Conexpro Battery Monitoring Manual

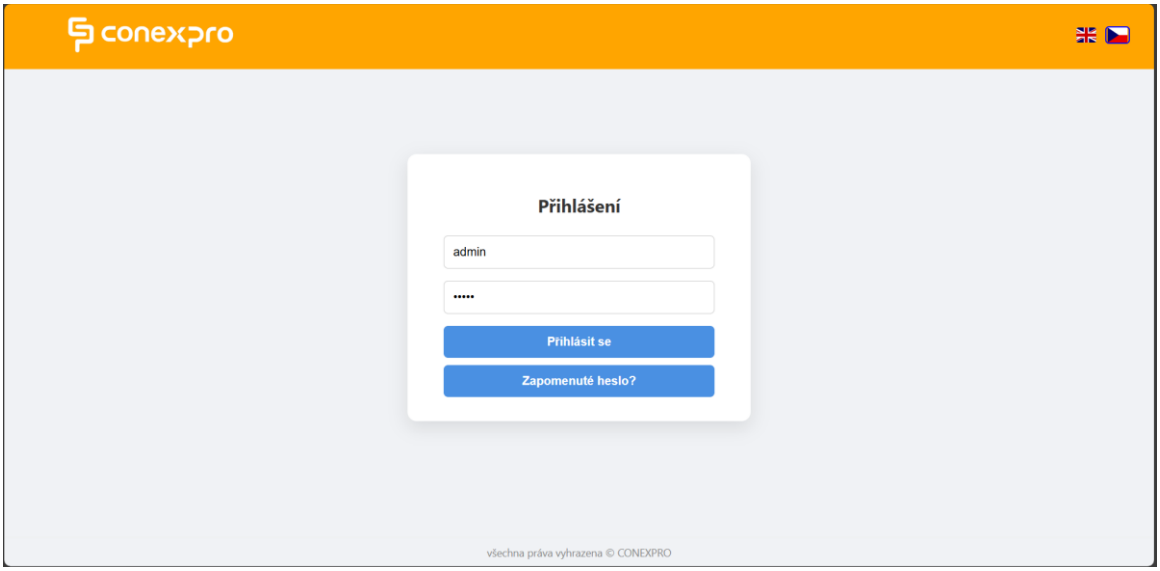
1. Introduction

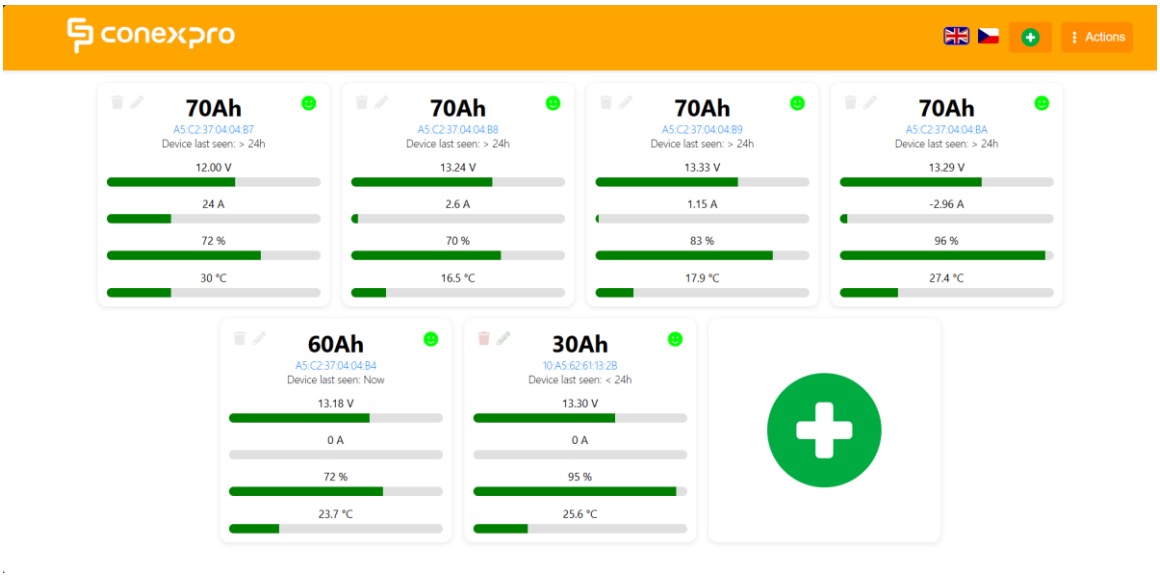
Conexpro Battery Monitoring is a software and hardware solution designed to monitor battery performance and state using a Banana Pi device. This application provides a user-friendly interface to monitor real-time battery data via web interface or snmp, receive alerts, and export relevant metrics.

2. Setup Instructions

1. Connect the Banana Pi to Ethernet and then to a power source.
2. Wait for the device to boot (up to 2 minutes).
3. Open a web browser and connect to the application via: http://<Banana_Pi_IP>:80
4. If prompted, input your license code to activate the application. (located on the back cover of the device or by contacting the supplier Conexpro)
5. Log in using default credentials:
    - Username: admin
    - Password: admin
6. Fill out the information for the first device to be added.
7. The device is now being tracked and receives data updates every 2 minutes. For device detail click on the mac device mac address or name.

3. Using the Web Application

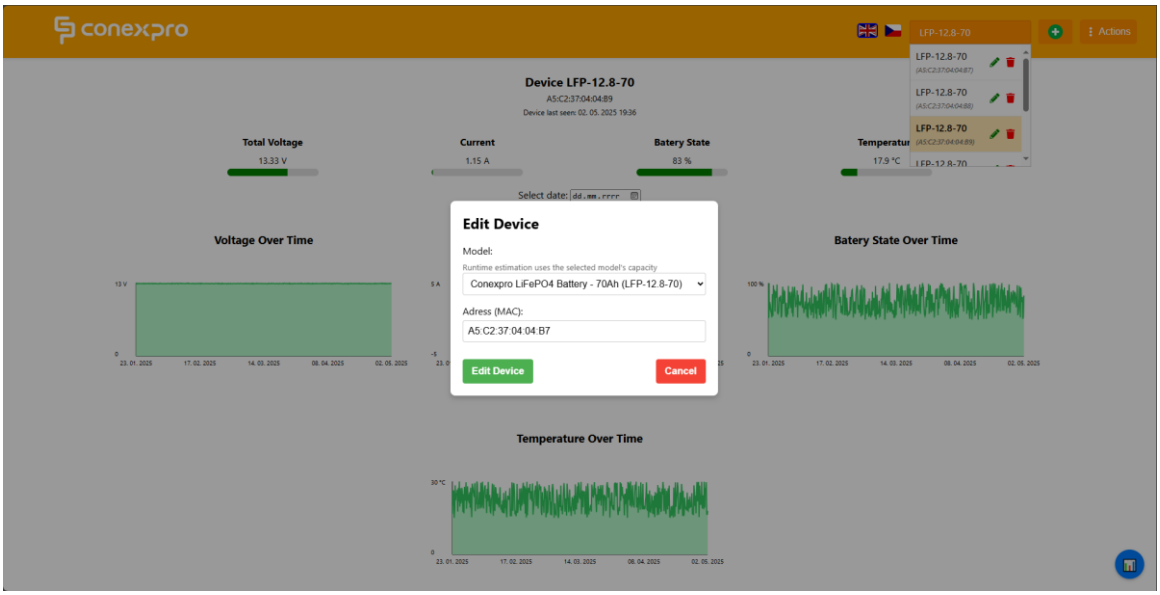



conexpro
Actions
70Ah
A5:C2:37:04:04:B7
Device last seen: > 24h
12.00 V
24 A
72 %
30 °C
70Ah
A5:C2:37:04:04:B8
Device last seen: > 24h
13.24 V
2.6 A
70 %
16.5 °C
70Ah
A5:C2:37:04:04:B9
Device last seen: > 24h
13.33 V
1.15 A
83 %
17.9 °C
70Ah
A5:C2:37:04:04:BA
Device last seen: > 24h
13.29 V
-2.96 A
96 %
27.4 °C
60Ah
A5:C2:37:04:04:B4
Device last seen: Now
13.18 V
0 A
72 %
23.7 °C
30Ah
10:A5:62:61:13:28
Device last seen: < 24h
13.30 V
0 A
95 %
25.6 °C

conexpro
LFP-12.8-70
Actions
Device LFP-12.8-70
A5:C2:37:04:04:B9
Device last seen: 02. 05. 2025 19:36
Total Voltage
13.33 V
Current
1.15 A
Batery State
83 %
Temperature
17.9 °C
Select date: dd.mm.rrrr
Voltage Over Time
Current Over Time
Batery State Over Time
Temperature Over Time
Cell Voltage
3.33 V
Cell 1
3.33 V
Cell 2
3.33 V
Cell 3
3.34 V
Cell 4
All rights reserved © CONEXPRO
Device uptime: 0d 18h 45m 43s

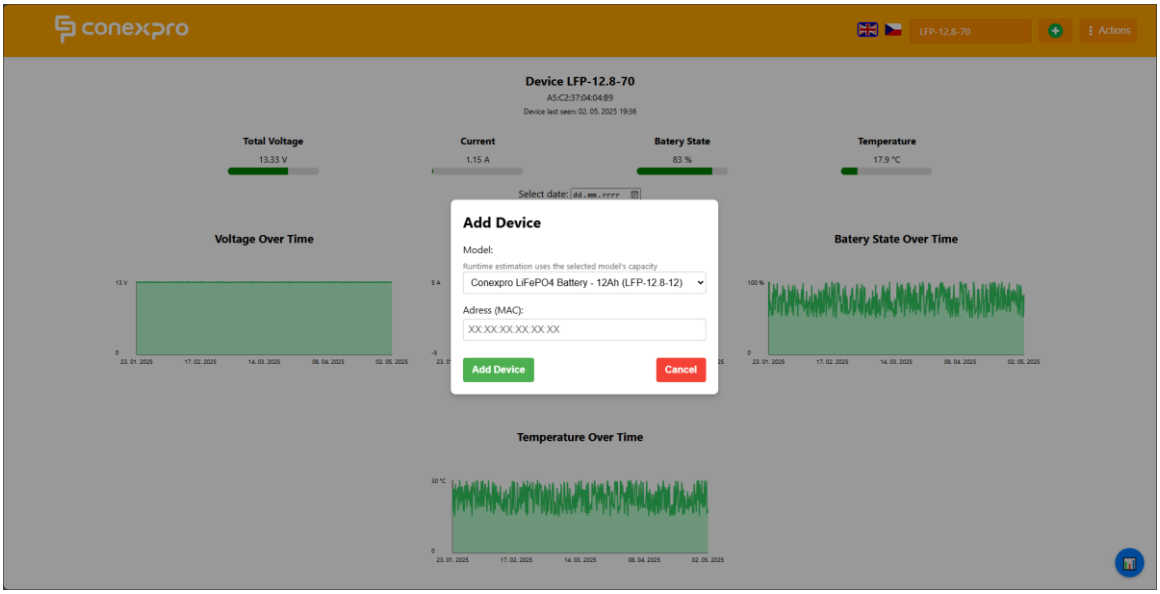
4. Features

1. Edit Device – in the device list/overview, click the pencil icon to edit a device's MAC address or name.

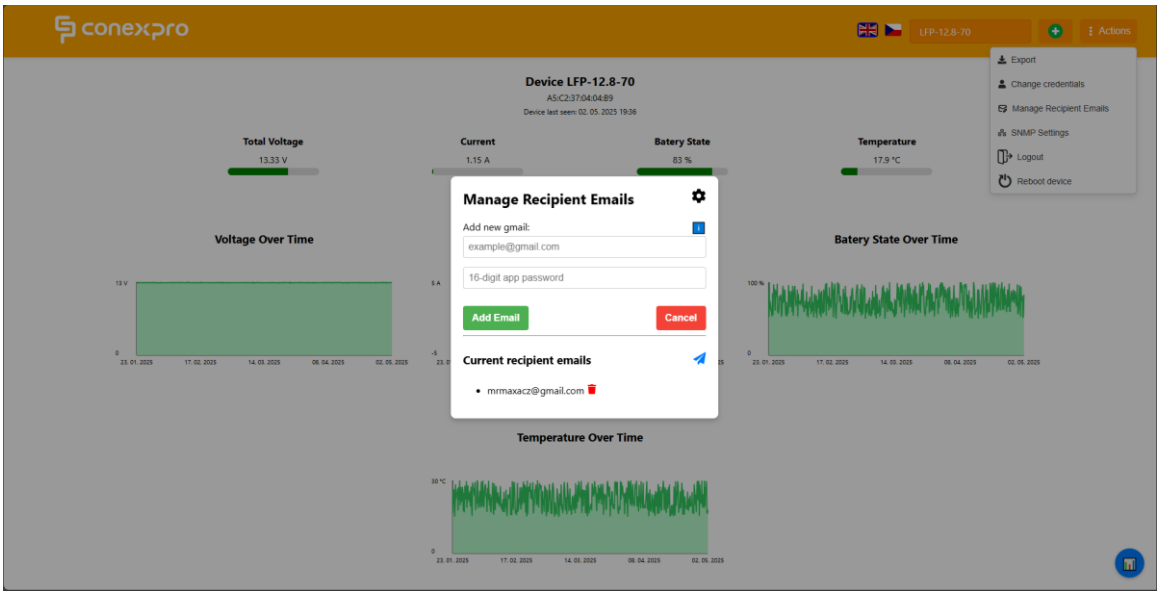


2. Remove Device – in the device list, click the trash can icon to remove a device.

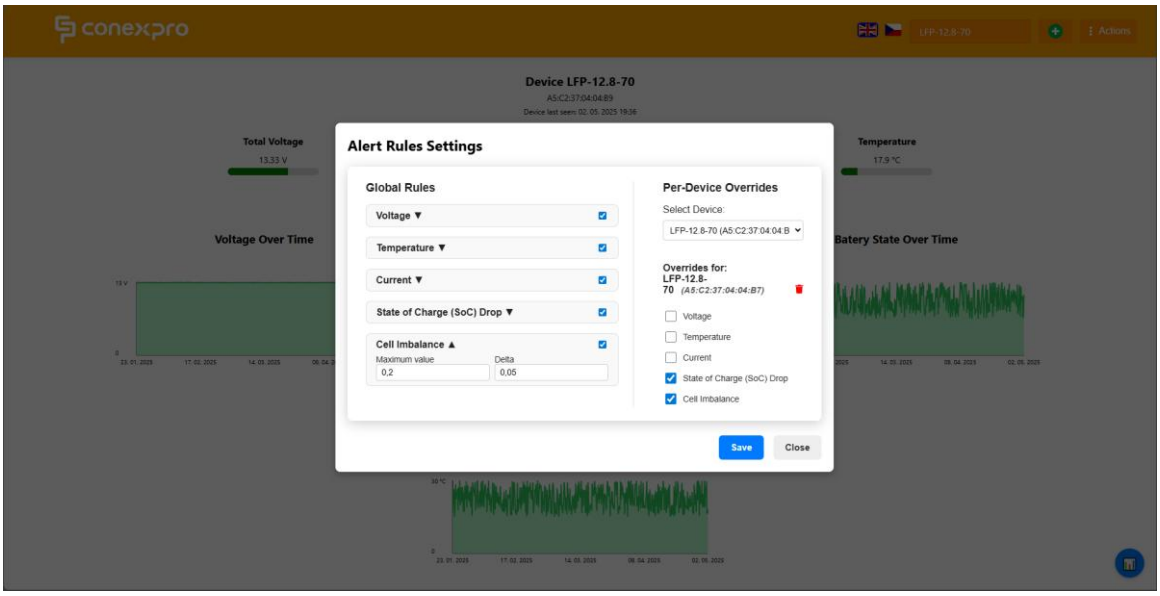
3. Add Device – click the green '+' button next to the device list/in overview to add a new device.



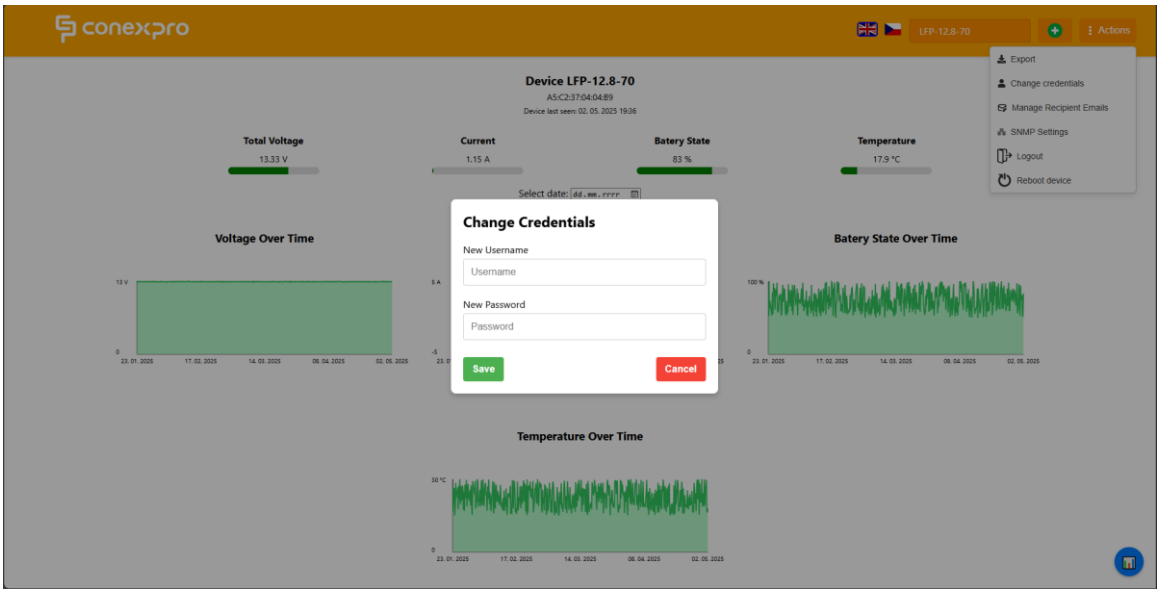
4. Connect to Email – click the envelope icon in actions dropdown menu to manage connected Gmail accounts. Alerts are sent for abnormal battery behavior.



5. Customize Emails – click the cogwheel in the emails modal to manage when data gets sent.



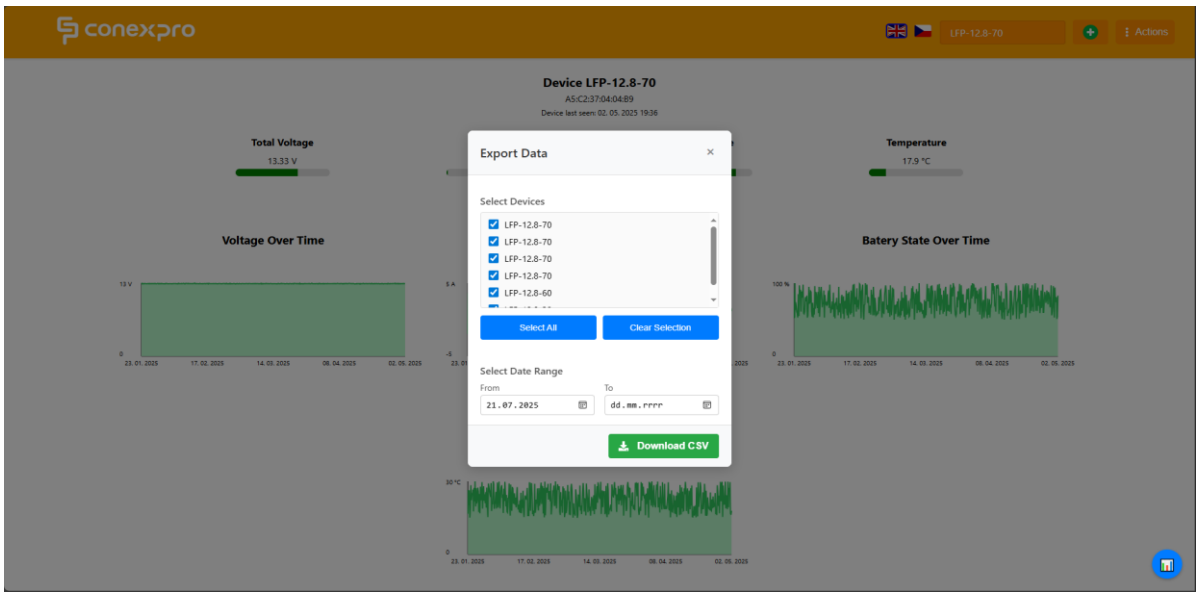
6. Change Credentials – click the 'Change Credentials' button in actions dropdown to update application login credentials.



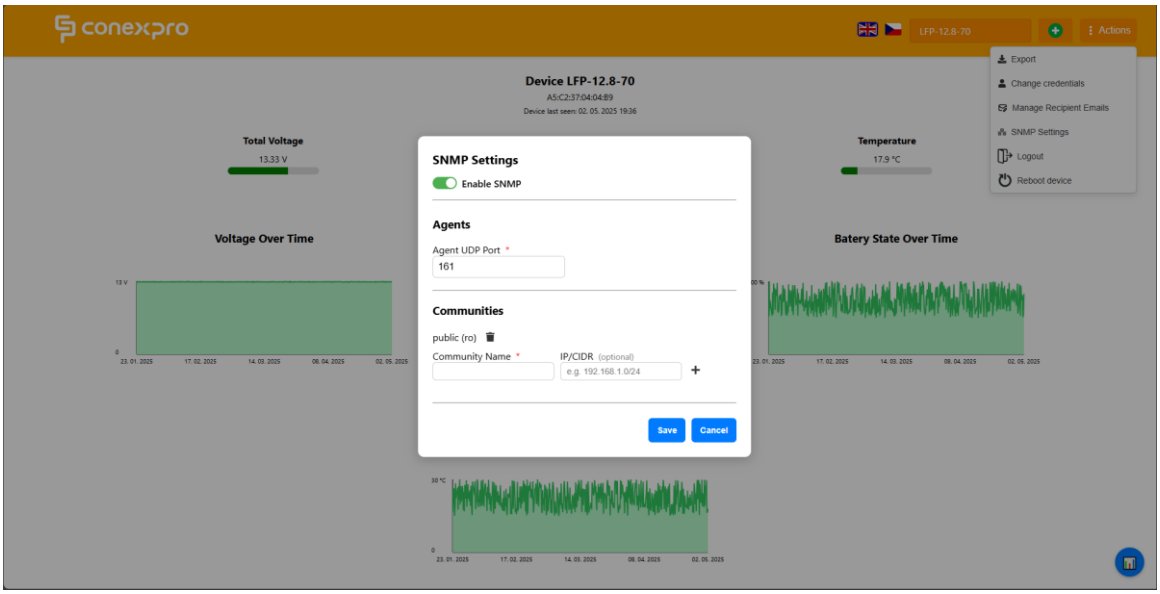
7. Estimated Runtime – hover over the battery state to see estimated time to full charge or depletion.

8. Zoom Dragging – click and drag to interactively zoom into time ranges on the chart (only when a day is selected).

9. Export Data – click the download button to export selected data in CSV format.



10. SNMP Settings – click the SNMP settings button to manage snmp.



11. SNMP – the system supports SNMP data output with the following format:

- Columns:
  DateTime(ms)|DeviceID|DeviceName|DeviceAddress|TotalVoltage|Current|RemainingCapacity|NominalCapacity|TotalCycles|RemainingPercent|MOSFETstate|Temperature|NumberOfCells|Cell_1_Voltage|Cell_2_Voltage|Cell_3_Voltage|Cell_4_Voltage
- Returns last row for every device in database (in the last 100 rows)
- walk OID: .1.3.6.1.4.1.99999.1
  - values OID format: .1.3.6.1.4.1.99999.1.<ROWNUMBER>.<COLUMNNUMBER>
  - DeviceID OID (for device identification) : .1.3.6.1.4.1.99999.1.<ROWNUMBER>.2
  - Address OID (for device identification) : .1.3.6.1.4.1.99999.1.<ROWNUMBER>.4

5. Troubleshooting Guide

1. If the device is unresponsive, perform a full reboot (via SSH or by power cycling or reboot button in app).
2. Check the log file at /var/www/banana_pi_lib/logs/server.log for any error messages.
3. If issues persist, contact support at service@axilogi.com with the server.log file and steps to reproduce the issue.
4. Advanced users can inspect the database at /opt/axilogi/axi_bms_mereni.db3 and configuration files in /opt/axilogi/.

6. Warnings and Notices

- Battery readings occur every 2 minutes. The application fetches data every 3 minutes.
- Runtime calculations are based on the entered battery model. Incorrect models lead to inaccurate estimates.
- Avoid connecting batteries to multiple sources (e.g., XiaoXiang app). Disconnect them to allow tracking. XiaoXiang app locks the device while linked.
- Wild drops in battery charge may indicate outdated BMS firmware (Old batch of batteries). Older firmware may misreport battery SoC. Fix this via the OVA update in XiaoXiang app.
- To reset forgotten credentials, use the Forgot password button on the login page. License key will be requested for password reset. If it's not in your possession you will have to contact the seller with MAC address of the device to receive it.
- Adding or editing devices may take a long time if the database is large. This is due to historical data caching.
- For security reasons, we strongly recommend changing the default root password after first login.
- If you forget the root password, you will have to fill out a RMA form and send the device to Axilogi for re-flashing.
- Default credentials:
    - Username: root
    - Password: axilogi

7. License Terms & Restrictions

- By purchasing and using this product, you agree to the software license terms included herein.
- You are **expressly prohibited** from reverse engineering, decompiling, copying, or attempting to replicate the software application provided with this product.
- All rights to the software are reserved by Axilogi. Unauthorized use, modification or reproduction is strictly forbidden and may result in legal action.