PHOCOSLINK CC

Mobile APP User Guide

Version 1.1, 2026-09-04

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Version History

2026-08-31	V1.0	Initial Version	Sanhith Kommisetti
2026-09-04	V1.1	Added QR codes to download the app	Sanhith Kommisetti

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1.0 Introduction

Welcome to the PhocosLink CC App User Guide. This application allows you to seamlessly monitor, manage, and update your CIS-N-MPPT-DALI solar charge controller directly from your smartphone or tablet using Bluetooth Low Energy (BLE) technology.

Key Features:

- **Live Data Monitoring:** Track solar voltage, battery status, load and LED statuses, and hardware efficiency in real time.
- **Parameter Configuration:** Configure precise charging algorithms, cutoff voltages, Night light and dimming settings and profiles for diverse battery types.
- **Over-the-Air Firmware Updates:** Keep hardware optimized and safe with the latest official software enhancements.
- **Data Logger:** Monitor, track, and analyze controller's historical performance over time.
- **BLE Security Hex Key**: Safeguard your system from unauthorized access on first launch with a customized security hex key.

The app is available in five languages: English, German, French, Spanish, and Chinese. The language is selected automatically based on your phone's system settings. If your phone is set to a language not supported above, the app will default to English.

To easily move between different sections of the app, every screen features a **Leading Menu** located at the top left corner of the page.

Tapping this menu allows you to seamlessly switch between:

- **Homepage**
- **Controller Status**
- **Controller Settings**
- **Firmware Update**
- **Data Logger**

2.0 System Requirements

To ensure a stable connection and optimal performance when managing solar charge controller, your mobile device must meet the following platform-specific requirements.

Android Requirements:

- **Operating System:** Android 13.0 or higher.
- **System Permissions:** Bluetooth permissions must be granted. Location Services must also be turned on; this is a strict Google requirement for Android apps to scan for nearby BLE hardware.

iOS Requirements:

- **Operating System:** iOS 15.0 or higher (compatible with iPhone and iPad).
- **Hardware:** iPhone 8 or newer, or iPad models supporting iOS 15+.
- **System Permissions:** Bluetooth sharing permissions must be enabled in the iOS Settings app under the app's profile.

3.0 App Installation

Follow these steps to download and install the “PhocosLink CC” App on your mobile device.

Installing on Android:

- Launch the Google Play Store on your Android device.
- Type the name of the app (PhocosLink CC) into the top search bar and select it from the results.
- Tap the Install button. The store will download and install the app automatically.
- Once installed, tap Open from the store page, or tap the app icon on your device home screen.

Scan the below QR code to get the app from Google Play Store:

Installing on iOS:

- Launch the App Store on your iPhone or iPad.
- Tap the Search icon at the bottom right, type the app name into the search bar, and select it.
- Tap the Get button. If prompted, verify the installation using Face ID, Touch ID, or your Apple ID password.
- Once the download completes, tap Open, or look for the app icon on your home screen.

Scan the below QR code to get the app from APP Store:

4.0 Home Page (BLE Scan)

When you launch the app for the first time, the Home Page acts as your central hub for discovering and connecting to nearby CIS-N-MPPT-DALI charge controllers. Before proceeding, ensure that Bluetooth is enabled on your iOS or Android device and that the app has been granted location and Bluetooth permissions.

4.1 Discover and Connect BLE Device

Discovering BLE Devices:

Upon opening the app, it will automatically initiate a live scan for all compatible Bluetooth Low Energy (BLE) hardware within radio range.

- **Pull-to-Refresh:** If your device does not appear immediately, swipe downward on the screen to manually restart the BLE discovery scan.
- **Manual Search Button:** If your controller is powered on after the app opens, or does not appear in the initial list, tap the physical **Search** button in the bottom right corner of the **BLE Scan** page to manually trigger another scan.
- **Device Details:** Each discovered CIS-N-MPPT-DALI charge controller appears in its own dedicated card showing three key details:
    - **Device Name:** The unique broadcast identifier (**CIS-N-MPPT-DALI**).
    - **MAC Address:** The unique hardware address of the controller.
    - **RSSI:** The signal strength indicator showing how close the device is.

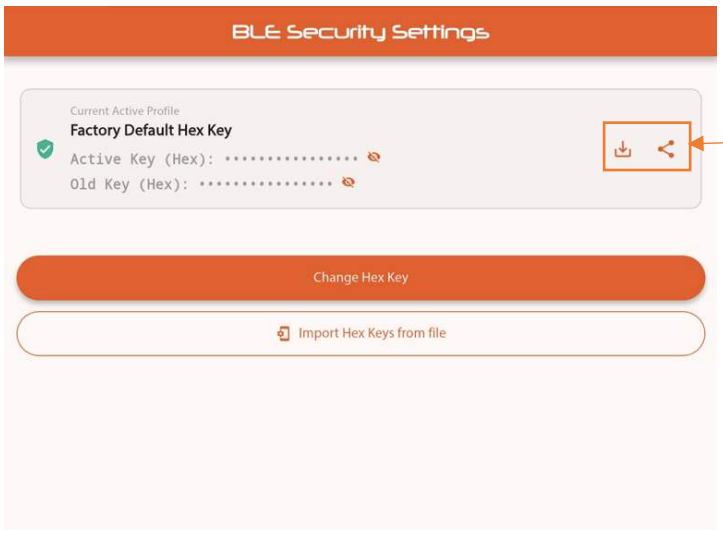
Connecting to BLE Devices:

Every controller card in the list features its own dedicated **Connect** button, located directly beneath the Name, MAC, and RSSI info.

- **Initiating Connection:** To connect to your chosen controller, tap the **Connect** button on its card.
- **Automatic Authentication:** The app attempts to connect immediately using a factory-preset default BLE hex key.

By default, the app uses a factory-preset hex key to connect. To protect your solar controller from unauthorized local access, you can choose to establish a secure, personalized BLE hex key. See below section for detailed instructions to configure custom BLE hex key.

4.2 BLE Security Settings

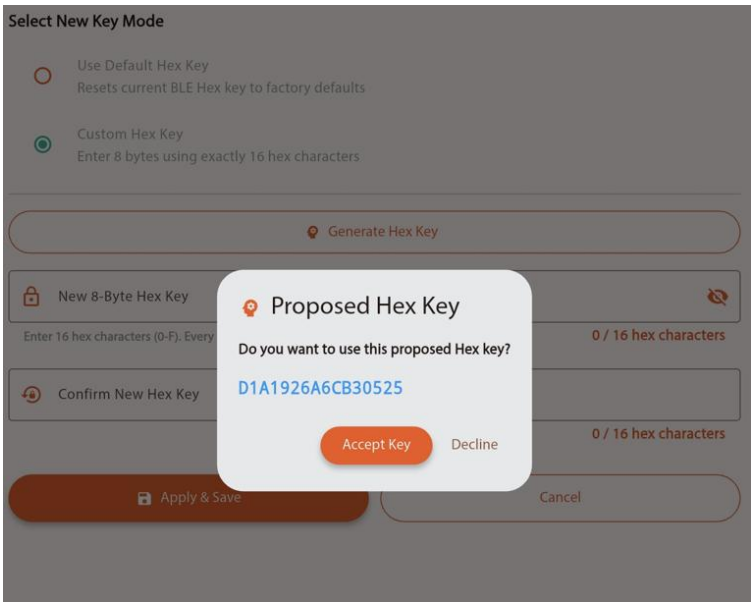


Securing your wireless connection prevents unauthorized users from intercepting charge controller data or changing controller settings. The app features two distinct hex key management steps that work together: saving a key locally to your phone and updating that same key on the charge controller hardware.

⚠️ **Crucial Step: You must complete both parts of the process below. If you only save the hex key locally on your app, the solar charge controller will reject your connection because it is still using the factory default key while your app is sending the new custom key.**

1. Saving a Key to Your Local Device (App Level)

- **Accessing the Page:** Tap the **Set BLE Hex Key** button on the Home Page to navigate to BLE security settings page.
- **Inputting the Key:** Tap **Change Hex Key** and select the **Custom Hex Key** option to set your new key. Tap **Generate Hex Key** to automatically generate a secure, random 8-byte key, or type it manually (only 0-9 and A-F characters are allowed). Alternatively, you can choose **Import Hex Keys from file** to load the existing keys and connect to controllers that are already use a custom hex key.



- **Local Storage:** Tap **Apply & Save** button. This action saves the key locally to your iOS or Android device storage. The app will now use this specific key for all subsequent wireless communication attempts.

2. Syncing the hex key to the Charge Controller (Hardware Level)

Immediately after saving your hex key locally, you must program the physical hardware to recognize and match your new key.

- **Locating the Button:** Find your specific charge controller card in the discovered devices list on the Home Page.
- **Initiating the Update:** Tap the **Update BLE Hex Key** button, which is located directly next to the **Connect** button on that specific device card to overwrite the factory default key stored on the physical solar charge controller hardware.

Once both steps are complete, the app and charge controller will use the identical 16-character key, ensuring a secure and successful data link.

3. Backup & Sharing (Import/Export Hex Keys)

To easily manage your access keys across multiple devices or prevent accidental lockouts, the app includes a dedicated Import and Export utility for your BLE Hex Keys. The app keeps both your old and new Hex keys on file. The old key is required to update to a new hex key on the controller, while the active key is used to connect to the controller.

Exporting & Sharing BLE Hex Key:

Creating a backup allows you to safeguard your access or share it securely with another smartphone or tablet.

- **Create Backup**: Tap **Export Key** to save your BLE Hex Keys (both old and active) into a secure, encrypted backup file.
- **Instant Sharing**: Use the built-in share feature to send the key file to another device via email, messaging apps, or local transfer (AirDrop/Nearby Share).
- **Multi-Device Access**: Perfect for co-workers or family members who need to monitor or configure the same charge controller from their own phones.

Importing a BLE Hex Key:

If you switch to a new phone or receive a shared key from an administrator, you can load it instantly.

- **Open the Security Settings**: Navigate to the BLE Security Settings interface.
- **Select Import**: Tap the **Import Hex Keys from file** button.
- **Choose Your File**: Select the previously exported backup file from your mobile device's local storage by tapping **Select & Load Hex Key File** or type keys manually.
- **Save Locally**: Tap **Accept & Import** button to save locally and follow process in step 2 to update the controller with imported hex key.

4. Reset BLE Hex Key

If you changed and saved the hex key multiple times in your device and forgot to update on the controller, then you can never connect to the controller due to hex key mismatch. In that case follow below steps to reset the hex key to factory defaults (FFFFFFFFFFFFFFFF).

- Download and install the PhocosLinkPC software from Phocos web page.
- Connect to the charge controller via RS485. Always disconnect from Bluetooth if connected to communicate via RS485.
- Navigate to Settings page and select the **Reset BLE Hex Key** option from menu at the bottom right.
- After resetting the hex key, in the app use Import or custom hex key option to set the old and new keys to default.

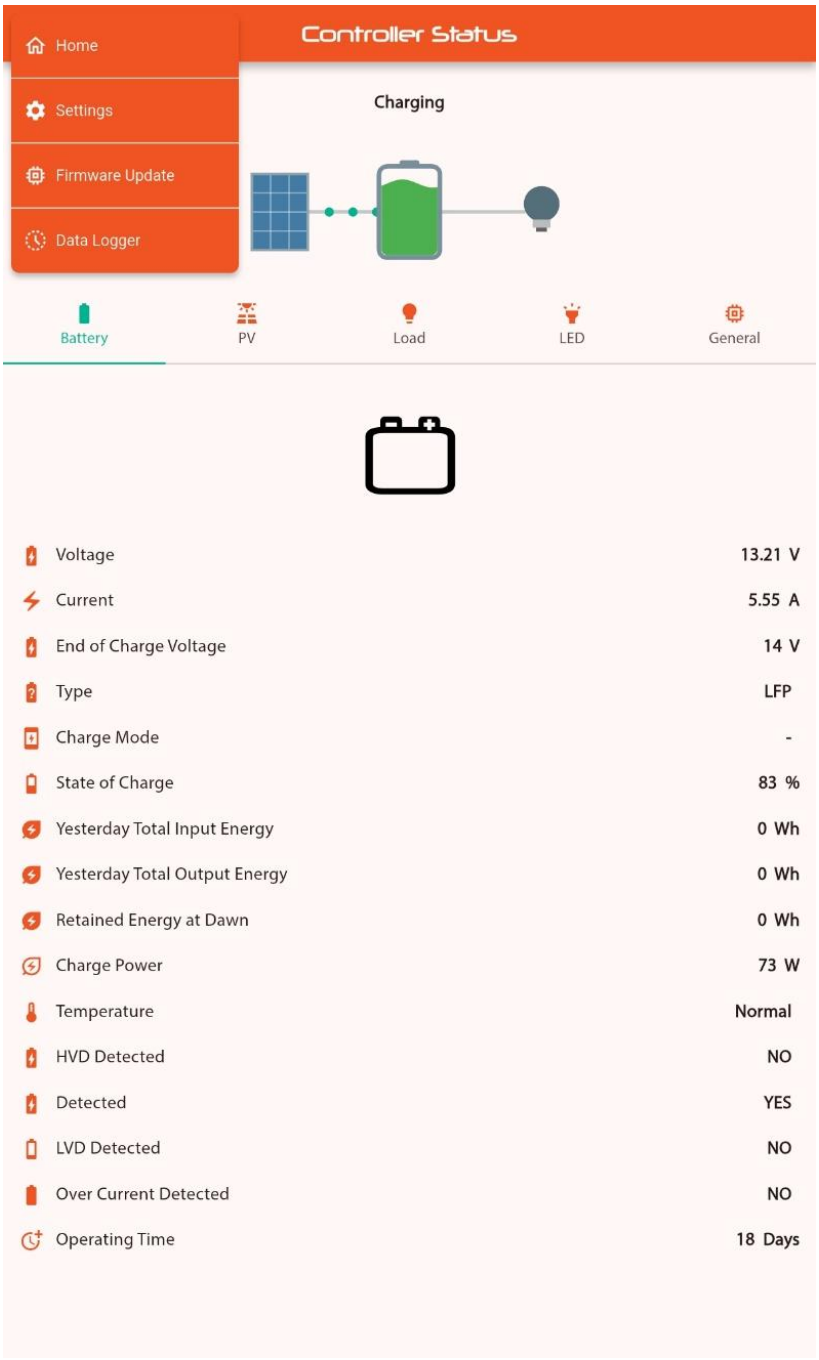
5.0 Controller Status Page

Once the Bluetooth connection is successfully established, the app instantly navigates to the **Controller Status Page**. This dashboard provides a live, real-time breakdown of your entire energy system, categorized into five key sections.

The status page organizes your system data into five main sections:

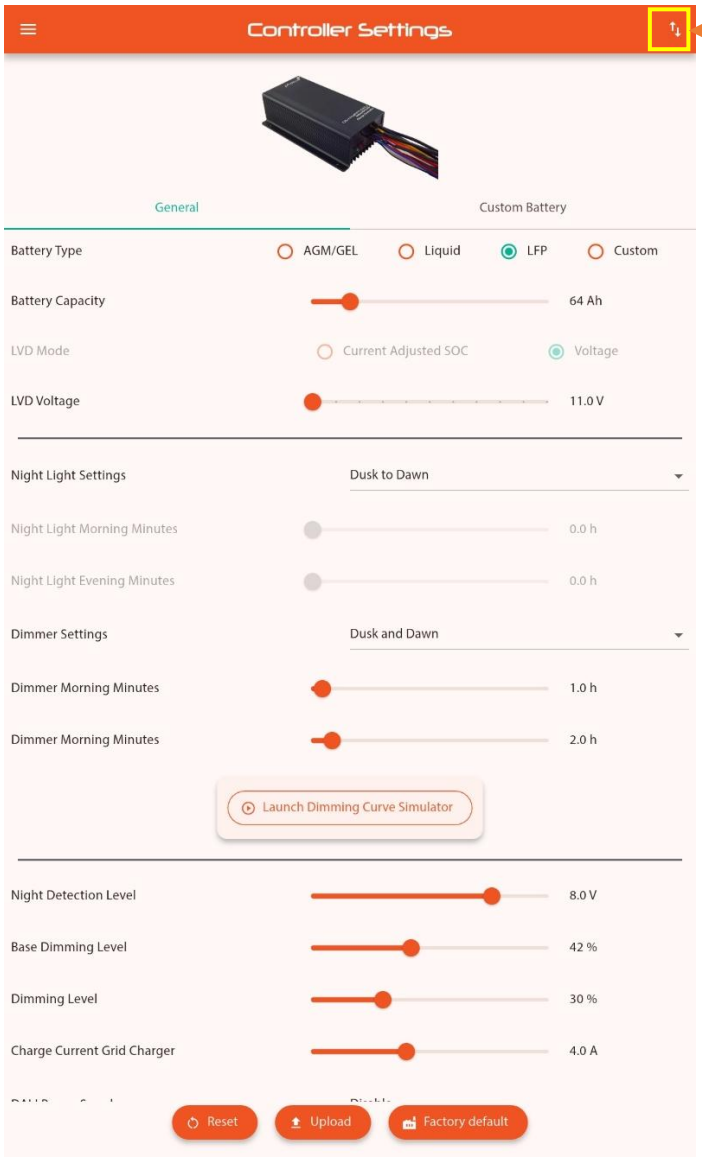
- **Battery**: Monitors voltage, current, capacity, and overall battery state etc.
- **PV**: Displays all solar input metrics, night duration etc.
- **Load**: Display Load current, power, and state etc.
- **LED**: Monitors connected LED voltage, current, power, fault status etc.
- **Controller General Info**: Displays fixed factory details like model name, serial number, and firmware version, internal and external temperatures etc.

Note: The APP will refresh the data every 5 seconds automatically or drag and drop any section to refresh the data in status page manually.


Home
Settings
Firmware Update
Data Logger
Controller Status
Charging
Battery
PV
Load
LED
General
Voltage 13.21 V
Current 5.55 A
End of Charge Voltage 14 V
Type LFP
Charge Mode -
State of Charge 83 %
Yesterday Total Input Energy 0 Wh
Yesterday Total Output Energy 0 Wh
Retained Energy at Dawn 0 Wh
Charge Power 73 W
Temperature Normal
HVD Detected NO
Detected YES
LVD Detected NO
Over Current Detected NO
Operating Time 18 Days

6.0 Controller Settings Page

The **Settings Page** allows you to customize your charge controller's operational parameters to match your specific setup.

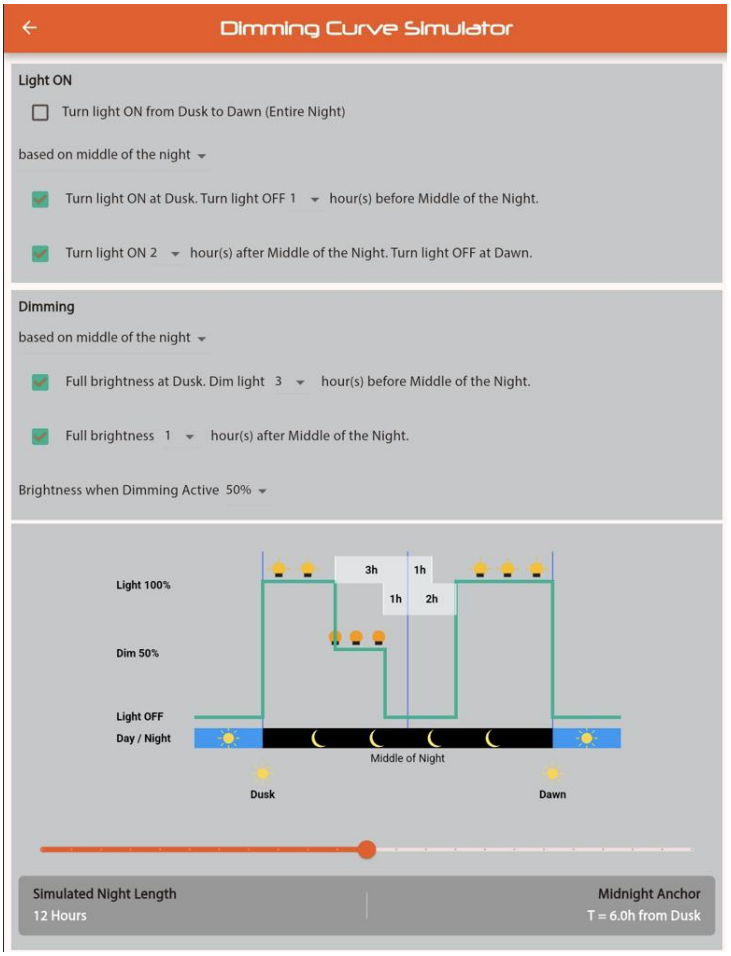


Modifying Parameters

You can adjust several hardware configurations directly from this screen:

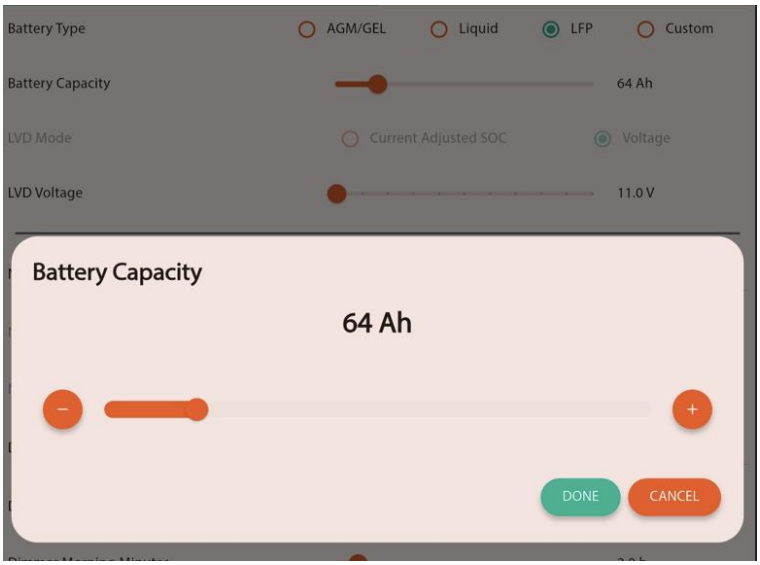
- **Battery Settings**: Select your battery type (e.g., Lithium, AGM, Gel, Custom) and adjust voltage thresholds and other relevant settings.
- **Night Light Settings**: Configure timers and automated scheduling for sunset-to-sunrise lighting loads.
- **Dimmer Settings**: Control brightness levels and power-saving dimming schedules for connected fixtures.

Note: Use the **Launch Dimming Curve Simulator** option to preview the dimming curve before adjusting the nightlight and dimming settings. This helps you better understand how these features work.



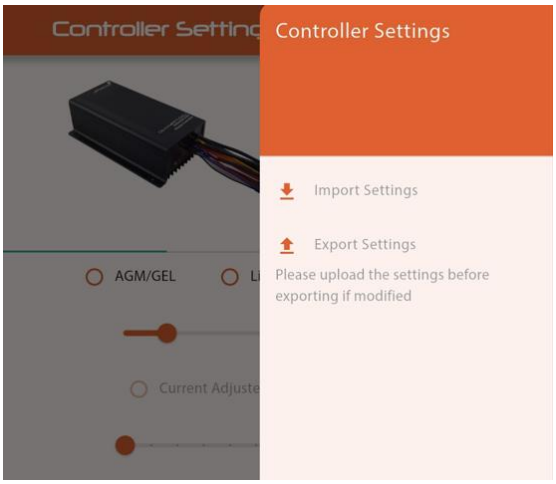
After adjusting all desired parameters use **Upload** button to send settings to controller. Use **Factory default** button to reset all settings to factory defaults. Use **Reset** button to soft reset the charge controller.

Note on Precise Adjustment: If you find it difficult to set an exact value using the standard sliders, simply **click and hold** on any slider's name. This will open a larger, dedicated window where you can adjust the settings with maximum precision.



Backup & Share Settings (Import/Export)

To save time or duplicate configurations across multiple systems, use the built-in profile utility. Tap the button **Settings menu** on the top left corner which open the window to import and export the settings.



- **Export Settings**: First upload the settings to the controller if modified and save your current configuration profile to your mobile device or share it with other users.
- **Import Settings**: Instantly load a previously saved configuration file to program the controller without manual input.

7.0 Data Logger Page

The **Data Logger** section allows you to monitor, track, and analyze controller's historical performance over time. Below is a detailed guide on how to navigate, interpret, and manage data.

1. Data Retention & Timeframes

The application stores and displays historical logs within two specific time horizons:

- **Daily Logs:** Tracks and displays up to a maximum of the last **30 days** of data.
- **Monthly Logs:** Tracks and displays up to a maximum of the last **24 months** of data.

2. Interactive Graphing & Parameter Selection

The built-in graph dynamically visualizes controller metrics.

- You can customize the view by selecting or deselecting **Available Data Logger Data**.
- The graph adaptively plots **one, two, or all Available Data Logger Data** simultaneously, allowing for easy comparison of data trends.

3. Cumulative Metrics

At a glance, you can view system's lifetime and long-term performance summary. The data logger compiles **cumulative totals**, including:

- **Operating Days:** Total number of active days the system has been running.
- **Charge & Discharge:** Cumulative energy metrics showing total power processed by the device.
- **Averaged SOC:** Cumulative SOC that is averaged over the recorded days.

4. Navigating and Inspecting Data Points

To examine specific historical records, you can interact directly with the timeline:

- **Scroll & Select:** Manually scroll through the **inspecting points** to travel backward from the **latest date** down to the **oldest available date**.
- **Real-time Updates:** As you select or hover over a different inspecting point, both the visual graph and the numerical value cards of **Available Data Logger Data** on your screen will **automatically update** to match that specific timestamp.

5. Quick Reset to Today

If you have scrolled far back into your history and want to return to the present view, you do not need to scroll all the way back:

- Tap the **Reset to Latest** button.
- The view will instantly snap back to display the **latest entry** (Latest day/month record).

6. Clearing the Data Logger

If you need to wipe the device history, you can use the **Clear Data Logger** option.

Note: This action will permanently erase the stored history from the application as well as from the controller memory.

8.0 Firmware Update (OTA) Page

The app features **Over-the-Air (OTA) Firmware Updates**, allowing you to upgrade your charge controller's internal software wirelessly to unlock new features and performance improvements.

Running an OTA Update:

Unlike fully automated tools, updates require you to manually load the specific firmware file provided by Phocos GmbH.

- **Get the File**: Download the official firmware file provided to you by Phocos GmbH onto your mobile device.
- **Load the Firmware**: Open the OTA page in the app and tap the **Load enc file** button to browse and load the downloaded firmware file.
- **Initiate the Flash**: Once the file is loaded, start the update process by tapping **Start update** button to transmit the file directly to the controller via Bluetooth.
- **Progress Tracking**: A live progress bar will display the upload status throughout the update.

Critical Safety Precautions during OTA

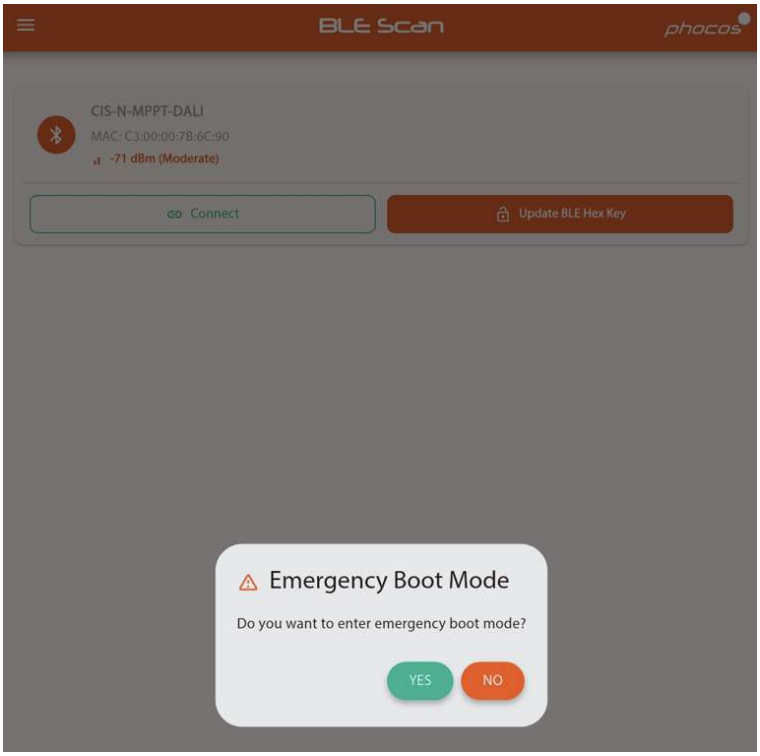
- **Stay Close**: Keep your mobile device within 20 meters of the charge controller during the entire process.
- **Do Not Close the App**: Closing the app will interrupt the file transfer.
- **Maintain Power**: Ensure both your phone battery and your system power are stable before starting the update.

9.0 Emergency Boot Mode

Emergency boot mode is a recovery feature used to update the controller with latest firmware if the controller gets stuck in the bootloader or become unresponsive.

Note: Use this mode only if your controller is failing to start up normally, frozen during previous update.

How to access Emergency Boot Mode:



- As described in **Connecting to BLE Devices** section, each device listed in the **Home Page (BLE Scan)** have **Connect** button. Press and hold the **Connect** button of the desired controller from the list to force the app into emergency boot mode.
- Follow the same steps mentioned in **Firmware Update** section to update the controller's firmware safely.