

Battery Monitor Manual



Tips/Reminder

1. After receiving the battery monitor, please set it before use.
2. If not set, the battery monitor will always show 100% full charge.

Setting Before Use

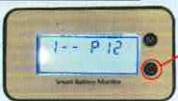
Setting for Lead-acid Battery



Long press the "M" button about 2s until the display shows 1--



Press the "Power" button to display 1--P, and then press the M button to select battery types L, P, and F. Choose P for lead-acid batteries.



Press the "Power" button again to display 1--P12, then press the M button to select the corresponding volts of the battery (press once to increase 12V). Press the "Power" button to save it and the number is not flashing anymore, and then press and hold the M button to enter the main menu.

Please note that the number is flashing after selecting the number of volts. At this time, you have to press the Power button to save it. When the number does not flash, it means it is saved. Then, long press the M button to enter the main menu. This completes the setting. After setting, every time you connect the power supply, it will display the parameters you set. For example, if your battery is a 48V lead-acid battery, it will display 1--P48 after connecting the power supply.

Setting for Fe-lithium battery



Long press the "M" button about 2s until the display shows 1--



Press the "Power" button to display 1--P, and then press the M button to select battery types L, P, and F. Choose F for Fe-Lithium batteries.



Press the "Power" button again to display 1--F03, then press the M button to select the number of strings corresponding to the battery (press once to increase 1 string). After selecting the number of strings, press the "Power" button to save it and the number is not flashing anymore. And then press and hold the "M" button to enter the main menu.

Please note that the number is flashing after selecting the number of strings. At this time, you have to press the Power button to save it. When the number does not flash, it means it is saved. Then, long press the M button to enter the main menu. This completes the setting. After setting, every time you connect the power supply, it will display the parameters you set. For example, if your battery is a Fe-Lithium battery with 8 strings, it will display 1--F08 after connecting the power supply.

Setting for Lithium Ternary Battery



Long press the "M" button about 2s until the display shows 1--



Press the "Power" button to display 1--P, and then press the M button to select battery types L, P, and F. Choose L for lithium ternary batteries.



Press the "Power" button again to display 1--L02, then press the M button to select the number of strings corresponding to the battery (press once to increase 1 string). After selecting the number of strings, press the "Power" button to save it and the number is not flashing anymore. And then press and hold the M button to enter the main menu.

Please note that the number is flashing after selecting the number of strings. At this time, you have to press the Power button to save it. When the number does not flash, it means it is saved. Then, long press the M button to enter the main menu. This completes the setting. After setting, every time you connect the power supply, it will display the parameters you set. For example, if your battery is a lithium ternary battery with 3 strings, it will display 1--L03 after connecting the power supply.

Custom Settings



Long press the "M" button about 2s until the display shows 1--, short press "M" button select 3--, then you can set the full voltage and the dead voltage



Press the "Power" button, and the screen displays 10.0 20.0, where the number 10.0 on the left represents the dead voltage, and the number 20.0 on the right represents the full voltage. After setting, Long press the "Power" button to save it. When the number does not flash, it means it is saved. Then long press the M button to enter the main screen.

➔ Please operate as this mode if you don't think the electricity and percentage are not accurate enough

How do I know the full voltage and the dead voltage of my battery?
>>>When your battery is fully charged, look at the voltage displayed on this meter, and set this value as the full voltage. When your battery is run out of power, look at the voltage displayed on this meter and set this value as the dead voltage. Customize settings based on these two voltage values.

1. Product Parameters

(1) Main Parameters

1. Voltage measurement range: DC7V-100V
2. Working current: <15MA
3. Display mode: LCD screen
4. Display color: blue screen and white screen
5. Measurement accuracy: 0.5%
6. Measuring speed: about 2 times per second.
7. Dimensions: 61.3*33.3*13.5mm (2.5*1.4*0.6inches) (length*width*thickness), Hole opening size: 58.5*28.5mm (2.3*1.12inches)
8. Weight: 25g (0.9 oz.)

(2) Product Description

1. L - Lithium ternary battery, measuring range is from L03 strings to L20 strings. And it has the power-off memory function.
2. P - Lead-acid battery, the measurement range from DC12V to 24V, 36V, 48V, 60V, 72V. And it has the power-off memory function.
3. F - Fe-Lithium battery, the measurement range is from F04 to F24 strings. And it has the power-off memory function.

(3) Explanation of each mode function (Long press M to enter each mode, The M button is the set button, the Power button is the save button, long press M to return to the main menu.)

Mode 1 is the parameter setting: Settings > L - Lithium ternary battery > F - Fe-Lithium battery > P - Lead-acid battery

The lithium battery must be set according to the number of strings corresponding to the battery, and the lead-acid battery must be set according to the number of volts corresponding to the battery.

Mode 2 is the timing function: the meter can be set to turn off automatically.

You can set the time for auto-off: after 10s, 30s, 60s or 120s; and if you set it OFF, it will be the constant light mode (the constant light mode is defaulted when shipped)

Mode 3 is the custom mode: customize the full voltage and dead voltage. It display 10.0 20.0. On the left is the voltage when the battery is 0%, and on the right is the voltage when the battery is 100%.

Mode 4 is the low-voltage alarm. Set a low-voltage value on the meter. When the voltage is lower than this value, the buzzer will alarm. Low voltage alarm can be set to ON/OFF.

Mode 5 is the calibration voltage, ▲30.0V voltage must be used for calibration

It has been calibrated before shipment, no need to calibrate again. If there is no voltage of 30.0V, do not enter the 5 mode!

Mode 6 is the temperature setting, you can set the temperature to display (ON)/no display (OFF).

Press the M button to switch the display: temperature/voltage. (the temperature read Celsius and Temperature indicates is the internal temperature of the battery monitor).

Mode 7 is the high-voltage alarm, set the high-voltage voltage value, when it is higher than this value, it will alarm. The setting method is the same as 4 mode.

Regarding lithium batteries, there is a frequently asked question: many customers do not know what type of lithium battery their batteries are.

There are two types of lithium batteries: Lithium ternary battery (L) and Fe-lithium battery (F). Here is how to distinguish: First, fully charge the battery, and then calculate based on the voltage. One string of lithium ternary batteries is 4.2V at full capacity, and one string of Fe-lithium batteries is 3.6V at full capacity. For example: if the battery shows 84V after being fully charged, then it is a lithium ternary battery with 20 strings, please set it to 1-L20.

2. Wiring Method

The battery monitor has only two wires: **the red wire for the positive**, and the black wire for negative. then the voltage, capacity and percentage of battery can be displayed.

The wiring method used on the battery: connect to the positive and negative poles of the battery switch

The wiring method used in the car: connect the car cigarette lighter or the positive and negative poles of the fuse box

The wiring methods used on electric vehicles or motorcycles are as follows:
Two wiring methods

Method 1: Connect the positive and negative poles of the dashboard cable

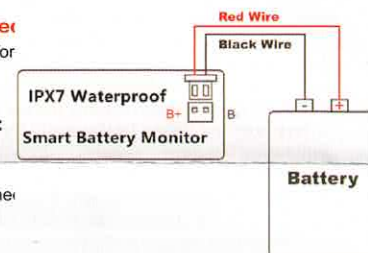
Method 2: Connect the electric door lock

The red wire of the battery monitor is connected to the positive wire of the electric door lock output (the wire coming out from the back of the key),

Connect the black wire of the battery monitor to any negative wire on the vehicle (▲Except for the electric door lock and handle!)

The display of the battery monitor after correct wiring:

The screen of the battery monitor lights up when the key of vehicle is turned on, and the screen does not light up when the key is turned off.



3. The Common Q&A

Q1: Is the battery monitor waterproof?

The battery monitor is divided into two types: waterproof type and no waterproof type

No waterproof type:The meter is not waterproof and is not suitable for use in rainy environments. Be sure to take waterproof measures for outdoor use.

Waterproof type:The battery monitor has fully enclosed shell, and its surface with special process treatment through which can be used in outdoor or humid environment.

Q2: Why the meter always shows full power?

A: The setting is not completed! The product has to be set before use, and the battery display will be accurate after setting.

The setting can be operated in mode 1 and mode 3 (just select one mode to setting. If both modes are set, the latter one shall prevail.)

Mode 1 is the standard parameter setting, 3 kinds of batteries can be set (lead-acid battery, lithium ternary battery, Fe-lithium battery)

Other battery or your battery parameters are different from the mode 1, please customize the settings in the mode 3.

Q3: Why is the battery electricity displayed as 100% when it is fully charged, but after a while, the electricity is only displayed as 80 to 90%?

A: Generally speaking, after a fully charged battery is left for a period of time, the voltage will drop to a certain extent, so the displayed electricity will drop accordingly. At this time, you can use custom settings to set the dropped voltage as full voltage.

Q4: Why does the battery power drop by a lot when the electric vehicle is speed up? When the accelerator is released, the displayed electricity is rises again.

A: This is normal. The battery monitor detects the real-time voltage and electric of the battery. When the accelerator is turned on during the driving of an electric vehicle, the battery discharges with a large current, and the voltage will be greatly reduced at this time, and the power will drop accordingly. The voltage will slowly rise when the accelerator is released. The actual capacity is based on the static state.

Q5. How many strings are my lithium batteries?

A: There are many kinds of lithium batteries. Different manufacturers use different batteries. There is no a standard. The number of strings shown in the table on the right is the largest battery type and specification on the market. If the number of strings of your battery is different from them, please set it according to your specifications, or customize it in Mode 3.

Battery Voltage	General number of strings	Full voltage	Other number of strings
12V	Lithium ternary battery with 3 strings	12.6V	
	Fe-Lithium battery with 4 strings	14.5V	
24V	Lithium ternary battery with 7 strings	29.4V	6strings
	Fe-Lithium battery with 8 strings	29.2V	
48V	Lithium ternary battery with 13 strings	54.6V	14 strings
	Fe-Lithium battery with 16 strings	58.4V	17 strings
60V	Lithium ternary battery with 17 strings	71.4V	18 or 16 strings
	Fe-Lithium battery with 20 strings	73V	19 or 21 strings
72V	Lithium ternary battery with 20 strings	84V	19 or 21 strings
	Fe-Lithium battery with 24strings	87.6V	23strings