



SOLAR APP

USER MANUAL



KA SOLAR APP

The purpose of this app is to help you operate and monitor KickAss solar charge controllers. The app is dependent on Bluetooth, and to use it successfully you must have a smartphone with the following:


- Bluetooth function working and switched on.
- GPS function working and switched on.
- Android firmware version 5.0 or above, or IOS firmware version 9.0 or above.

If any of the above are missing, the app may fail. Please also be aware that you may not be able to use this app on certain models of smartphones (like some older versions of Samsung phones).

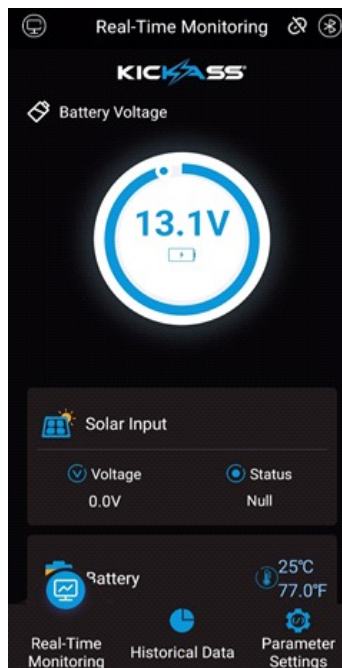
GETTING STARTED WITH THE APP

The purpose of this app is to help you operate and monitor KickAss solar charge controllers. The app is dependent on Bluetooth, and to use it successfully you must have a smartphone with the following:

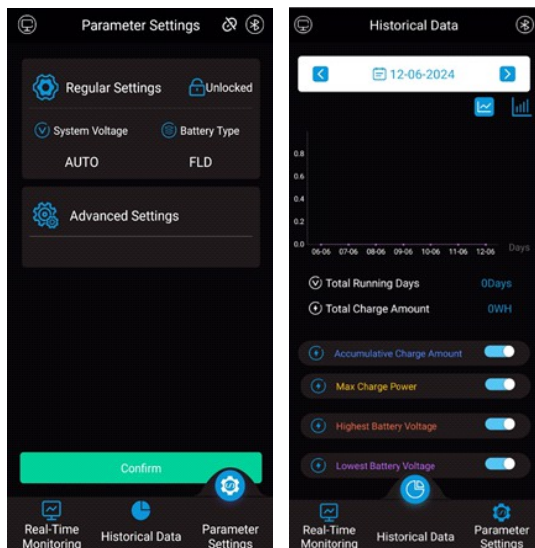
- Bluetooth function working and switched on.
- GPS function working and switched on.
- Android firmware version 5.0 or above, or IOS firmware version 9.0 or above.
- If any of the above are missing, the app may fail. Please also be aware that you may not be able to use this app on certain models of smartphones (like some older versions of Samsung phones).

Open the app by tapping the KA SOLAR  icon on your smartphone. Once it loads, you will see the app's main screen "Real-Time Monitoring", as shown below.

You can switch between the "Historical data" screen and "Parameter Settings" screen by tapping the icons on the app's main menu:



Note that there won't be any active information on any of the screens until you connect with the charge controllers via Bluetooth.

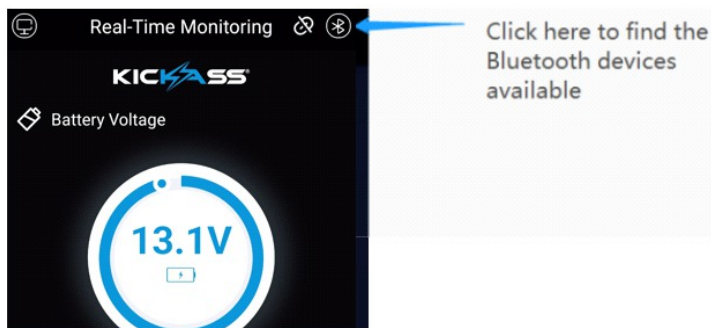


Section 1: Connecting Your Bluetooth Device & Understanding Your Controller

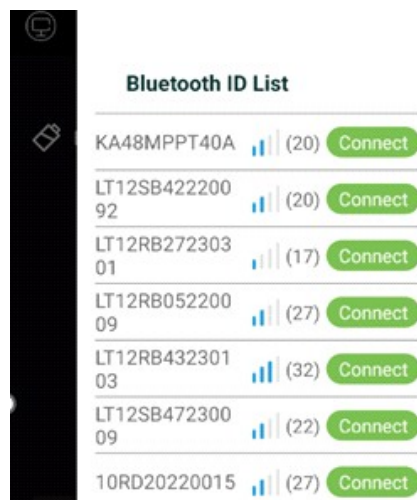
1.1 Bluetooth Device Connection

The app must be connected to the relevant controller via Bluetooth to work correctly.

Firstly, make sure the “Bluetooth” and “GPS” functions in your smartphone are available and switched “ON”. Position your smartphone close to the target controller. Open the app, and tap the Bluetooth connection button at the top right corner to view the Bluetooth devices available for connection.



On the right-hand side, you will see a slide menu displaying the Bluetooth IDs of nearby devices, ranked by signal strength. If you don't know your device ID, just connect to the device with the strongest signal.



1.2 Identifying Your Controller

To confirm whether you have connected to the right device, especially if you have multiple charge controllers available for connection in the same spot and at the same time, you can view the "Device Information" screen. To access this screen, tap the device information button at the top left corner.

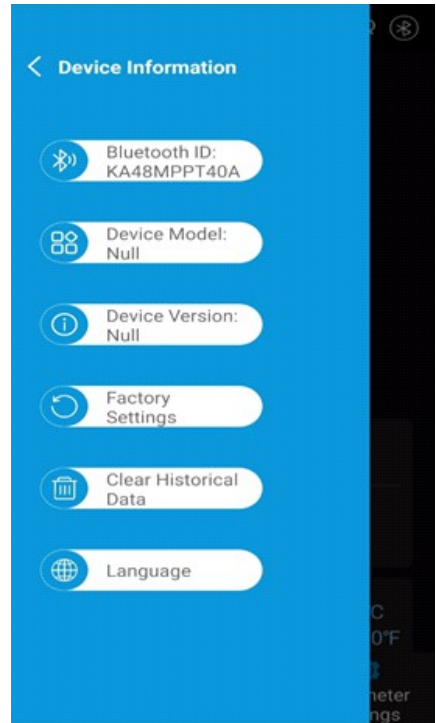
Click here to find
the controller info



On the left-hand side, you will see a slide menu displaying device information including Bluetooth ID, Controller Model Number (original), and Device Firmware Version Number. You will also see options relating to:

- * Factory settings
- * Clearing historical data
- * Language settings

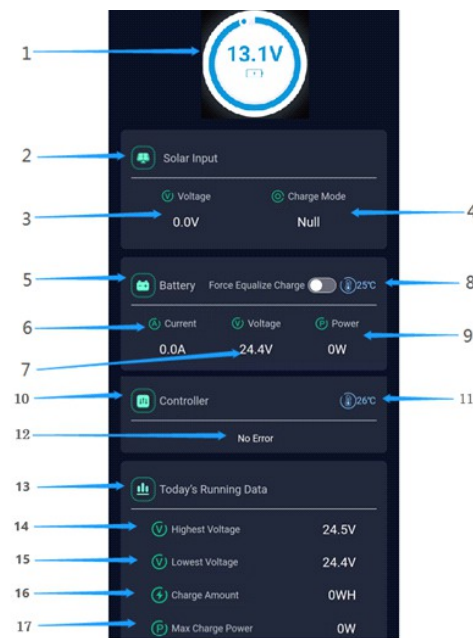
These will be covered later in the manual.



Section 2: Overview of the “Real-Time Monitoring” Screen

2.1 “Real-Time Monitoring” Screen Overview

No.	Item	Purpose	Notes
1	Battery Voltage Information	To display the present battery voltage	
2	Solar Input Information	Solar input information area	
3	PV Voltage	To display the present PV input voltage	
4	Charge Mode	To display the present PV charge mode	Null / MPPT / Boost / Float / Equalise
5	Battery Information	Battery information area	
6	Battery Charge Current	To display the present battery charge current	Not the PV input current
7	Battery Voltage	To display the present battery voltage	
8	Battery Temperature	To display the present battery temperature	Only available when battery temperature sensor is connected and attached to the battery. Otherwise, 25°C will permanently be displayed on the screen.
9	Battery Charge Power	To display the present battery charge power	
10	Controller Information	Controller information area	
11	Controller Temperature	To display the present controller temperature	Indicates the temperature inside the controller.
12	Controller Error Info	To display any controller error information	“Battery over-discharge,” “controller over-heating,” etc. Please refer to the user manual for more information.
13	Today's Running Data	To display the system working status	Status only for the present day
14	Highest Voltage	To display the highest battery voltage of the day	Value only for the present day
15	Lowest Voltage	To display the lowest battery voltage of the day	Value only for the present day
16	Charge Amount	To display the total charge amount of the day	Value only for the present day
17	Max Charge Power	To display the max charge power of the day	Value only for the present day



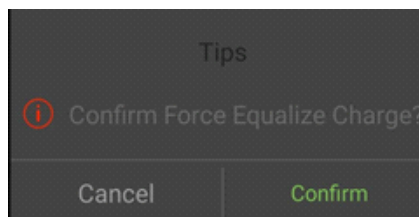
2.2 Explore the “Real-Time Monitoring” Screen

2.2.1 Force Equalize Charge Switch Function

On the Battery Information screen, you will see a “Force Equalize Charge” switch in the “off” position. To use this function, turn the switch “on” and tap “CONFIRM” in the following dialog box. The controller will then enforce one Equalization Charge for the battery.



Please note that once you tap “CONFIRM” in the dialogue box, the charge cannot be cancelled. If you have made a mistake and do not want to initiate a Force Equalize Charge, disconnect both the PV and battery connections from the controller, and also disconnect the Bluetooth device from the app. When you reconnect everything, you will find the switch has reverted to the “off” position.



Force Equalize Charge – Things To Know

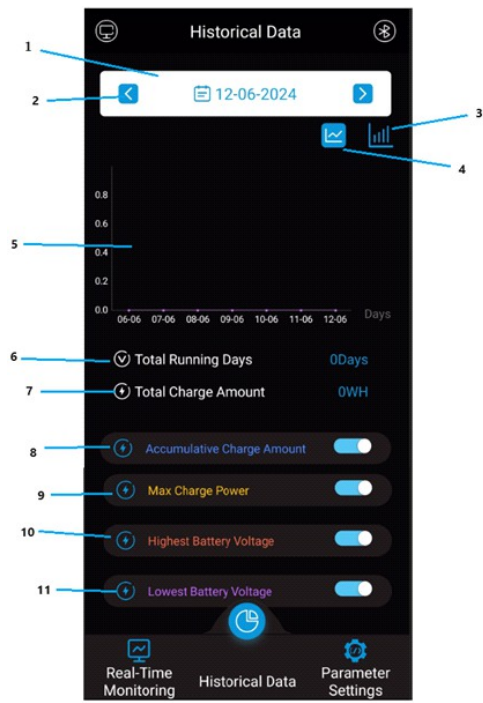
* The controller is set by default to perform an automatic equalization charge every 30 days. However, if the controller is disconnected from the system, this 30-day interval will reset and start counting from day one again. As a result, the battery may never receive an equalization charge. Therefore, the “Force Equalize Charge” function allows users to manually initiate an equalization charge if required.

* This function is only available for the following battery types: “FLD” (Flooded), “SEL” (Sealed or AGM), and “USE” (User-defined). When the battery type is set to “GEL” (Gel) or “Li” (Lithium), the switch icon will not appear in the Battery Information screen. Please note that performing an Equalize Charge on Gel and Lithium batteries can cause permanent damage.

* Some models of our controller do not support this function, so you may not see the switch on the Battery Information screen. Additionally, for some older versions of our controllers, this function may not be available even if the switch appears on the screen (the switch may revert to “off” after being turned “on” for a few seconds).

Section 3: Overview of the “Historical Data” Screen

3.1 “Historical Data” Screen Overview

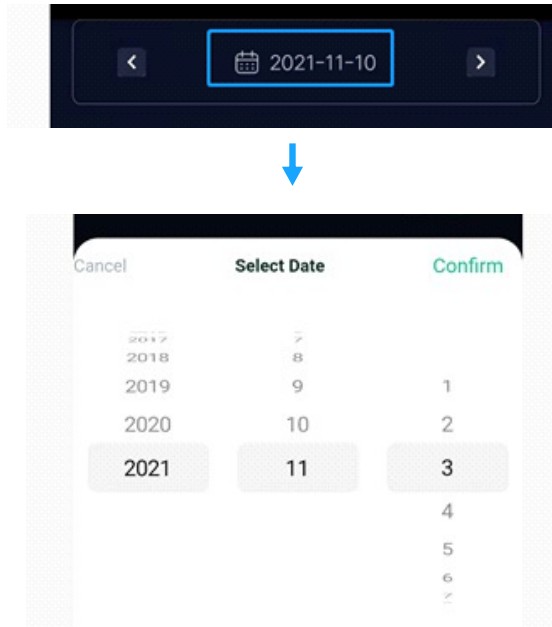


No.	Item	Purpose	Notes
1	Date	To select a certain date for data review	A calendar will display.
2	Date Increase / Decrease	To increase / decrease the date for data review	
8	Accumulative Charge Amount	Accumulative charge amount that day	Can be switched on / off
9	Max Charge Power	Max charge power recorded that day	Can be switched on / off
10	Highest Battery Voltage	Highest battery voltage recorded that day	Can be switched on / off
11	Lowest Battery Voltage	Lowest battery voltage recorded that day	Can be switched on / off
3	Curve Graph Switch	Switch to curve graph display	
4	Histogram Switch	Switch to histogram display	
5	Curve Graph / Histogram Overview	Curve graph / histogram display	Historical data overview from the last 7 days
6	Total Running Days	System total running days	
7	Total Charge Amount	System total charge amount	
14	Total Discharge Amount	System total discharge amount	

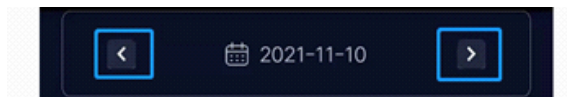
3.2 Explore the “Historical Data” Screen

3.2.1 Date Selection

On the Historical Data screen, you can view a seven-day record of the system's operation in a diagram. Tap “Date” to select a specific date, and the diagram below will display the system's working record for the 7 days preceding the selected date.



To adjust the date day-by-day, you can also tap on the arrows to the left and right of the “Date” field.



Date Selection – Things To Know

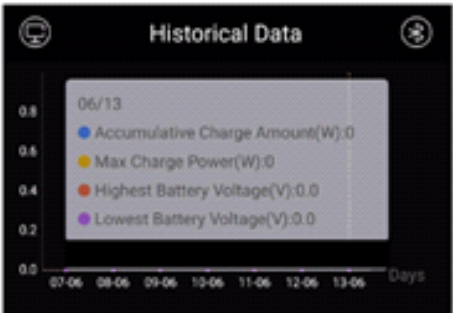
* The app can record up to 300 days of system working data. Any data beyond this range will be considered invalid, and the system will revert to the last valid date.

3.2.2 Switching Between Visual Displays

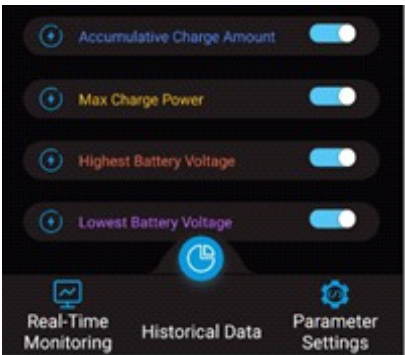
You can view the diagram as either a curve graph or a histogram – to switch between the two displays, tap the relevant icon in the top right of the diagram.



Tap on any area in the diagram to view detailed data of the four active items, as shown below:



Use the toggles to either display or hide any of the items shown in the diagram:



Visual Displays – Things To Know

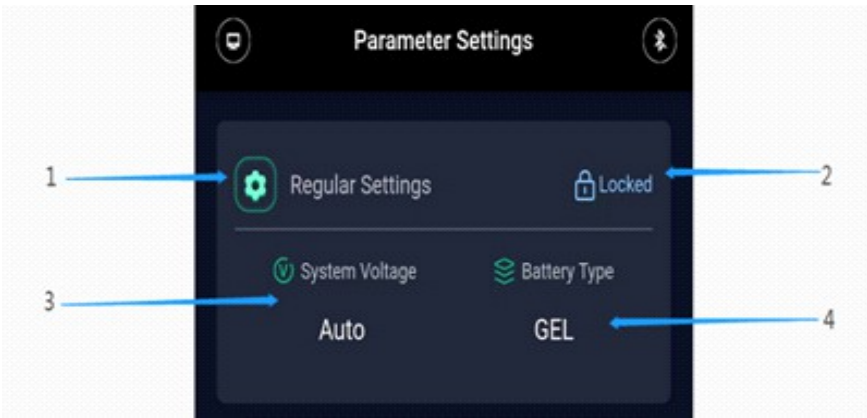
* The numbers on the left side of the diagram do not include units, but you can view the full values with units in the detailed view box for all 4 items.

Section 4: Overview of the “Parameter Settings” Screen

4.1 “Parameter Settings” Screen Overview

4.1.1 GEL/FLD/SEL Battery Type Overview (default: GEL)

The default settings for battery types “GEL” (gel battery), “FLD” (flooded battery), and “SEL” (sealed or AGM battery) are the same. Since these are all Lead-Acid batteries, we do not allow many parameters to be set for them.



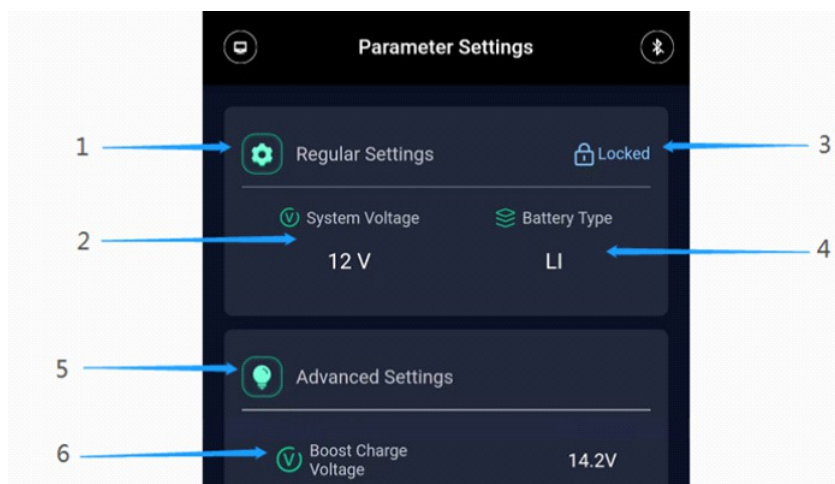
No.	Item	Purpose	Notes
1	Regular Settings Information	For charge controller regular settings	For general settings
2	Setting Lock	To lock or unlock the settings screen	To prevent wrong settings entered by mistake
3	Battery System Voltage	Battery system voltage display & settings	Not adjustable for GEL/FLD/SEL
4	Battery Type Setting	Battery type display & settings	To set battery type GEL/FLD/SEL/LI/USE

GEL/FLD/SEL Battery Type Settings – Things To Know

* The default settings for “GEL,” “FLD,” and “SEL” are compatible with most types of lead-acid batteries. Please use these default settings for optimal performance. If you need to set different charge parameters for your lead-acid battery instead of using the default settings, please consult a professional before making any changes.

4.1.2 LI / Lithium Battery Type Screen Overview

The Battery Type LI screen displays information and settings for lithium batteries. When you set the battery type to "LI," the following screen will appear:



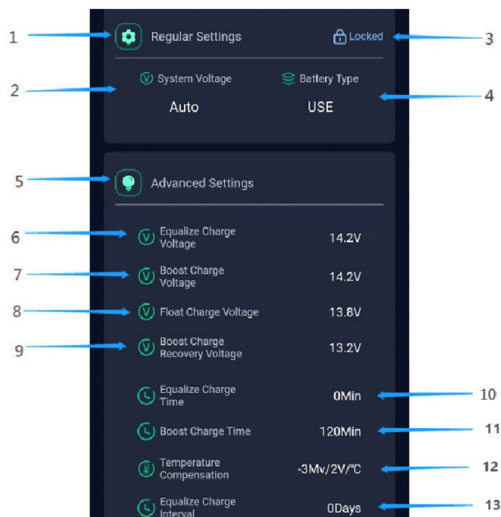
No.	Item	Purpose	Notes
1	Regular Settings Information	For charge controller regular settings	
2	Battery System Voltage	Battery system voltage display & settings	12V-24V-36V-48V manual setting for Lithium Battery
3	Setting Lock	To lock or unlock the settings screen	
4	Battery Type Setting	Battery type display & setting	To set battery type GEL/FLD/SEL/LI/USE
5	Advanced Settings Information	To input advanced settings	For Lithium battery settings only
6	Boost Charge Voltage	View and set over-charge or max charge voltage for lithium battery	For Lithium battery settings only

LI / Lithium Battery Type Settings – Things To Know

- * The default setting of "LI" Battery Type is for 14.2V Lithium Iron Phosphate (LiFePO4).
- * You should check your lithium battery specifications before choosing your setting.

4.1.3 USE / User Battery Type Screen Overview

User Mode (USE) allows battery or solar professionals to customise battery charge parameters for specific battery types and unique usage requirements that differ from common battery settings. When you select "USE" under Battery Type, the following screen will appear, providing a full range of battery parameters available for adjustment.



No.	Item	Purpose	Notes
1	Regular Settings Information	For charge controller regular settings	
2	Battery System Voltage	Battery system voltage display & settings	12V-24V-36V-48V manually setting for User Type battery
3	Settings Lock	To lock or unlock the settings screen	
4	Battery Type Setting	Battery type display & setting	Set battery type: GEL/FLD/SEL/LI/USE
5	Advanced Settings Information	To input advanced settings	For User Battery Type settings only
6	Equalize Charge Voltage	To view and set equalize charge voltage	
7	Boost Charge Voltage	To view and set boost charge voltage	
8	Float Charge Voltage	To view and set float charge voltage	
9	Boost Charge Recovery Voltage	To view and set boost charge recovery voltage	
10	Equalize Charge Time	To view and set equalize charge time	
11	Boost Charge Time	To view and set boost charge time	
12	Temperature Compensation	For battery maintenance in high and low temperature	
13	Equalize Charge Interval	To view and set equalize charge interval in days	

USE / User Battery Type Settings – Things To Know

* Only professionals should perform advanced operations in Voltage & Time Settings for the USE type of battery.

* If you have changed any settings under the USE battery type by mistake, it is best to restore it to the factory settings and then reconfigure it.

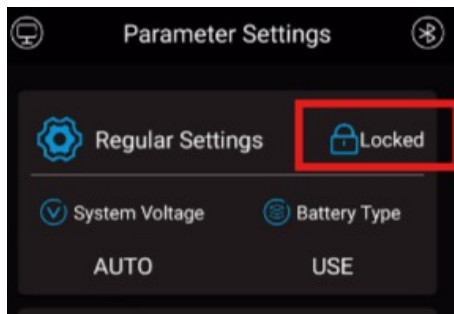
4.2 “Parameter Settings” Screen Overview

4.2.1 Locking Your Settings

You may notice a “lock” icon in the upper-right corner of the Regular Settings area. When it is in the “locked” status, you cannot make any changes in the Parameter Settings screen; only when it is “unlocked” can you adjust the settings.

To unlock the settings, tap on the “locked” lock icon and select “CONFIRM” in the following dialog box.

To lock the settings, tap on the “unlocked” lock icon and select “CONFIRM” in the following dialog box.



4.2.2 Changing the Battery Type and System Voltage

On the Regular Settings screen, you can set your desired Battery Type by tapping the relevant option in the list.

When you select battery type GEL, FLD or SEL/AGM, the battery System Voltage will be set to “AUTO” automatically.

FLD	<input type="radio"/>
SEL/AGM	<input type="radio"/>
GEL	<input type="radio"/>
LI	<input type="radio"/>
USE	<input type="radio"/>

When you select battery type LI or USE, the system will allow you to set the Battery System Voltage to any of the following parameters: 12V / 24V / 36V / 48V. “AUTO” option is not available for these battery types.



Battery Type & System Voltage – Things To Know

- * There is no confirmation required for regular function settings. Therefore, when you enter settings for the Battery Type or Battery System Voltage, they will automatically be applied.
- * For gel batteries, please choose “GEL” as the Battery Type. For most other types of sealed lead-acid batteries, such as AGM, select “SEL”.
- * We do not recommend using the “USE” mode unless you are an experienced professional, as there is a risk of damaging your battery.

4.2.3 Overview of "Advanced Settings"

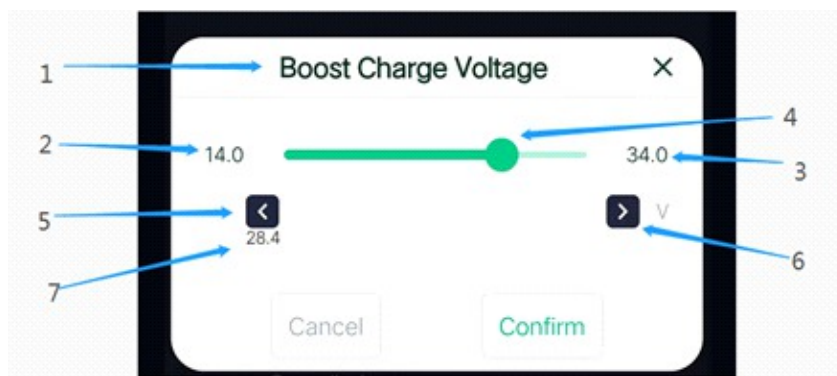
Many instances of damage to the controller or the entire solar charge system can be attributed to incorrect settings. If you are not thoroughly familiar with the controller's setting protocols and logic, we strongly recommend consulting a professional before making any adjustments in the Advanced Settings.

In the Advanced Settings section, different parameters can be configured based on the selected Battery Type. For more details, please refer to section 4.1 of this manual. Below, we provide instructions for configuring each of these items.

4.2. 4 Inputting Advanced Settings

To adjust charge voltage settings, tap on the value area of the relevant voltage items. A dialog box will appear where you can modify the voltage value. After making your adjustments, tap "CONFIRM", which will send the command to the controller. Alternatively, you can finalise these changes before the settings are locked again.

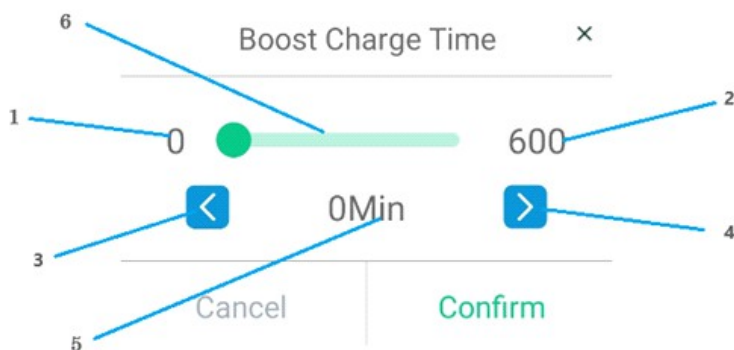
Example:



No.	Item	Purpose	Notes
1	Voltage Items	"Boost Charge Voltage", "Float charge voltage", and other related settings	
2	Minimum Voltage Value	The minimum voltage value that can be set	This value will automatically change when the system voltage changes
3	Maximum Voltage Value	The maximum voltage value that can be set	This value will automatically change when system voltage changes.
4	Voltage Adjustment Tool	Adjust the voltage value by moving the green dot	
5	Voltage Decrease Button	Decrease the value by one step	One step = 0.1V on 12V system; 0.2V/24V; 0.3V/36V; 0.4V/48V
6	Voltage Increase Button	Increase the value by one step	One step = 0.1V on 12V system; 0.2V/24V; 0.3V/36V; 0.4V/48V
7	Voltage Value to Be Set	The current voltage value about to be set	

“Charge Voltage” Settings – Things To Know

- * Voltage setting hierarchy for USE / User Type batteries: Equalize charge voltage ≥ Boost charge voltage > Float charge voltage > Boost charge recovery voltage. Any deviation from this hierarchy may result in a setting failure.
- * To adjust the time parameters, tap the relevant time/day on the screen. Change the time in the dialog box, then tap CONFIRM. Alternatively, complete these adjustments before the settings are locked again.



No.	Item	Purpose	Notes
1	Minimum Time Value	The minimum time value that can be set	
2	Maximum Time Value	The maximum time value that can be set	
3	Time Decrease Button	Decrease the time by one unit	One step = 1 second/minute/day
4	Time Increase Button	Increase the time by one unit	One step = 1 second/minute/day
5	Time Value to Be Set	The current time value about to be set	
6	Time Adjusting Tool	Increase or decrease the time by moving the green dot	
7	Time Items	Equalize Charge Time”, “Boost Charge Time”, and other time related items	

Time Items – Things To Know

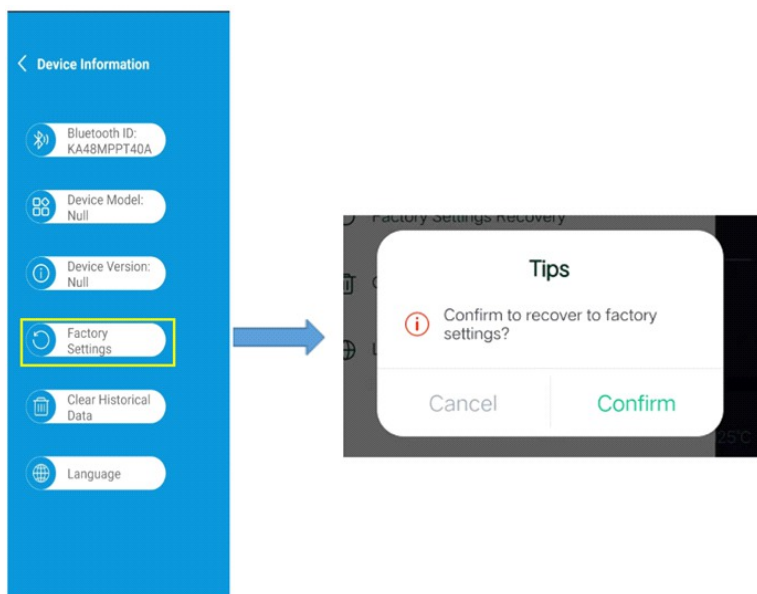
- * If you are using GEL or other batteries that don't need an equalize charge, you can decrease the “Equalize Charge Interval” value to 0 per day.
- * If you are unsure, please get help from a professional – incorrect settings can damage your batteries.

Section 5: Other Operations

5.1 Restoring to Factory Settings

On the “Device Information” screen, you will find a “Factory Settings Recovery” function, which allows you to reset the controller to its default factory settings.

If you suspect that incorrect settings have been applied to the controller, or if it is malfunctioning and you are not sure why, you can use this function to restore the factory settings. Afterwards, seek professional advice for further adjustments.



Tap “Confirm” in the dialogue box, and the controller will immediately reset to the factory settings. Please note that for some controllers, there may be a short delay before the default settings appear in the app.

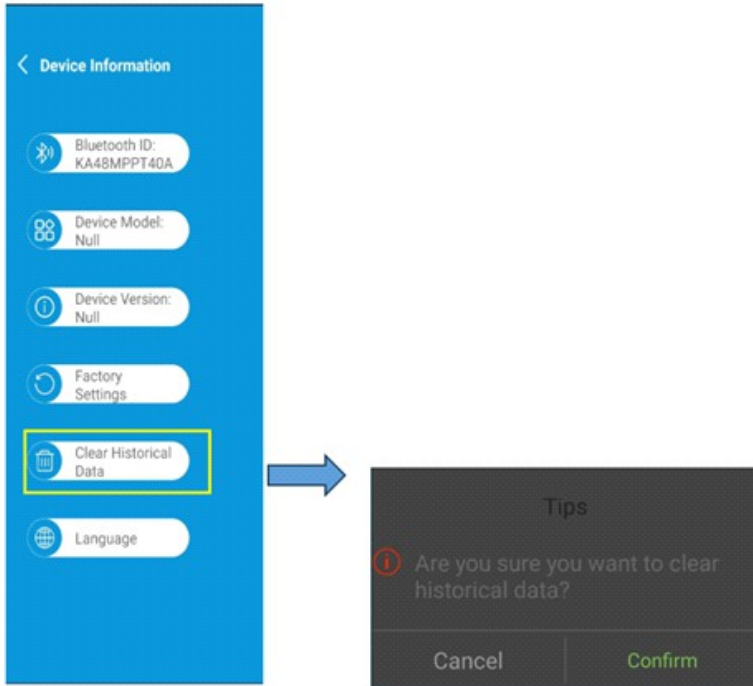
“Factory Settings Recovery” – Things To Know

- * Restoring to factory settings will erase any previously set data or configurations on the controller. This cannot be undone.
- * If you are unsure, consult a professional before proceeding.

5.2 Clear Historical Data

On the “Device Information” screen, there is a “Clear Historical Data” function, which allows you to clear the historical data for the relevant controller.

When the controller connects to the battery, it starts recording data. If you wish to clear the data for a fresh start, you can use this function.



Tap “CONFIRM” in the dialogue box, and the relevant controller will begin erasing the historical data immediately. Please note that it may take some time for all data to be deleted.

“Clear Historical Data” – Things To Know

- * Clearing historical data will only erase the data recorded in the controller. It will not erase or change any previously input settings.
- * If you are unsure, consult a professional before proceeding.

Section 6: A Quick Guide to Using the App

Step 1

- * Open the app, and connect to the target Bluetooth device ID.
- * Review the data on the “Device Information” screen.

Step 2

- * Monitor your system’s status via the “Real-time Monitoring” screen.
- * Run a “Force Equalize Charge” as needed.

Step 3

- * Review the information on the “Historical Data” screen, in curve graph or histogram form.

Step 4

- * View the battery type setting.
- * Set the battery type and charge voltages accordingly.