

## Owner's Manual

### EST100 - Battery charger and stabilizer



# INSTRUCTION

It is of utmost importance that before using your charger, you read this manual and follow the safety and operating instructions exactly. Keep the battery and charger protected.

## CAUTION!

There are WARNING labels printed on the top of machine. Please strictly control the working environment to meet the requirements when using the machine. Otherwise, it may damage the charger or other devices which connected to charger, more seriously may endanger personal safety.

## CAUTION!

Combustible gas will be produced when charging, fire is strictly prohibited at the operating site .

## ATTENTION!

It's best to use our accessories, Do not repair the machine by yourself. Please make contact with our professions if replacement required. Before using, Please ensure that the appearance of the machine is complete, there is no obvious bump, so as to avoid internal short circuit caused by bumps and other issues.

## CAUTION!

This machine can only charge the rechargeable battery, one-time battery charging is strictly prohibited. Battery specifications have to be matched otherwise it may bring damage to the battery and charger even explosion. If battery acid splash skin, eye or clothing, wash immediately with soap and water. Seeking for medical attention if necessary.

## WARNING!

Power supply voltage as well as wire size should in strict accordance with the charger nameplate. Positive and negative of charge clip can not be reversed, to keep the charger clean. All cables should be placed neatly. After using, Not only to turn off the machine switch, but also to unplug the socket for insurance purposes. Do not open the cover with electricity charged for maintenance, please contact our professional before open it.

## WARNING!

Keep the machine from children when it running. Pay attention to earthing and avoid electric shock. Please keep watched when the machine working, so as to avoid problems. Pay attention to ventilation.

### Usage of charger:

1. When the battery and charger are connected, try to make full use of the clip length and keep the charger and battery as far apart as possible.
2. Do not place the charger directly on the battery.
3. Keep ventilation.
4. The power supply and charging clip are connected correctly.

5. During the normal charging process, to stop charging, please press the Enter / Stop key first, then unplug the charging clip. Avoid disconnecting the power outlet directly.

6. It takes a long time to fully charge the battery. Please be patient.

7. Batteries with short-circuit internal unit can not be charged.

Different working modes:

Before turning on the power, make sure that the voltage is normal, the socket is in the right size and the battery is intact. For the different functions required, operate the machine correctly and select the appropriate operating mode:

**Charging mode:** The regular mode for battery under normal condition. The long-time-placed or severe leakage of battery may need to force to start and repair. When charging mode is selected, you need to select whether the battery inside the car or outside the car, and the machine will make a slightly different treatment depending on the selection. Then you should choose the type of battery to make a different charging voltage and current. Make the right choice, allowing to protect charger effectively and work efficiently.

**Programming mode:** To provide a stable voltage source for the car in need of system programming or decoding. You need to full-charge the battery, to avoid the voltage instability caused by charging. This machine can adjust the programming voltage according to need, voltage range of 12-16V can be directly selected, please operate properly. A stable voltage source allows for better system programming and decoding.

**Exhibit mode:** Prevent from battery power shortage of the car due to long-term placement, could not be used in a crucial time and cause serious leakage. When choosing this mode, According to need, continue to charge the battery in small current to ensure that the battery has been in full power state.

**Hidden repair mode:** This mode will indicate whether the battery should be repaired according to judgment from charger, please select the mode manually and follow instruction when repair needed.

Dispose remainder:

Suggesting that the clip is in poor contact. If it still shows the clip in poor contact when the charge clamp is normally connected and the battery voltage is above 5V, remove the battery clip, clean the electrode and reconnect. If it doesn't work, please press the enter key for a while to force start charging. If there is no current for a long time, please contact our after-sales personnel.

Suggesting that temperature is too high. If in that case, please remove the charging clip, no need to turn off the machine, place it for a while, it will cancel the alarm automatically and return to interface when the temperature is normal. If it shows excessively high temperature when you just started the machine, do not use and contact our After-sales service.

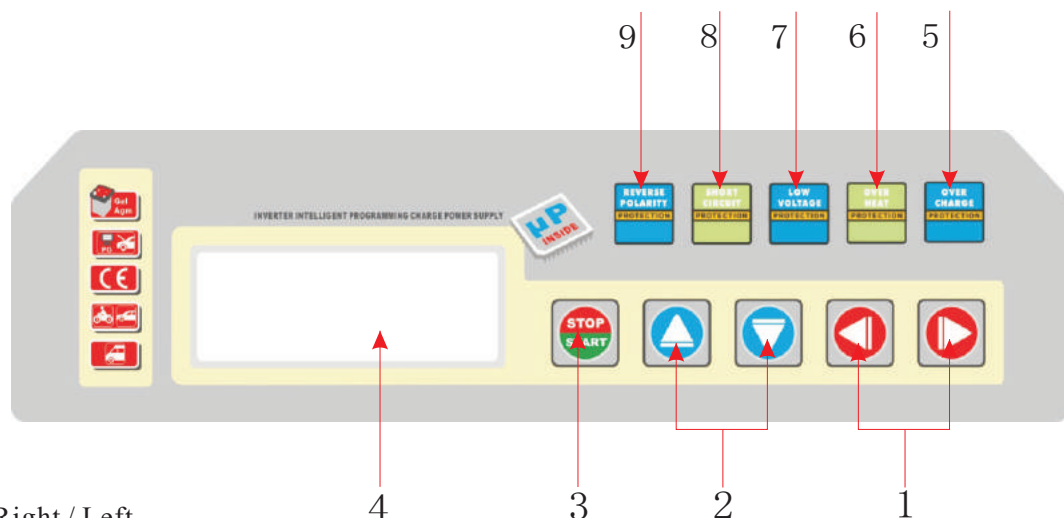
Suggesting that the current is too high. This situation due to serious battery loss or weighting the battery when it is charging. If the loss is too serious, in this case, adjust the voltage to 12V to make charging. Switch to normal charging when the current is lower than 8A.

If you are prompted that the battery is reversed, unplug the battery clip, make sure the charging clip is properly connected.

If it shows battery is damaged, please replace it.

If it shows battery is full-charged and easily to consume, it means a damaged battery, please replace it.

Operation panel is as follows:



1. Right / Left
2. Up / Down
3. Switch
4. Monitor
5. Over Charge Protection
6. Over Heat Protection
7. Low Voltage Protection
8. Short Circuit Protection
9. Revert Polarity Protection

English switching:  
STOPKEY+RIGHTKEY+LEFTKEY!

**Overcharge protection:** In the charging process, the machine will constantly detect the battery state to prevent damage from overcharging.

**Over heat protection:** It will automatically stop charging when the machine is over heat. The internal fan works.

**Low Voltage Protection:** When the input voltage is lower than required, the machine will not work.

**Short circuit protection:** Battery is damaged. The machine will not work when Internal part short circuit.

**Revert Polarity Protection:** The LCD displays when the battery clip is reversed.

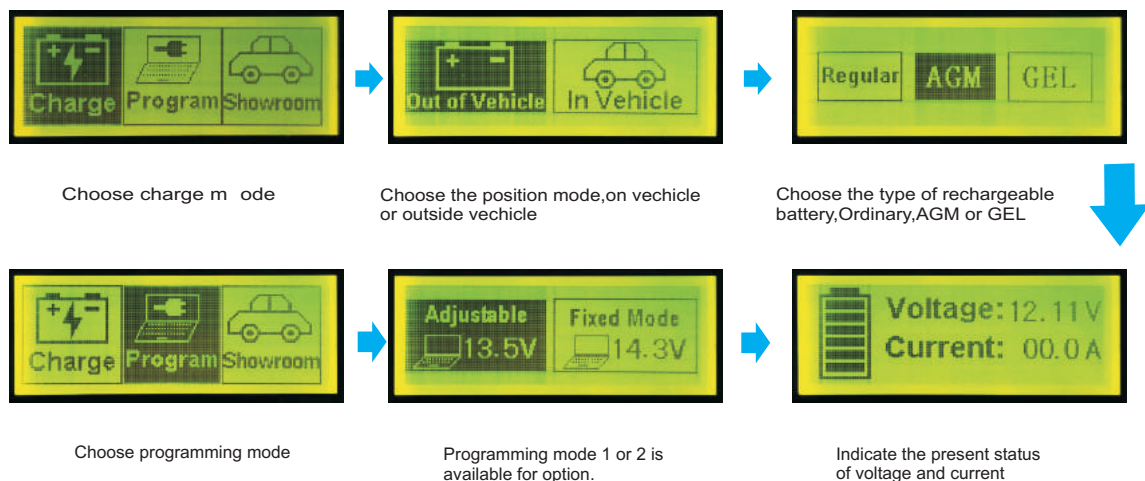
**ON/OFF:** If the charging clamp is in bad contact, press the key to enter the forced start mode.

Use left and right keys to switch options, up and down keys to the previous step and the next step. Press the start stop button to start and halt.

When adjust the programming voltage, you need to select the adjustable mode, then press right and down buttons at the same time, after you hear the warning tone, you can use the up and down keys to set voltage. After setting, press the right and down keys again to logout, then press ON to start.

## Operation procedure:

The machine will automatically adjust the charging voltage and current during charging process.



**Note:** This charger should not be used as a substitute for battery, If it is necessary to replace battery, a spare battery must be connected

## Specification data

Item	Unit	EST-100
Input Voltage	V	220-240V
Rate	Hz	50/60
Input Power	W	1200W
MAX	RMS	100A
Charging Voltage	v	12
Programming mode	PG VA	2-16V/2-100A
MAH	Ah	10-1200
Demension	cm	43×35×14
Weight	Kg	8.5