Use: Securely mount the display onto the operating surface using screws to ensure stable operation.</p>
5	<p>Power Switch (Touch Icon) Function: Power on/off control.</p> <p>Use: Remotely controls the power switch for S24110PRO and S3665PRO battery models.</p>
6	<p>Language Switch (ENG Icon) Function: Display language switching.</p> <p>Supported Languages: Currently supports Chinese and English.</p>
7	<p>20% SOC Lock (ON Touch Switch) Function: 20% emergency power reserve function. Toggle via touch to enable/disable.</p> <p>ON: The battery discharges only up to 80% ,then stop discharging, retaining 20% as emergency power.</p> <p>OFF: The battery discharges 100% of its capacity with no emergency power reserved.</p>
8	<p>Admin Menu (Icon) Function: Access advanced system information.</p> <p>Access Method: Touch the icon and enter the password (888888).</p> <p>Information available:key data like Total battery pack voltage, total capacity, individual cell voltages, historical alarm records,etc.</p>

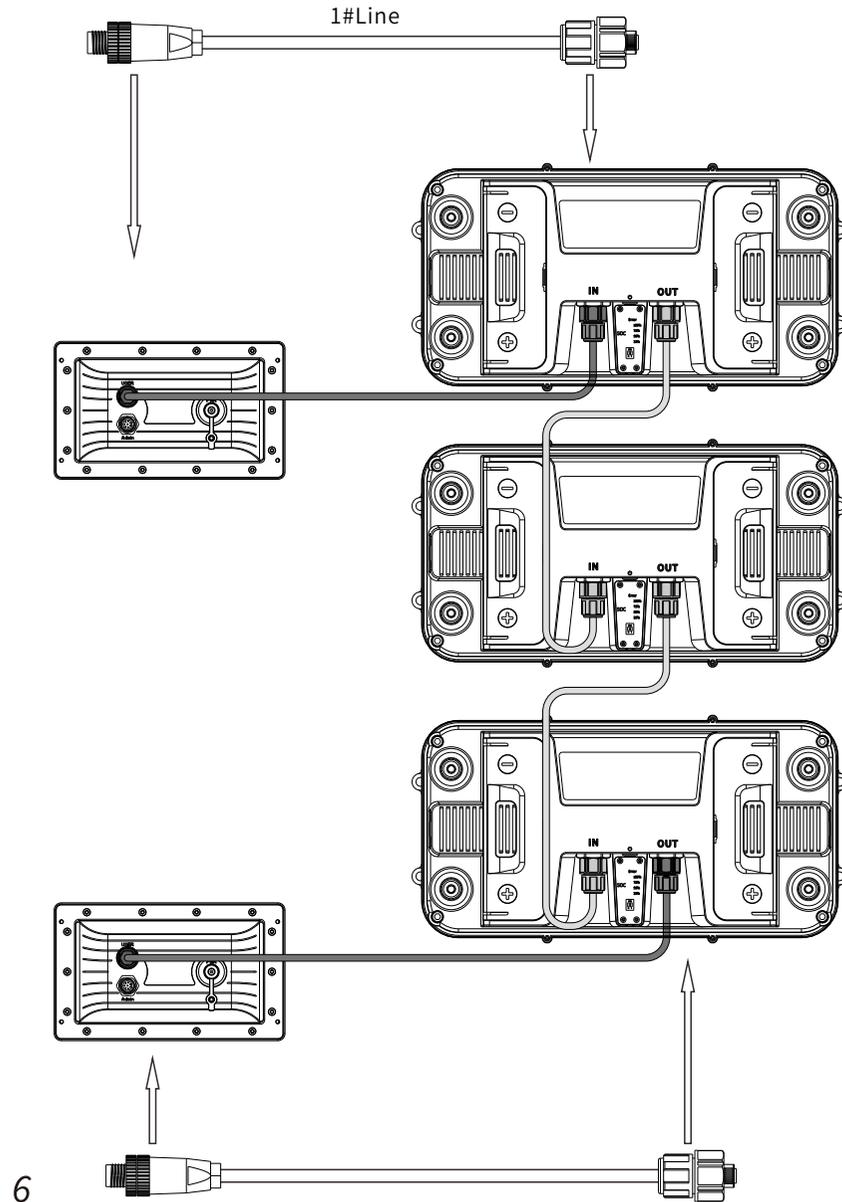
Note: Function (5) Power Switch and (7) 20% SOC Lock are recommended for use only when an external battery is connected to the display. Otherwise, when the battery is turned off, the display will lose power and become unusable.

1 For multiple batteries connected in parallel, first connect the communication cables between the batteries(referring to the connection method in NMEA2000 Standard & ESS Battery User Manual). Skip this step if using a single battery.



## 2 Connect the communication cable

- Connect one end of the communication cable to display's USER interface, and the other to the OUT/IN communication port of the battery.
- When multiple batteries are connected in parallel, the display can be connected to the vacant communication interface of the master or slave battery.



## 3 Connect Power cable to Battery

Connect the O-ring terminal of the wire to the battery (12V-48V). Red wire to positive (+), black wire to negative (-). Tighten the screws securely.

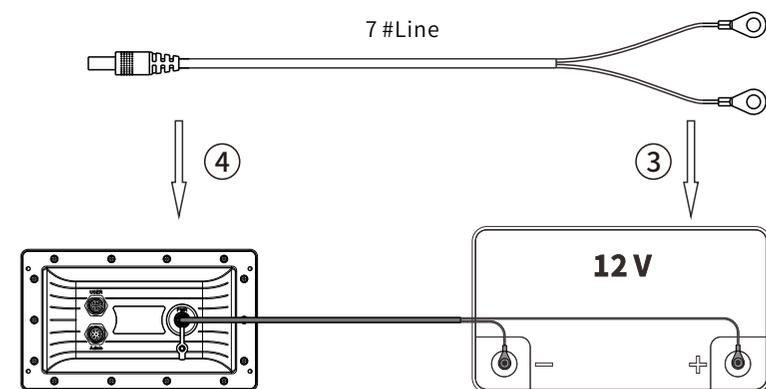
⚠ Attention

If the battery powering the display is turned off, the display will lose power and the ability to control the battery.

Do not reverse positive and negative connections! Reversed polarity may burn out the display control board. Such damage is not covered under warranty.

## 4 Connect Power Cable to Display

After confirming correct installation in Step 3, insert the other end of the power cable into the PWR interface on the display. Once powered on, the screen will light up. Wait 1-2 minutes for the display to show battery information.



## 5 Set Battery Quantity

The default setting is for 1 battery. Manually adjust if multiple batteries are used:

1. Tap the admin icon, enter password 888888 to access the admin interface.



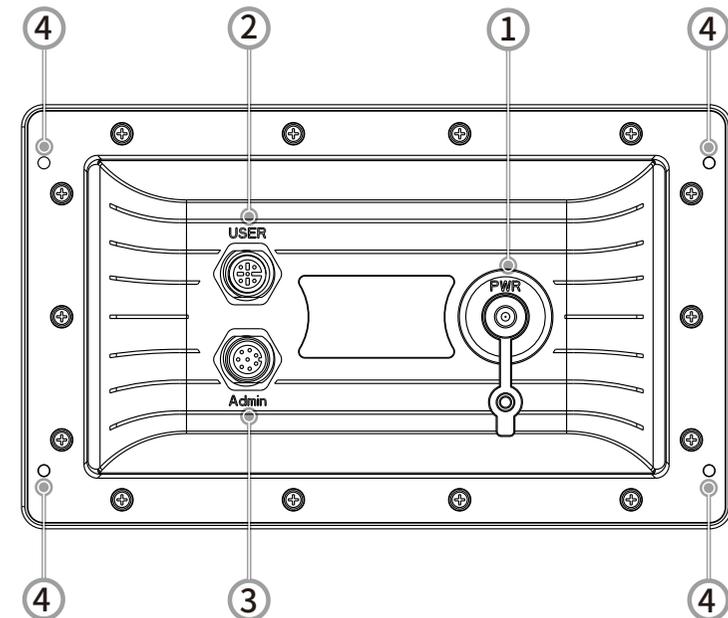
2. Press and hold the settings icon for 3 seconds to enter the battery quantity setup page.



3. Select the actual number of batteries and tap 'Confirm' to complete the setup.  
 If the number of batteries changes, repeat this setup.  
 If the setting does not match the actual quantity, check battery connections and restart. If issues persist, contact your dealer for assistance.

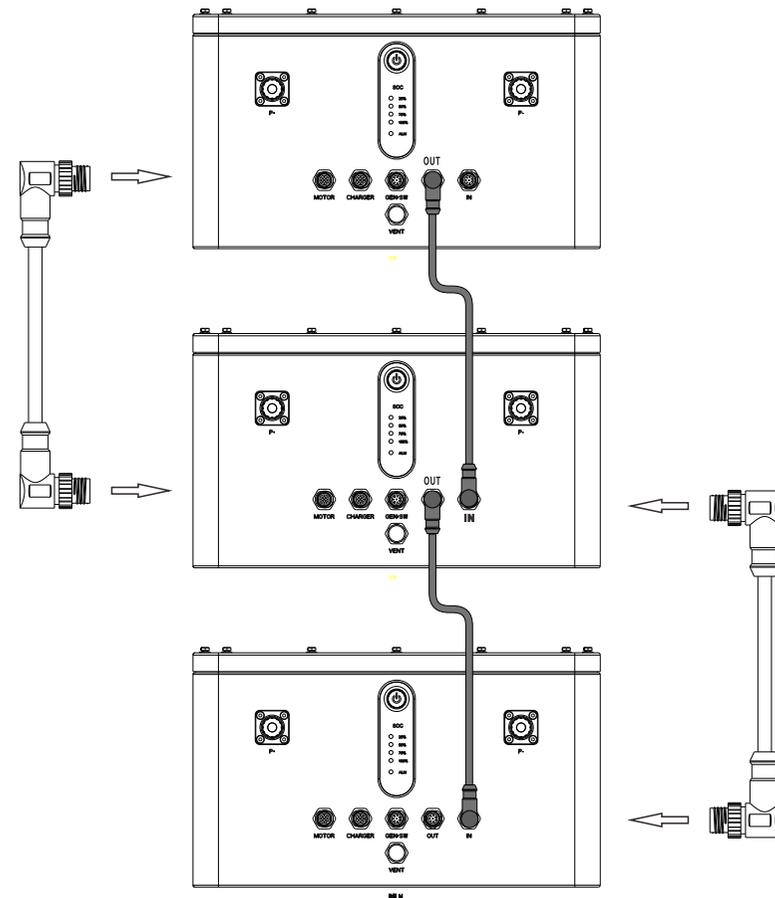


## L7E Display Diagram



## Connection Steps between L7E Display and E Series Battery

- 1 For multiple batteries connected in parallel, first connect the communication cables between the batteries (referring to the connection method in E Series Battery User Manual. Skip this step if using a single battery.

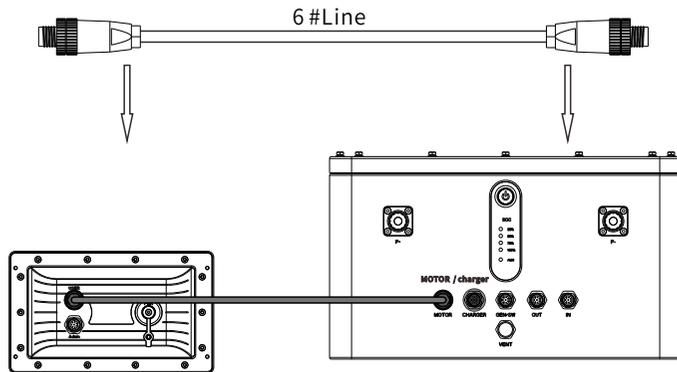


No.	Description
1	<p>Power Interface (PWR)                      Function: Display power input port. The display must be connected to a power source to operate.                      Features: Supports wide voltage input (10V–57.6V) and can be directly powered by 12V, 24V, 36V, or 48V battery systems.                      The screen cannot be turned off manually once powered on. It automatically enters sleep mode after 3 minutes of inactivity and wakes up with a touch anywhere on the screen.</p>
2	<p>User Interface (USER)                      Function: Standard communication interface.                      Use: Connects to the battery to enable data communication between the display and the battery packs.</p>
3	<p>Admin Debug Interface (Admin)                      Function: Administrative debugging communication interface.                      Use: Dedicated interface for manufacturer debugging, writing, and configuring device communication protocols.</p>
4	<p>Mounting Screw Holes                      Function: fixing points for device installation                      Use: Securely mount the display onto the operating surface using screws to ensure stable operation.</p>
5	<p>Language Switch (ENG Icon)                      Function: Display language switching.                      Supported Languages: Currently supports Chinese and English.</p>
6	<p>Admin Menu (Icon)                      Function: Access advanced system information.                      Access Method: Touch the icon and enter the password (888888).                      Information available: key data like Total battery pack voltage, total capacity, individual cell voltages, historical alarm records, etc.</p>

## 2 Connect the communication cable

Connect one end of the communication cable to display's USER interface, and the other to the MOTOR/CHARGER communication port of the battery.

When multiple batteries are connected in parallel, the display will be connected to the vacant MOTOR/CHARGER communication port of the master battery(whose IN port is unoccupied).



## 3 Connect Power cable to Battery

Connect the O-ring terminal of the cable to the battery (12V-48V). Red wire to positive (+), black wire to negative (-). Tighten the screws securely.

### ⚠ Attention

If the battery powering the display is turned off, the display will lose power and the ability to control the battery.

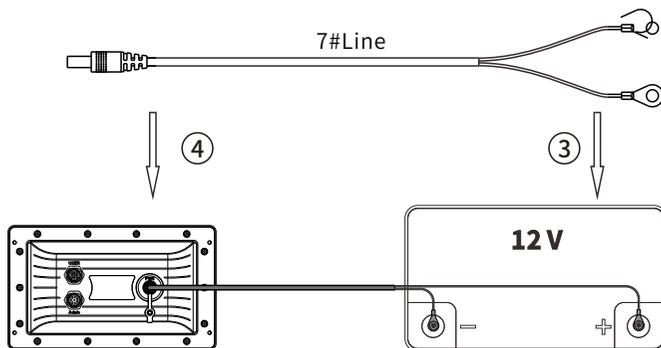
Do not reverse positive and negative connections! Reversed polarity may burn out the display control board. Such damage is not covered under warranty.

## 4 Connect Power Cable to Display

Connect the other end of Power Cable to Display's PWR interface

Once powered on, the screen will light up. Wait 1–2 minutes for the display to show battery information. Connection done.

If the battery number does not match the actual quantity, check battery connections and restart. If issues persist, contact your dealer for assistance.



## Display specification parameters

Items	Specification	Note
input voltage	10V-57.6V	
Screen-On Power Consumption	≤3.5W	
Screen-Off Power Consumption	≤1W	
Display mode	HSD TFT, Transmissive, IPS	-
Dimension	210*124*56.2mm	Note (1)(2)
Active area	154.21(H)x85.92 (V) mm	-
Number of pixels	1024*3RGB(H)x600(V) pixels	-
Pixel arrangement	RGB stripe	-
Display color	16.7M color	-
Viewing direction	ALL O' Clock	-
Input voltage	10V-57.6V	-
Data interface	RGB	
Backlight	3x9 White LEDs In Parallels	
CTP	GT911	Touch Driver IC
	G+FF; (full lamination)	Construction
	1.1 mm	CG (Cover Glass)
	NO AF(Anti-fingerprint)	Surface Preparation
	≥6H	Surface Hardness Note (3)
Operating temperature	-20°C ~ 60°C	Note(4)(6)
Storage temperature	-30°C ~ 65°C	Note(5)(6)
Humidity	90%	Max 60°C
Weight	TBD	
Standard	CE-EMC, RoHS	

### Notes:

(1)CTP, Back-light and PCB unit are included.

(2)FPC no included. (Refer to the module outline dimension for further information). Please see module specification drawing in Page14 for more details.

(3)P: 500 gf, 45 degree

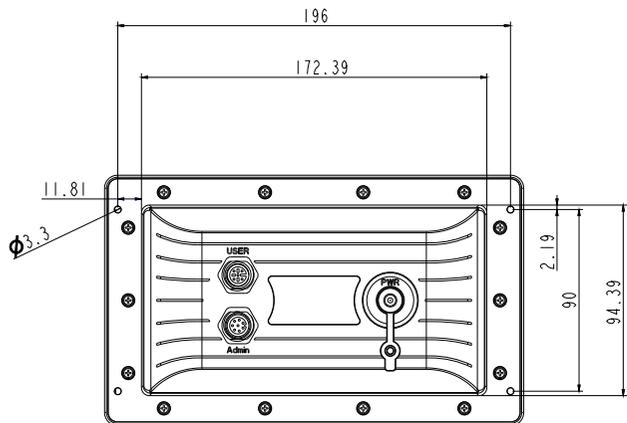
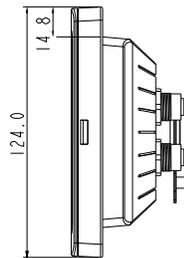
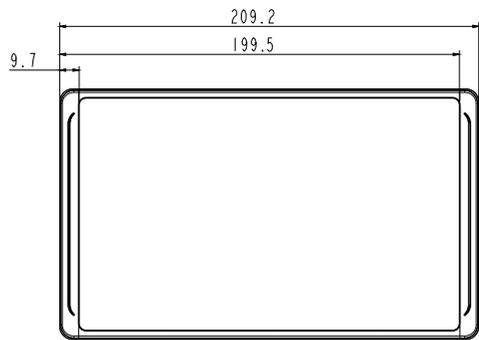
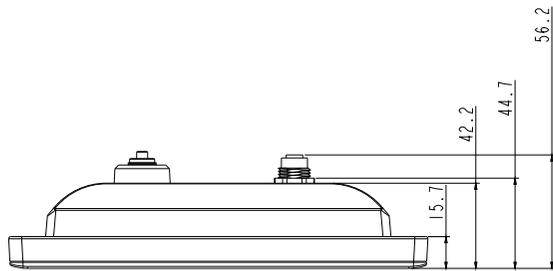
(4)In case of below 0°C, the response time of liquid crystal (LC) becomes slower and the color of panel becomes darker than normal one. Level of retardation depends on temperature, because of the LC characteristics.

(5)If product is exposed to high temperatures for extended time, there is a possibility of the polarizer film damage which could degrade the optical characteristics.

(6)Permanent damage to the device may occur if maximum values are exceeded or reverse voltage is loaded.

Functional operation should be restricted to the conditions described under normal operating conditions.

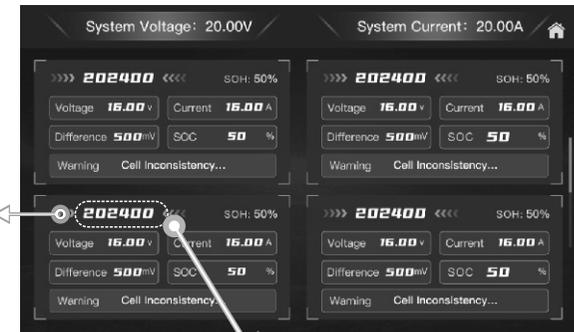
# LILEAD Display Wire-frame



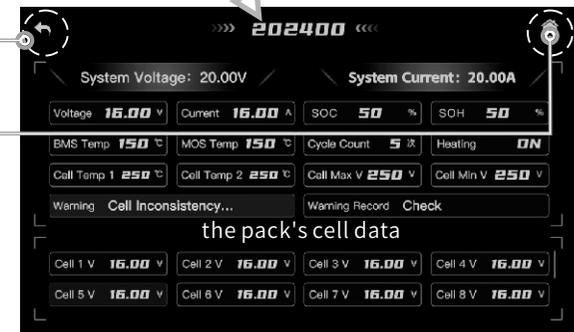
How to Enter Administrator Interface



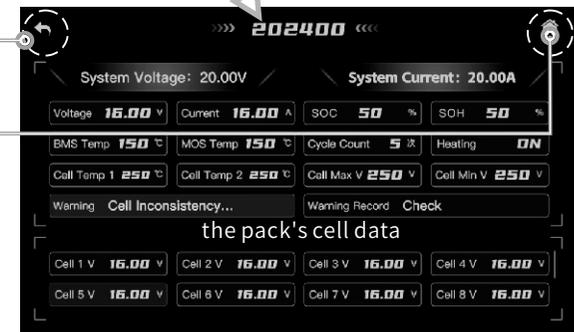
View the data of each cell in each pack



Click to return to the previous interface



Click to return to the User interface



the pack's cell data