

# APP “ChargePro 2.0” Operation Instruction

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Thanks for using this APP.

This APP “ChargePro 2.0” is used for monitoring and operation on solar charge controller provided by us. This APP communication is based on Bluetooth, and it requires:

- Bluetooth function is available and turning on in your mobile phone.
- GPS function is available and turning on in your mobile phone.
- **Android firmware version 5.0 or above, or IOS firmware version 9.0 or above.**

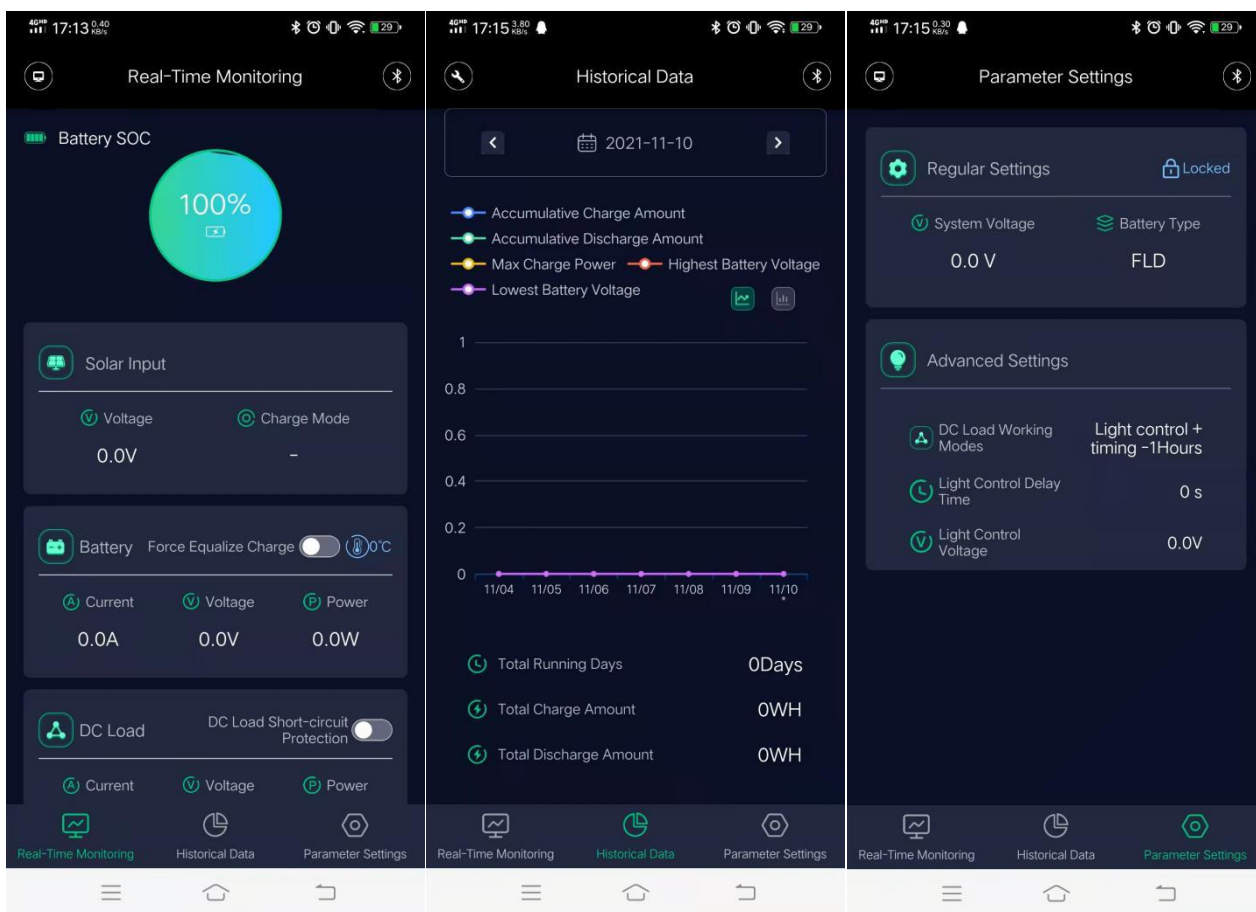
Any lack of the above points may lead to an APP usage failure, and please notice you may not able to use this APP in some certain models of mobile phones (like some old versions of SAMSUNG phones).

### STARTING THE APP



To click on the APP icon “ChargePro 2.0” in your mobile phone to start it, after a short view of opening picture, you will enter the APP main page “Real-Time Monitoring” as the first picture at below. And also you can have views on

“Historical data” page and “Parameter Settings” page, by click on the APP main menu



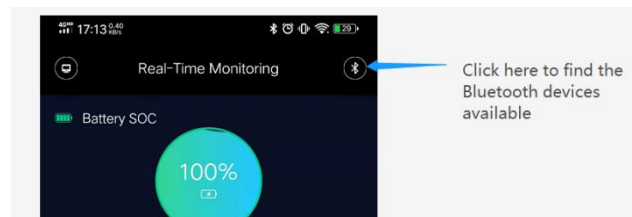
**Please notice that before the successful connection with any Bluetooth device of the charge controllers, there won't be any active information in all 3 main pages above.**

## Section 1 : Bluetooth Device Connection & Controller Information Overview

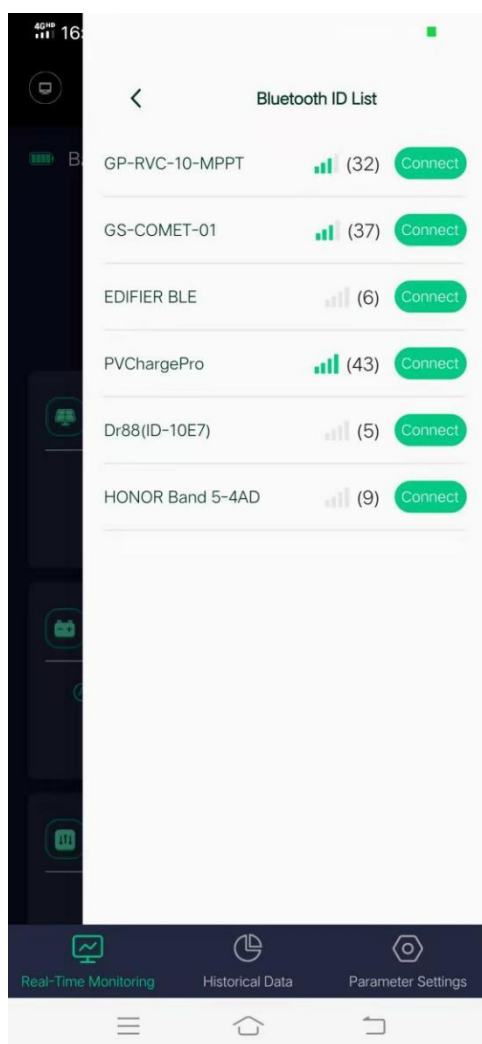
### 1.1 Bluetooth Device Connection

For active APP operation, we need to have this APP linking to the relevant controller by Bluetooth connection.

Firstly, make sure the “Bluetooth” and “GPS” functions in your mobile phone are both available and “ON” at the same time, and get close to the target controller or any effective “Bluetooth Module” attached to that controller. And then start the APP, and click the Bluetooth connection button at the up-right corner, to find the Bluetooth devices available for connection.

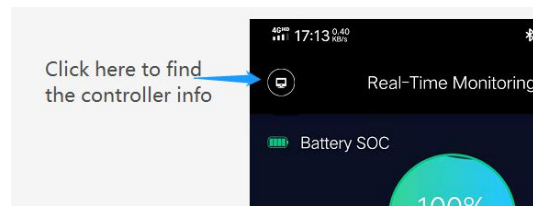


Then at the right side, you will have a view of a slide menu, where displaying all the Bluetooth device IDs nearby, with signal strength listed by different values. Usually you can connect the device with the biggest signal strength value, if you are not familiar with the device ID.

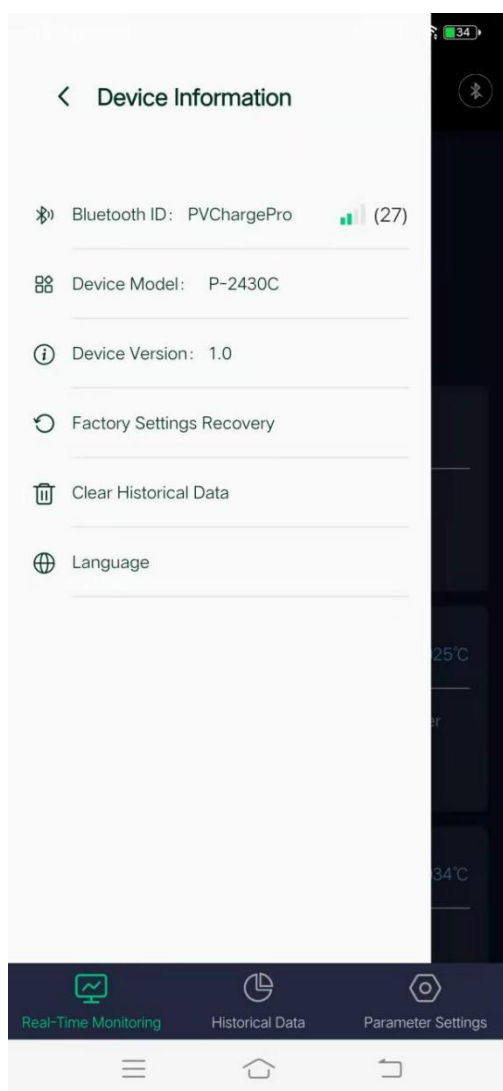


## 1.2 Controller Information Overview

To verify if you have connected to the right Bluetooth device ID, especially when you have multiple charge controllers available for connection at the same spot and at the same time, it's better for you to enter the "Device Information" page to check if you connect on the right device, by click the device information button at the up-left corner.



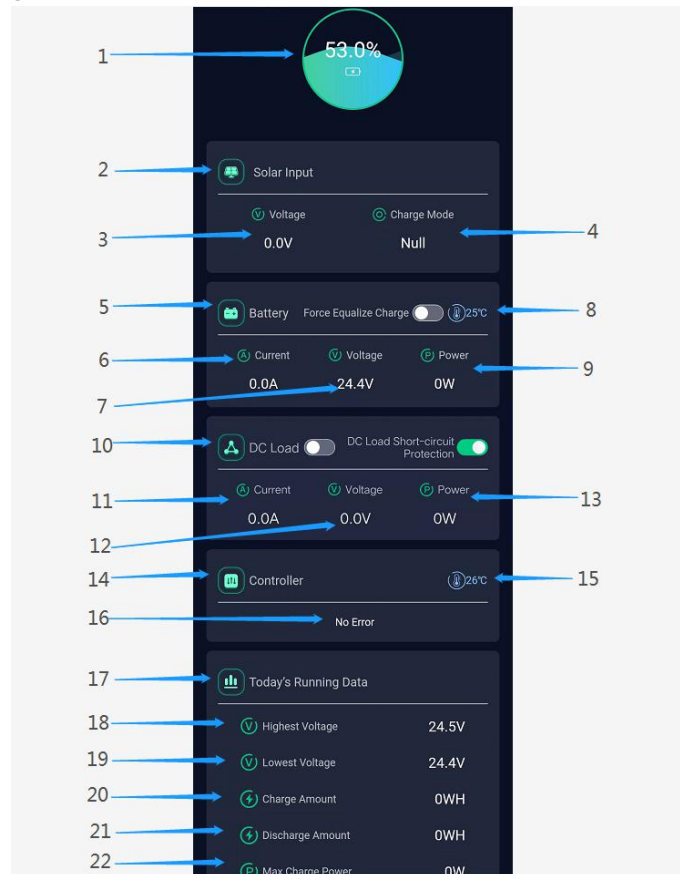
Then at left side, you will have a view of a slide menu, where displaying device information for Bluetooth device ID, Controller model number (original), and Device firmware version number.



And here at this slide menu, you also can have operation information on "Factory Setting Recovery", "Clear Historical Data", and select "Language (Chinese/English/Spanish)", and we will have detailed instruction for these 3 operations in later chapters.

## Section 2: “Real-Time Monitoring” Page Overview & Instruction

### 2.1 “Real-Time Monitoring” Page Overview



No.	Item	Description	Remark
1	Battery SOC Information	to display the present battery capacity	state of charge 0% - 100%
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 / Equalize
5	Battery Information	battery information area	
6	Battery Charge Current	to display the present battery charge current	it's 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 connected and attached to the battery, or view of 25°C may stay on the screen.
9	Battery Charge Power	to display the present battery charge power	
10	DC Load Information	DC load information area	not available for controller with no DC load control function
11	DC Load Current	to display the present DC load current	
12	DC Load Voltage	to display the present DC load voltage	
13	DC Load Power	to display the present DC load power	
14	Controller Information	controller information area	
15	Controller Temperature	to display the present controller temperature	it's the temperature inside the controller indicated
16	Controller Error Info	to display the present controller error information	“battery over-discharge”, “controller over-heating”, etc, and please refer to the user manual for more information
17	Today's Running Data	to display system working status in the present day	status only for the present day
18	Highest Voltage	to display the highest battery voltage this day	value only for the present day
19	Lowest Voltage	to display the lowest battery voltage this day	value only for the present day
20	Charge Amount	to display the total charge amount this day	value only for the present day
21	Discharge Amount	to display the total discharge amount this day	value only for the present day
22	Max Charge Power	to display the max charge power this day	value only for the present day

## 2.2 Operations on “Real-Time Monitoring” Page

### 2.2.1 Force Equalize Charge Switch Function



In the Battery Information area, we may notice there is a switch (remains “off”) for “Force Equalize Charge” use. To turn the switch “on” and click on “confirm” on the following dialog box, to activate this function, and the controller would **enforce one time of Equalize Charge for the battery after the latest Boost Charge process.**



Please notice that once the order of “Force Equalize Charge” has been confirmed, it won’t be allowed to cancel. And if you have confirmed it by mistake, and want it to be back, then please disconnect both PV and battery connections from the controller, and reconnect them again, meanwhile, at the APP side, also disconnect the Bluetooth device and reconnect to it, then you will find that switch is “off”.

Remarks & Tips on “Force Equalize Charge Switch”:

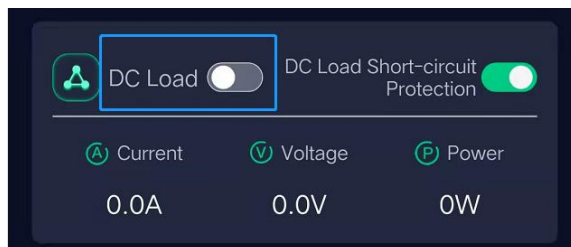
\* The default settings of auto equalize charge interval in the controller is 30 days (one time in every 30 days), but once we disconnect the controller from the system, this “interval” would recount again from day 1. Therefore, in some cases, the battery might never be equalize charged at all, so it is very meaningful to have this “Force Equalize Charge” function available for user’s option.

\* Such function only available for battery types on “FLD”(flooded)/ “SEL”(sealed or AGM) / “USE” (user), and there is no switch icon displaying in Battery Information area when the battery type set on “GEL”(Gel) and “Li”(Lithium). Please notice that Equalize Charge would cause permanent damage to Gel and Lithium battery.

\* Some models of our controller do not support this function, so you may not see that switch in Battery Information area. And for some of our older version controllers, this function may also not available for setting, though you can find that switch is in the screen (the switch may get back to “off” even if you can turn it “on” for a few seconds).

## 2.2.2 DC Load Switch Function

In the DC Load Information area, we may notice there are 2 switches, and the one on the left side is for turning “ON/OFF” the controller DC load manually.



You can click on the switch to turn on/off the load, and confirm the orders in the following dialog boxes:



Please do notice that the DC Load Switch will be only displayed if your controller has DC load control function (some controllers have no DC load control, but only for solar charge use). At meanwhile, **you have to keep your controller DC Load Mode on “Manual”, or this DC Load Switch will not be displayed** as well, and we will have an instruction for this part in the “Parameter Settings” page.

Remarks & Tips on “DC Load Switch”:

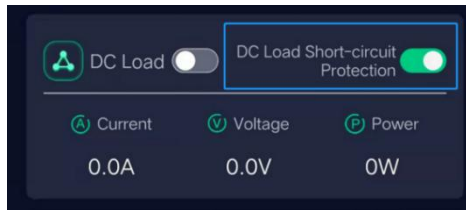
\* This switch is only for DC Load on Manual mode, and you would not see it in the screen when the controller is on the other DC load modes, like “dusk to Dawn”, “Light Control + Timing”, “Debugging” and “Always On”. When the DC load appliance is actually ON in the other modes, you still would not see that switch in the screen.

\* This switch would keep ON even if you have disconnected the DC load from the controller, and only one more click on switch in APP to turn it to OFF (you also can turn it off in the controller). We advise you to switch it to OFF manually, if you have turned off your DC load and may not use it in a quite time.

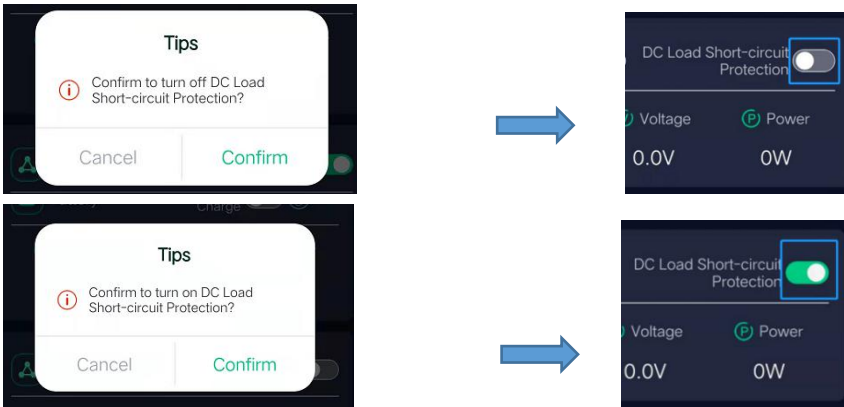
\* This switch would turn OFF automatically, once the battery in the system have been over-discharged, or regarded as over-discharged by the controller, meanwhile the DC load output also would be cut.

### 2.2.3 DC Load Short-circuit Protection Switch

In the DC Load Information area, we may notice there are 2 switches, and the one on the right side is for turning “OFF/ON” the function of DC Load Short-circuit Protection.



The default setting for this switch is ON, and that means the DC load short-circuit protection in the controller is active presently, and any load current higher than the rated value would be cut by the system in some ways. You can click on the switch to turn off/on this protection, and confirm the orders in the following dialog boxes:



DC load short-circuit protection is very important for solar charge controller. Once there is any short-circuit happened in the load side, the controller could cut the load output to limit the damages and protect the system. However, there are many DC load appliances would have huge current in the starting process, and such high current may trigger the DC load short-circuit protection and cut the DC load output, so the load actually would not be turning on at all. In order to start such DC load appliances with high starting current, we decide to add such switch here for user's option, to disable the protection temporarily, and allow the loads to be turning on.

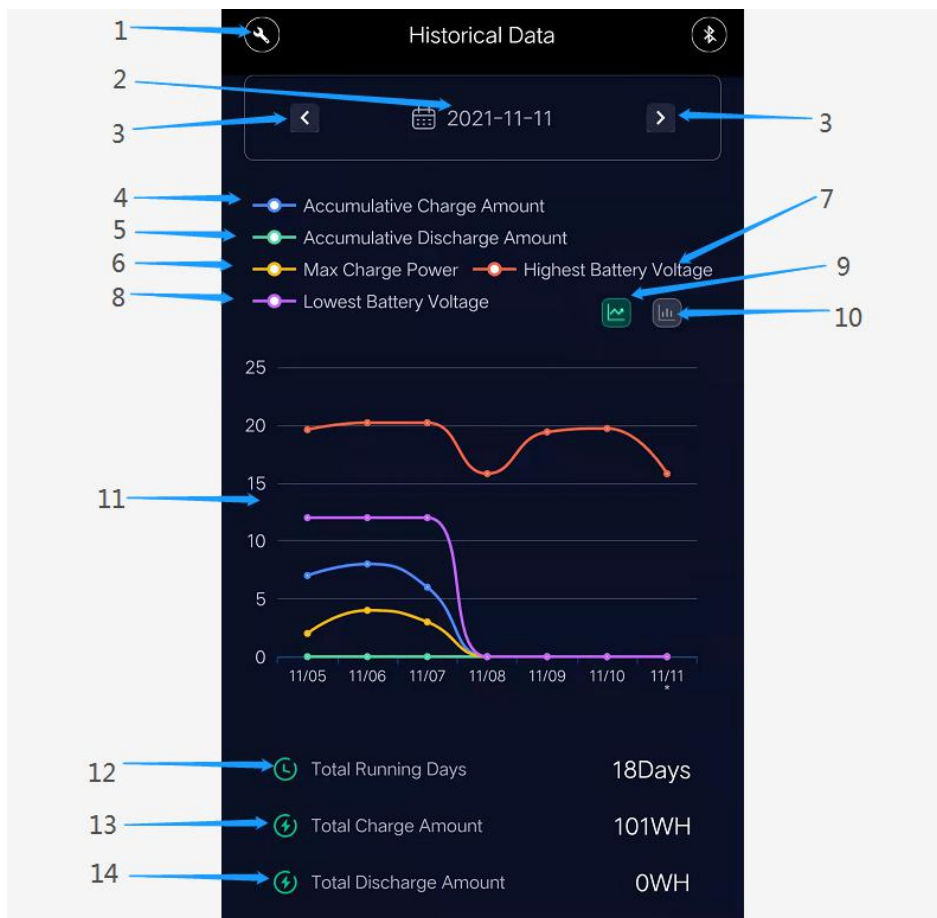
Remarks & Tips on “DC Load Short-Circuit Protection Switch”:

- \* The same as “DC Load Switch”, you would not see this switch if your controller has no DC Load control function. However, you would see this switch as long as the controller has load control, no matter what DC Load mode it is in, and that's different from “DC Load Switch”.
- \* In any ways, to turn off DC load short-circuit protection might be dangerous. If it is OFF, the DC load output would still keep on even if the load has been short-circuited at the meantime, and that might cause worse damage to all parts in the system. You may consider to turn the protection ON again, after such DC loads has been started successfully, but before the next start, you still would have to switch it off again as well.
- \* Some DC loads may have special design, and we still could not turn them on even if we have turned OFF the protection.
- \* Don't turn off this protection if you can turn the DC load on with this switch ON. And please don't try to plug in DC load with higher current than rated value for the controller (while this switch is OFF), it would CAUSE FIRE to the controller!!!
- \* The status of this protection would not be recovered even if you recover the controller back to default settings (5.1).



## Section 3: "Historical Data" Page Overview & Instruction

### 3.1 "Historical Data" Page Overview

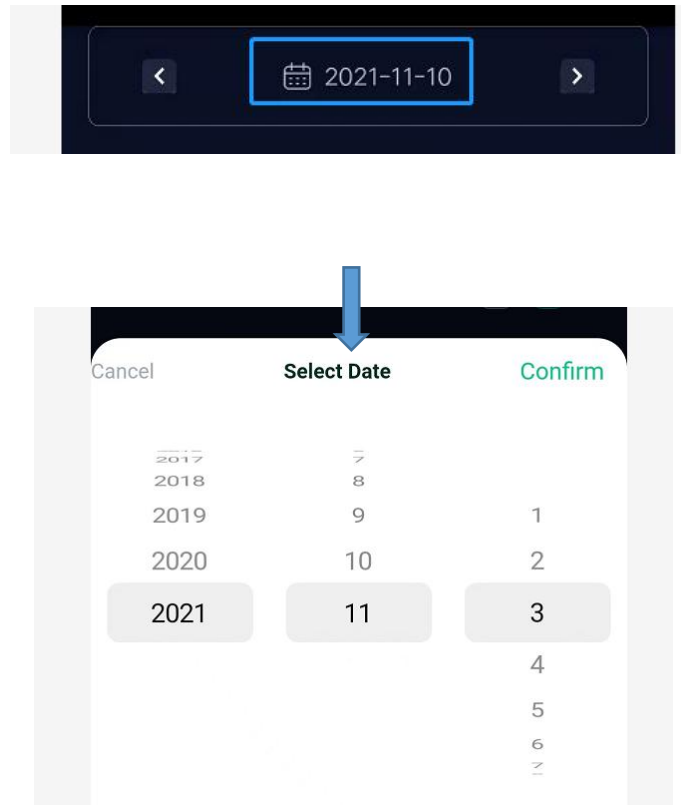


No.	Item	Description	Remark
1	Diagram Tool	click to enter the diagram tool page	It's not the device information in this page
2	Date	to select a certain date for data review	a calendar would display for selection
3	Date Increase/Decrease	to increase / decrease the date for data review	
4	Accumulative Charge Amount	accumulative charge amount that day	you can switch it on/off from the diagram
5	Accumulative Discharge Amount	accumulative discharge amount that day	you can switch it on/off from the diagram
6	Max Charge Power	max charge power recorded that day	you can switch it on/off from the diagram
7	Highest Battery Voltage	highest battery voltage recorded that day	you can switch it on/off from the diagram
8	Lowest Battery Voltage	lowest battery voltage recorded that day	you can switch it on/off from the diagram
9	Curve graph Switch	switch to curve graph display	
10	Histogram Switch	switch to histogram display	
11	Curve Graph / Histogram Overview	curve graph / histogram display	Historical data overview in the last 7 days
12	Total Running Days	system total running days	
13	Total Charge Amount	system total charge amount	
14	Total Discharge Amount	system total discharge amount	

### 3.2 Operations on “Historical Data” Page

#### 3.2.1 Date Selection

In the Historical Data page, we can display 7 days’ system working record in the diagram. By click on the “Date”, we can select a certain date in a box of calendar, and the below diagram would display the last 7 days’ system working record from that selected day.




At meanwhile, we also can click on both arrows on the left and right sides of the “Date”, for adjusting date by increase and decrease 1 day by 1 day.

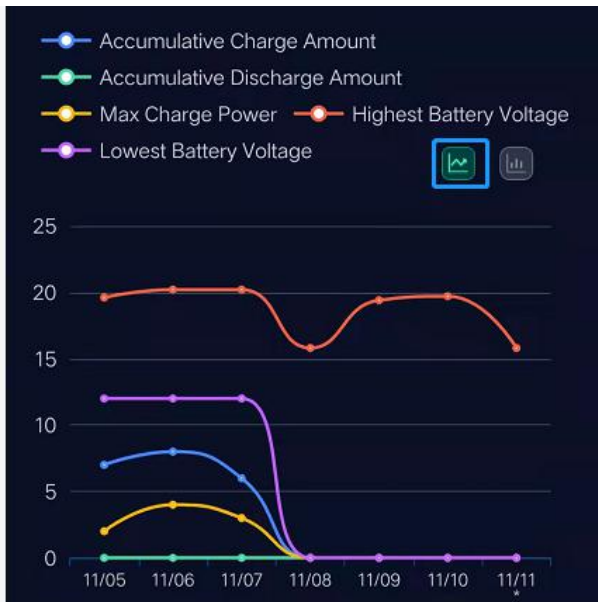


Remarks & Tips on “Date Selection”:

\* Our APP would record as much as 300 days’ system working data, and any other dates out of this range would be regarded as invalid data and the system would get back to the last effective date.

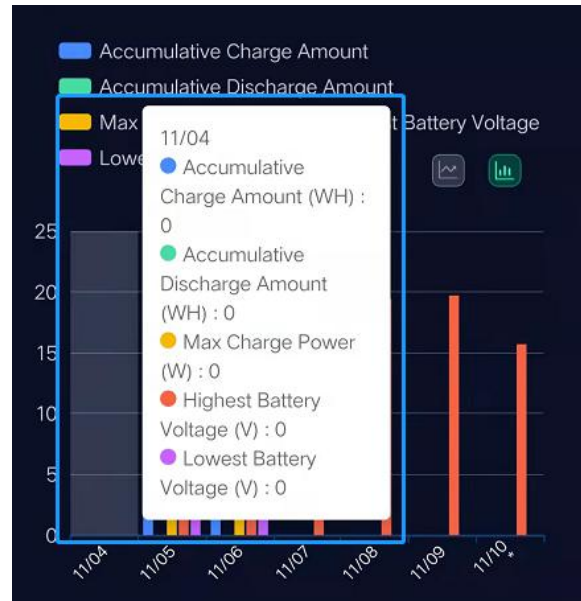
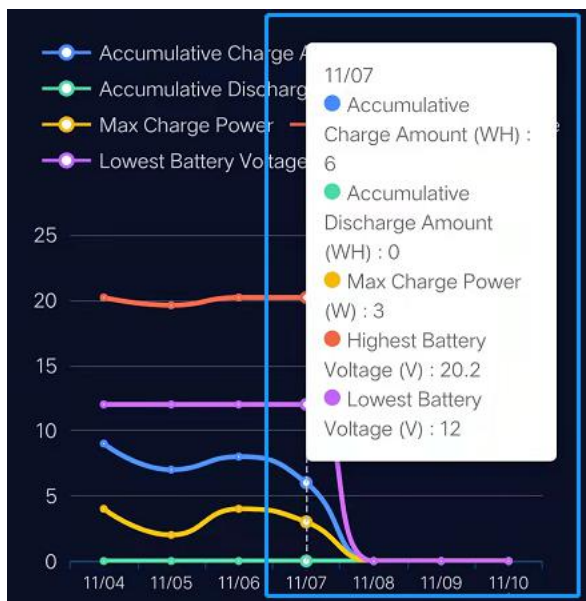
### 3.2.2 Diagram Switch & Operations

You can switch the diagram from curve graph display to histogram display, or shift it back, by click the relevant 2 buttons in the Historical Data page. You also can switch them in Diagram Tool page, entering by click here 

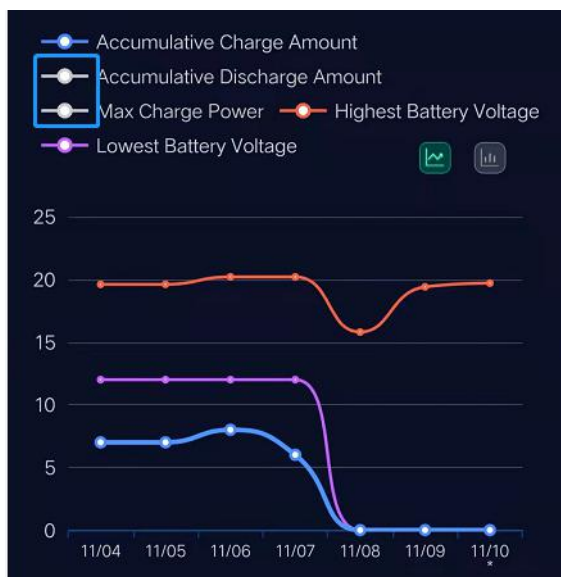


Click on the area of any of those 7 days in the diagram, then we can have a detailed view of all 5 items as follow:

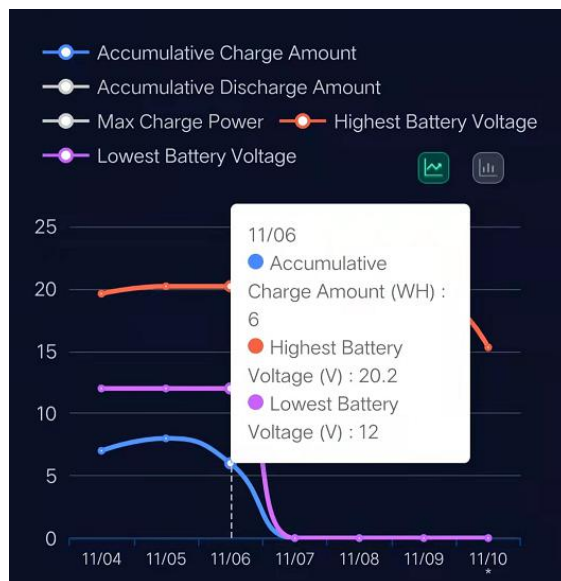
- \*Accumulative Charge Amount / WH
- \*Accumulative Discharge Amount / WH
- \*Max Charge Power / W
- \*Highest Battery Voltage / V
- \*Lowest Battery Voltage / V



There are 5 items displayed in the diagram, and you also can try to hide any of them, or active them back then, by click on the name are of those 5 items. For example, here at below, we have hidden the curves for “Accumulative Discharge Amount” & “Max Charge Power”, and leave only 3 other curves displaying in the diagram.



Meanwhile, we also just can have the detailed data view of the remaining 3 active items as following picture:




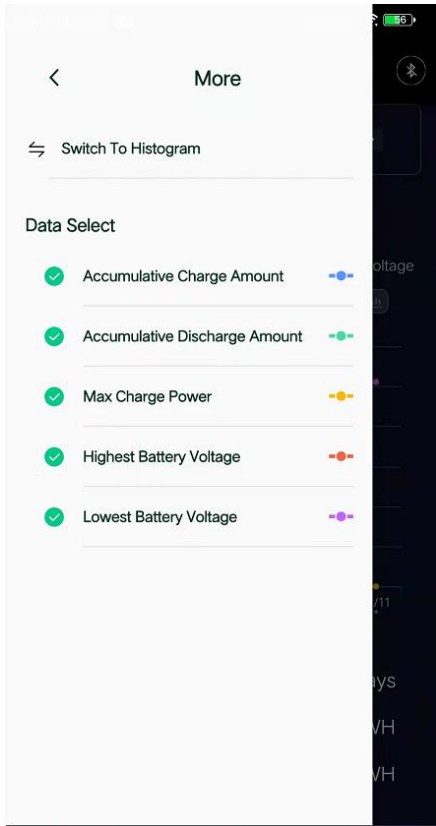
Remarks & Tips on “Diagram Switch & Operations”

\* Our controllers have no extra SD card for memory room, and our ST brand IC leaves us enough flash space to record 300 days’ data, but only one data of those 5 items in each single day, due to memory space limit.

\* The numbers on the left side of diagram have no data unit combined, but you can read the full value in the detailed view box of all 5 items.


### 3.2.3 Diagram Tool Page Operations

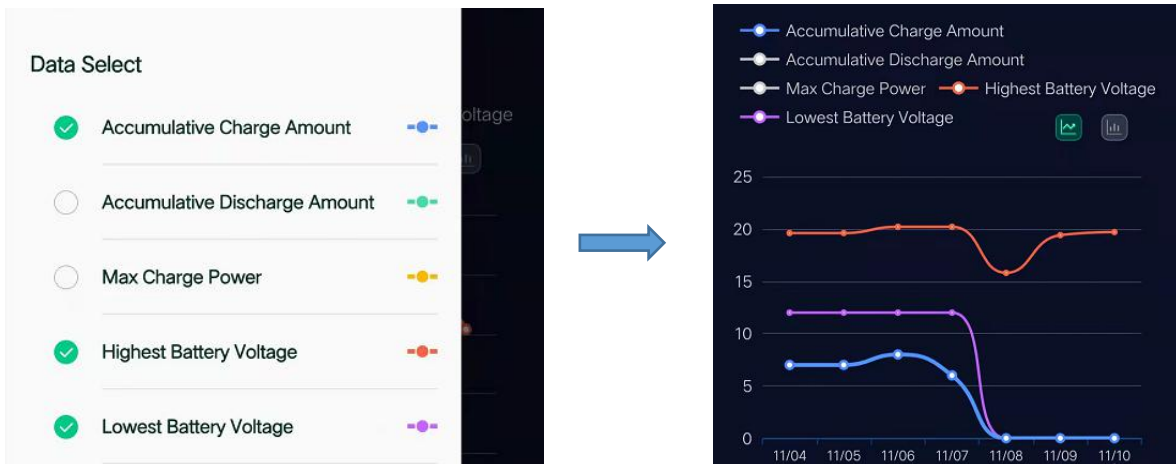
Click here  to enter the Diagram Tool page as a slide menu at below. This page is actually for helping the user to switch the diagrams, and hide or active those 5 data items.



You can also switch the diagram from curve graph display to histogram display, or shift it back, in this page.



You also can click here on  Max Charge Power or  Max Charge Power to hide or active the relevant data items to archive the same results as click on the name area of those items in the diagram of Historical Data page.

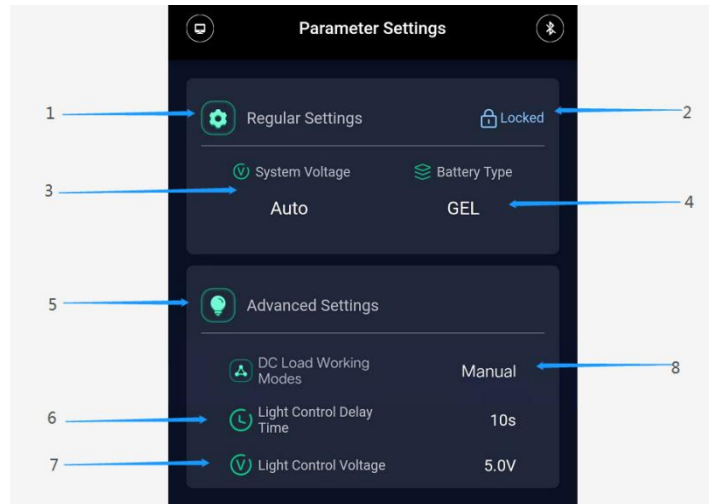


## Section 4: “Parameter Settings” Page & Instruction

### 4.1 “Parameter Settings” Page Overview

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

Default settings for battery type “GEL” (gel battery), and the same are for “FLD” (flooded battery) and “SEL” (sealed or AGM battery). Basically, they are all Lead-Acid Battery, and we don’t allow much parameters to be set for them.



No.	Item	Description	Remark
1	Regular Settings Information	for charge controller regular settings	for general settings
2	Setting Lock	to lock or unlock the settings page	to prevent wrong settings by mistake
3	Battery System Voltage	battery system voltage display & Settings	not adjustable for GEL/FLD/SEL
4	Battery Type Setting	battery type display & setting	to set battery type GEL/FLD/SEL/LI/USE
5	Advanced Settings Information	for charge controller advanced settings	for professions' settings only
6	Light Control Delay Time	for dusk to dawn function switch delay time	a delay time before “dusk to dawn” function enforcement, to prevent DC load turning on or off in a wrong time or wrong way.
7	Light Control Voltage	For dusk to dawn function switch	when the PV voltage drops to a lower value than that, the “dusk to dawn” function (DC load turning on) would be available; when the PV voltage exceeds to a higher value than that, the “dusk to dawn” function (DC load turning off) would be available.
8	DC Load Working Modes	to select DC load working modes	please refer to 4.2.3.1

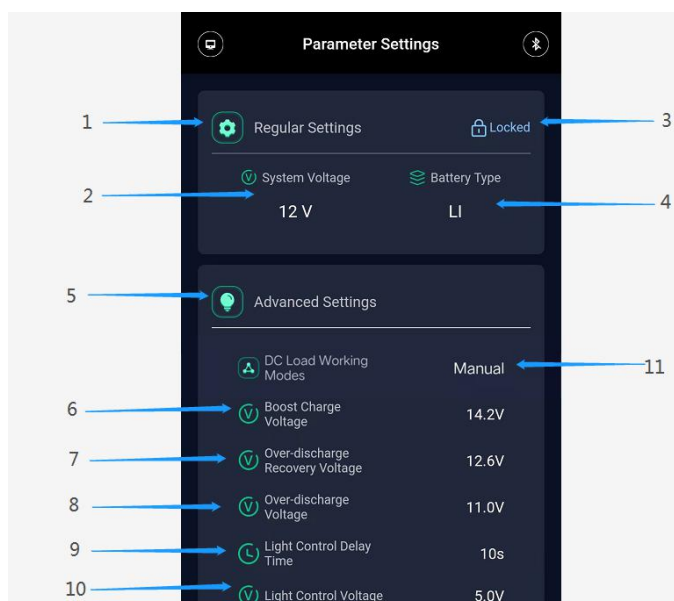
Remarks & Tips on “GEL/FLD/SEL” Battery Type Settings:

\* “GEL/FLD/SEL” have already covered most of the Lead-Acid type battery, and please use the default settings for them.

\* If you need to set different charge parameters for your Lead-Acid type battery other than the default settings, please advise the professions before you process any operation.

#### 4.1.2 LI / Lithium Battery Type Setting Page Overview

Battery Type LI page is for lithium battery information display and settings. When you set the battery type on “LI”, then you would see the content at below page.



No.	Item	Description	Remark
1	Regular Settings Information	for charge controller regular settings	for general settings
2	Battery System Voltage	battery system voltage display & Settings	12V-24V-36V-48V manually setting for Lithium Battery
3	Setting Lock	to lock or unlock the settings page	to prevent wrong settings by mistake
4	Battery Type Setting	battery type display & setting	to set battery type GEL/FLD/SEL/LI/USE
5	Advanced Settings Information	for charge controller advanced settings	here is for Lithium Battery settings only
6	Boost Charge Voltage	to view and set over-charge or max charge voltage for lithium battery	Here is for over-charge or max charge voltage for lithium battery only
7	Over-discharge Recovery Voltage	to view and set over-discharge recovery voltage	
8	Over-discharge Voltage	to view and set over-discharge voltage	
9	Light Control Delay Time	for dusk to dawn function switch delay time	a delay time before “dusk to dawn” function enforcement, to prevent DC load turning on or off in a wrong time or wrong way.
10	Light Control Voltage	For dusk to dawn function switch	when the PV voltage drops to a lower value than that, the “dusk to dawn” function (DC load turning on) would be available; when the PV voltage exceeds to a higher value than that, the “dusk to dawn” function (DC load turning off) would be available.
11	DC Load Working Modes	to select DC load working modes	please refer to 4.2.3.1

Remarks & Tips on “LI” Lithium Battery Type Settings:

\* The default setting of “LI” Battery Type is for 12.8V Lithium Iron Phosphate (LiFePO4).

\* We advise you to decrease a little of “Boost Charge Voltage” for lithium battery by 0.2V-0.4V. Like for 4S LiFePO4 battery, the required Charge Voltage in the specs is  $3.65V * 4 = 14.6V$ , but it’s better to set  $3.6V * 4 = 12.4V$ .



### 4.1.3 USE / User Battery Type Setting Page Overview

USE/User mode is for battery or solar professions to customize a set of battery charge parameters for some certain kinds of batteries for some certain usage that requires different settings from the other common type of batteries. When you select “USE” in Battery Type, you would enter the below page, with a full range of battery parameters available for setting.



No.	Item	Description	Remark
1	Regular Settings Information	for charge controller regular settings	for general settings
2	Battery System Voltage	battery system voltage display & Settings	12V-24V-36V-48V manually setting for User Type battery
3	Setting Lock	to lock or unlock the settings page	to prevent wrong settings by mistake
4	Battery Type Setting	battery type display & setting	to set battery type GEL/FLD/SEL/LI/USE
5	Advanced Settings Information	for charge controller advanced settings	here is 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	Over-discharge Recovery Voltage	to view and set over-discharge recovery voltage	
11	Over-discharge Voltage	to view and set over-discharge voltage	
12	Equalize Charge Time	to view and set equalize charge time	



13	Boost Charge Time	to view and set boost charge time	
14	Light Control Delay Time	for dusk to dawn function switch delay time	a delay time before “dusk to dawn” function enforcement, to prevent DC load turning on or off in a wrong time or wrong way.
15	Light Control Voltage	for dusk to dawn function switch	when the PV voltage drops to a lower value than that, the “dusk to dawn” function (DC load turning on) would be available; when the PV voltage exceeds to a higher value than that, the “dusk to dawn” function (DC load turning off) would be available.
16	Temperature Compensation	for battery maintenance in high and low temperature	
17	Equalize Charge Interval	to view and set equalize charge interval in days	
18	DC Load Working Modes	to select DC load working modes	please refer to 4.2.3.1

#### Remarks & Tips on USE / User Battery Type Settings

\* Only professions are allowed to process advanced operation in Voltage & Time Settings for USE Type of battery.

\* If you have done any settings under USE battery type by mistake, it's better to recover it to the factory settings, and then re-set it again.

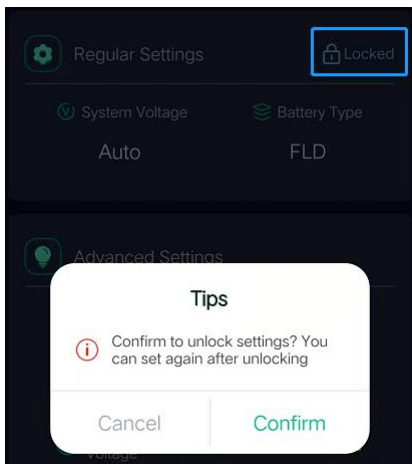
## 4.2 Operations on “Parameter Settings” Page

### 4.2.1 Operation on “Setting Lock”

We may see a “lock” at the up-right corner in Regular Settings area, and when it’s on “locked” status, we are unable to do any settings in Parameter Settings page; only operations are allowed to be processed when it’s on “unlocked” status.

Click on the “locked” lock shape icon, and confirm to unlock the settings in the following dialog box ;

Click on the “unlocked” lock shape icon, and confirm to lock the settings in the following dialog box.

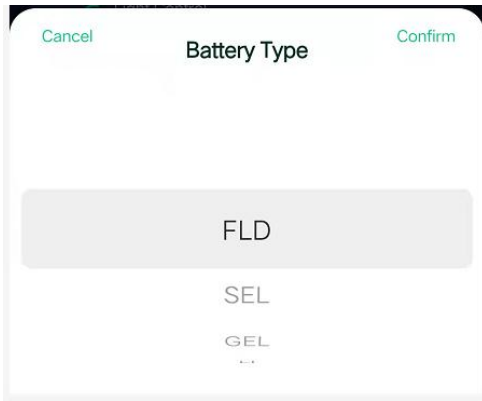


Please notice that once the setting order has been sent, or we shift this page to another one, the setting would be automatically locked again without saving the on-going settings.

#### 4.2.2 Operations on “Regular Settings” Area

In Regular Settings area, firstly we only allow the user to set on the Battery Type.

When you select battery type on GEL/FLD/SEL, the battery System Voltage would be set and fixed on “AUTO” automatically.



When you select battery type on LI/USE, then the system would allow you to select the battery System Voltage on 12V / 24V / 36V / 48V, and “AUTO” would be out of options.



Remarks and Tips on “Regular Settings”:

\* There is no “confirm” order for regular function settings, so when you have selected the Battery Type or battery System Voltage while the settings is unlocked, such order would be automatically sent to the controller once it’s been locked again.

\* For gel battery, please select “GEL” as Battery Type, and for most of the other kinds of sealed Lead-acid battery, like AGM, please select “SEL”.

\* Only if you are professions, or we do not advise you to select “USE” mode, or there is a risk of ruining your battery.


### 4.2.3 Operations on “Advanced Settings” Area

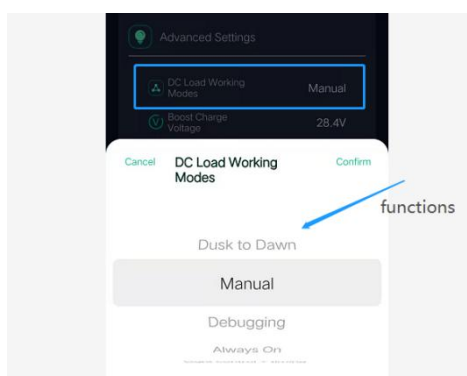
There have been many damages in the controller or the whole solar charge system, are caused by wrong or unprofessional settings. If you are not very familiar with the controller setting rules and logic, then **we advise you to inquire the professions before you process any operations here in Advanced Settings.**

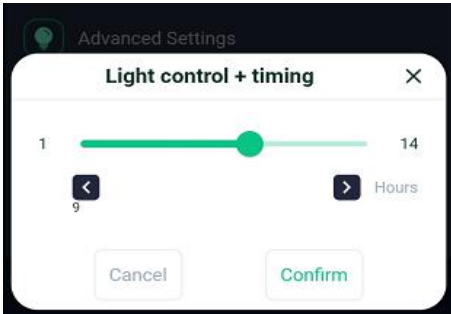
In the Advanced Settings, we will have different items allowed to be set according to different Battery Type set, please refer to 4.1.4, 4.1.2, 4.1.3 for more information. Here at below we will have an instruction for operation on all those items.

#### 4.2.3.1 Operation on “DC Load Working Modes”

Click and confirm the target function mode listed in the following dialog box. Then confirm the settings by click on icon

 to process the order to the controller, or you can do it before the setting is locked again.

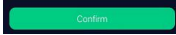


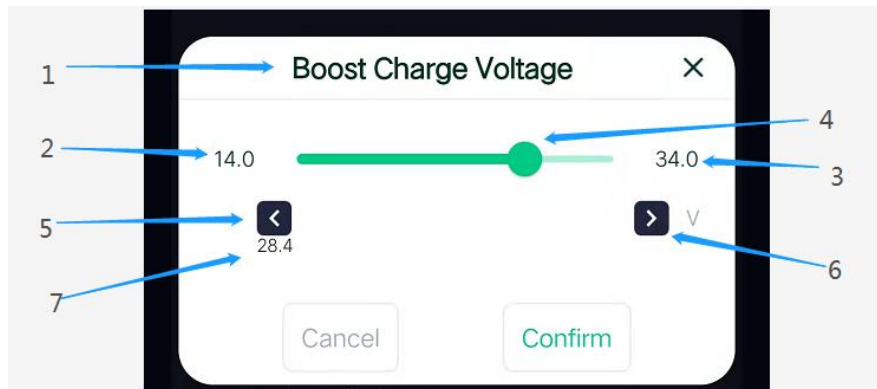
No.	Working Modes	Description	Remark
1	Dusk to Dawn	load turning on in nighttime and off in daytime	the turning on/off time depends on the “Light Control Voltage”; higher voltage, load turning on earlier.
2	Manual	turning on or off the load manually	
3	Debugging	to test the load if it’s working properly	the load would turn off in 1 minute automatically
4	Always On	load working on 24 hours a day	
5	Light Control + Timing	load turning on at the beginning of nighttime, and off in a certain hours set here from 1 hour to 14 hours.	when you select “Light Control + Timing”, then you will need to choose “Hours” from 1 to 14 hours in the following dialog box as the below picture. 

Remarks & Tips on “DC Load Working Modes” Settings:

- \* The sequence number in the above diagram does not refer to any numbers of DC Load Modes in the controller screen.
- \* Any DC loads directly connect to the controller would cut the DC output as long as the battery has been over-discharged, no matter what load mode it is on.

### 4.2.3.2 Operation on the Parameters in Advanced Settings Area

For charge voltage settings, click on the value area of those relevant voltage items, and then operate to change the voltage value in the following dialog box. Then confirm the settings by click on icon  to process the order to the controller, or you can do it before the setting is locked again.




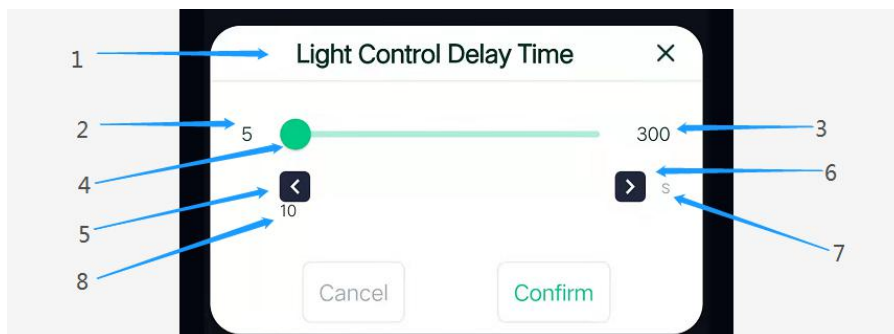
No.	Item	Description	Remark
1	Voltage Items	“Boost Charge Voltage”, “Over-discharge Voltage”, and other voltage related items.	
2	Minimum Voltage Value	the minimum voltage value allowed to be set	this value would automatically change when system voltage changes
3	Maximum Voltage Value	the maximum voltage value allowed to be set	this value would automatically change when system voltage changes
4	Voltage Adjusting Tool	for adjusting the voltage value	to increase and decrease the voltage by moving the green dot
5	Voltage Decrease Button	click to 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	click to 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	

Remarks & Tips on “Charge Voltage” Settings:

\* Voltage setting logic for LI / Lithium battery: boost charge voltage > over-discharge recovery voltage > over-discharge voltage. Any voltage setting against this logic would lead to a setting failure.

\* Voltage setting logic for USE / User Type battery: equalize charge voltage ≥ boost charge voltage > float charge voltage > boost charge recovery voltage > over-discharge recovery voltage > over-discharge voltage. Any voltage setting against this logic would lead to a setting failure.

For time related items setting, click on the value area of those relevant time items, and then operate to change the time value in the following dialog box. Then confirm the settings by click on icon  to process the order to the controller, or you can do it before the setting is locked again.



No.	Item	Description	Remark
1	Time Items	“Equalize Charge Time”, “Boost Charge Time”, and other time related items	
2	Minimum Time Value	the minimum time value allowed to be set	
3	Maximum Time Value	the maximum time value allowed to be set	
4	Time Adjusting Tool	for adjusting the time value	to increase and decrease the voltage by moving the green dot
5	Time Decrease Button	click to decrease the time by one step	one step = 1 second/minute/day
6	Time Increase Button	click to increase the time by one step	one step = 1 second/minute/day
7	Time Unit	by s/second, m/minute, d/day	different items have different time unit
8	Voltage Value to Be Set	the current time value about to be set	

#### Remarks & Tips on “Time Items Setting”

\* If you need to customize a set of voltages for GEL or other batteries requiring no equalize charge, you can decrease the “Equalize Charge Interval” value to 0 day.

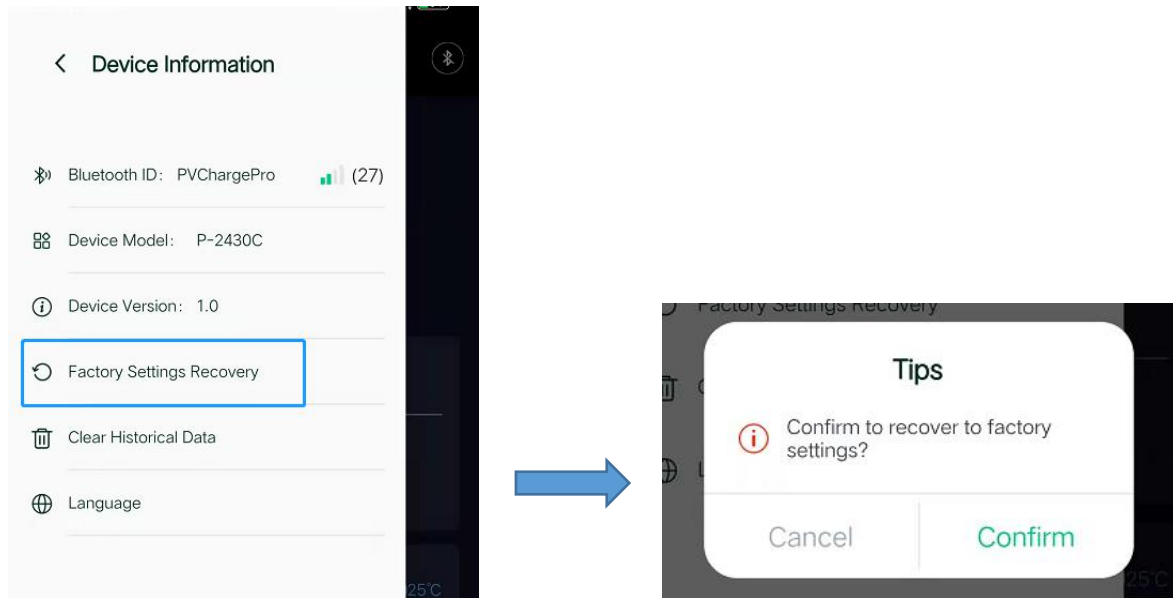
\* If you are not sure what time you are going to customize for your battery, please inquire professions first.

## Section 5: Other Operations

### 5.1 Factory Settings Recovery

In the “Device Information” page, we will see a function area of “Factory Settings Recovery”, where we can set the controller back to the default factory settings.

Usually when you have realized that you might have done some wrong settings in the controller, or found the controller working in an abnormal way, but have no idea how and why, then we can operate to recover to the factory settings, and do more operations under profession’s advises.



To click and confirm on the recovery order, and the relevant controller would get back to the factory settings immediately, but please notice that you may need to wait for some time to find the recovery default settings in the APP (for some controllers).

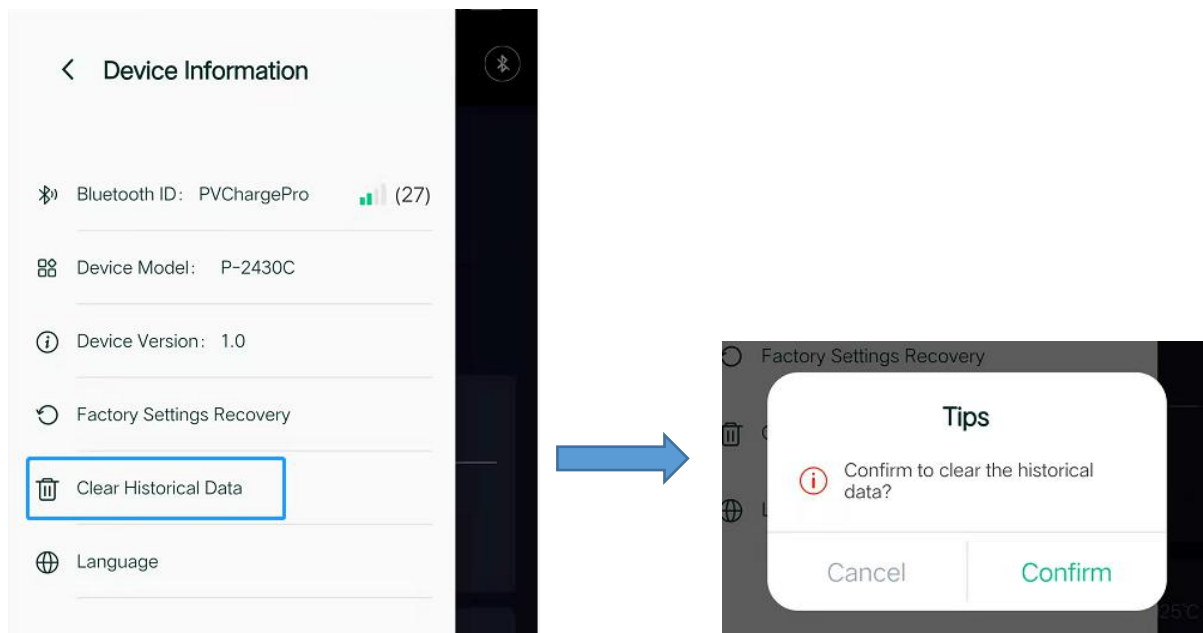
#### Remarks & Tips on “Factory Settings Recovery”

- \* Recovery to the factory settings would erase your previous settings on the controller, and that is unrecoverable.
- \* Recovery to the factory settings would not change the current status of “DC Load Short-circuit Protection”.
- \* If you are not sure what would happen for such operation, please try to inquire the professions.

## 5.2 Clear Historical Data

In the “Device Information” page, we will see a function area of “Clear Historical Data”, where we can clear the historical data for the relevant controller.

Once the controller connects to the battery, it would begin to record data, so if you would like to re-sell those controllers that have data recorded, or want to clear the data for a new recovery of use, then you can process this operation to clear the data.



To click and confirm on the clearance order, and the relevant controller would erase the historical data immediately, but please notice that you may need to wait for some time to find the data is all clear in the APP (for some controllers).

### Remarks & Tips on “Clear Historical Data”

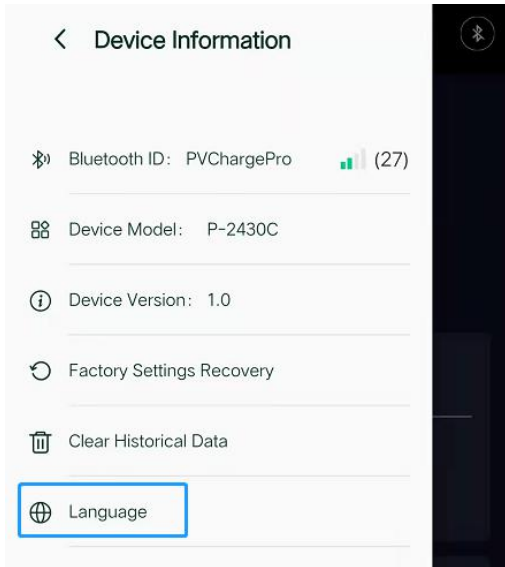
\* Clear historical data would only erase the data recorded in the controller, but would not erase or change any of previous settings in the controller.

\* If you are not sure what would happen for such operation, please try to inquire the professions.



### 5.3 Language Setting

We have 3 language options for user's choice, English/Simplified Chinese/Spanish. After starting, the APP would automatically check the phone system language setting and synchronize the same language in the APP. If the phone system language is not any of those 3 ones in the APP, then the system would automatically display English as default settings. In other cases, you can select the language setting manually in the Device Information page.



To click and confirm the target language and the system would automatically fit it.



#### Remarks & Tips on "Language" Setting

\* We currently only have English/Chinese/Spanish language options, and we are planning to add more languages in the future for APP updates.

\* Some phone system might refuse the APP to check its language information, and in this case, the APP would automatically display English as well, though your phone setting might be in Chinese or Spanish.

## Section 6: Quick Guide of APP Operation

### Step 1

- \* Start the APP, and connect to the target Bluetooth device ID.
- \* View the Bluetooth device information in “Device Information” page.

### Step 2

- \* View and monitor the system working status in “Real-time Monitoring” page.
- \* Set “Force Equalize Charge”, “DC Load Switch”, “DC Load Short-circuit Protection” accordingly.

### Step 3

- \* View the historical data in “Historical Data” page, in curve graph or histogram.
- \* View the detailed data recorded in the diagram.

### Step 4

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