

INSTRUCTION MANUAL



SMART BATTERY CHARGER

12V10A & 24V/5A

7 - Stage Automatic Smart Battery Charger For Lithium, Lead-Acid, LiFePO4... (AGM, GEL, SLA, WET, DEEP CYCLE... BATTERIES)



IMPORTANT SAFETY INSTRUCTIONS

Please read this manual and follow the instructions carefully before using.

MAIN FEATURES:

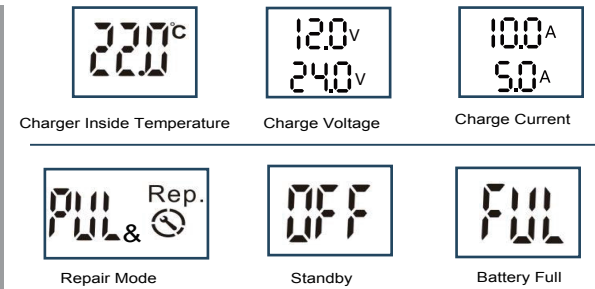
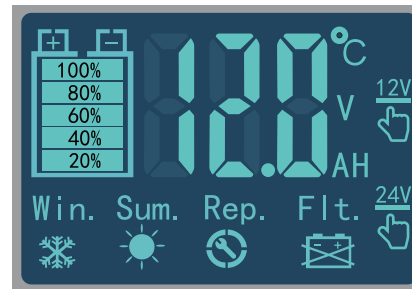
- High efficiency (>85%).
- Lithium, Lead-Acid, LiFePO4 battery type can selectable
- The 7-stage microprocessor controlled charging process provides the best possible application and enables efficient battery charging.
- Charging voltage adapts to temperature, that can prevent over- or under- charging of battery.
- Capable of recharging severely discharged or heavily sulfated battery.
- Reverse polarity protection, short circuit protection, over-charge protections, parks free contact.
- LCD display: voltage, current, temperature etc.
- Ease of use. Clear charging status display.
- Full microprocessor controlled.
- Do not over-charge your battery even it is kept connecting in any mode.

WARNING:

- The charger is designed for **12V and 24V** Lithium, Lead-Acid, LiFePO4 batteries with capacity from 6AH - 120AH(12V), 6AH - 60Ah(24V).
- Check battery manufacturer specifications before using.
- Explosive gases may emitting from battery during charging. Provide ventilation to prevent flames and sparks.
- Do not expose charger to the sun, or under high temperature environment.
- Battery acid is corrosive. Rinse immediately with water if acid comes into contact with skin or eyes.
- Do not charge a frozen or damaged battery.
- Do not charge non-rechargeable batteries.
- Do not place the charger on the battery while charging.

- Be extra cautious to reduce risk of dropping a metal tool onto battery. It might spark or short-circuit battery or other electrical part that may cause explosion.
- When working with a lead-acid battery, remove personal metal items such as rings, bracelets, necklaces, watch...
- Do not smoke or allow a spark or flame while charging.
- In order to reduce risk of electric shock, unplug charger from AC outlet before doing any maintenance or cleaning.
- Not for use by children or by anyone who is unable to follow instructions of this manual, unless they are supervised by an adult to ensure the proper use of charger.

LCD DISPLAY:



Test Mode
An automatic battery test is conducted immediately after the absorption stage, it monitors the voltage for 10 minutes to determine if the battery is full or not



Low Voltage
Battery voltage is too low or battery can't save the power



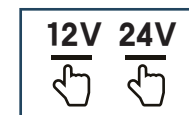
End of Repair Function



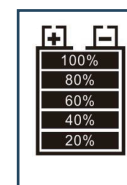
Winter Mode
When the temperature is below +10°C, Raise the charge voltage
Only for Car mode



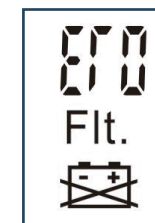
Summer Mode
When the temperature is above +28°C, Reduce the charge voltage
Only for Car mode



12V/24V Battery



Battery Capacity



Wrong polarity, please change the connection of the clamps

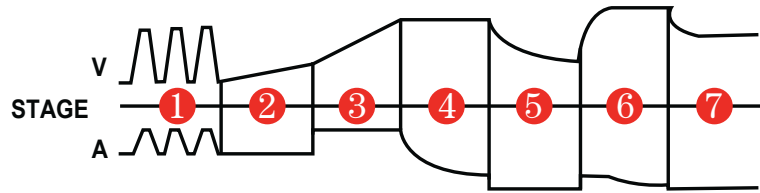
Defect battery, please let the battery be checked by a mechanic and if necessary change the battery

Bad connection, please check the connection between the charger and the battery



Made in China

7-STAGE CHARGING PROCESS



- 1-stage: Battery desulphation >> this stage only for car mode
- 2-stage: Soft start charging
- 3-stage: Bulk charging
- 4-stage: Absorption charging
- 5-stage: Battery test
- 6-stage: Recondition charging
- 7-stage: Float & maintenance charging



CHARGER MODES:

The charger has seven (7) modes: Standby, 12V Lithium, 24V Lithium, 12V Car, 24V Car, 12V Motorcycle(LiFePO4), 24V Motorcycle(LiFePO4), REPAIR.

It is important to understand the differences and purpose of each charge mode. Do not operate the charger until you confirm the appropriate charge mode for your battery.

Below is a brief description:

Lithium Batteries Mode

For charging 12.6V or 25.2V Lithium batteries. When selected, the Lithium blue LED will illuminate. For use on batteries with Battery Management Systems (BMS) only.

Lead-Acid Batteries Mode

For AGM, GEL, SLA, WET, DEEP CYCLE, EFB, Calcium Batteries

Motorcycle and LiFePO4 Batteries Mode

For Motorcycle batteries and LiFePO4 batteries

Repair Mode (16 hours)

An advanced battery recovery mode for repairing and storing, old, idle, damaged, stratified or sulfated.

Not all batteries can be recovered, only can use on Motorcycle and Car batteries

Charge mode select button

After charging for 30 seconds, the mode button will be locked. If you want to use it again, need to remove the alligator clip from the battery

CONNECT TO THE BATTERY:

Do not connect the AC power plug until all other connections are made. Identify the correct polarity of the battery terminals on the battery. Do not make any connections to the carburetor, fuel lines, or thin, sheet metal parts. The below instructions are for a negative ground system (most common). If your vehicle is a positive ground system (very uncommon),

follow the below instructions in reverse order.

- 1.) Connect the positive (red) clamp to the positive (POS,P,+) battery terminal.
- 2.) Connect the negative (black) clamp to the negative (NEG,N,-) battery terminal.
- 3.) Connect the battery charger into a suitable electrical outlet. Do not face the battery when making this connection.
- 4.) When disconnecting, disconnect in the reverse sequence, removing the negative first (or positive first for positive ground systems).

BEGIN CHARGING:

- 1.) **Verify the voltage and chemistry of the battery.**
- 2.) Confirm that you have connected the battery clamps or eyelet terminal connectors properly and the AC power plug is plugged into an electrical outlet.
- 3.) Press the mode button to toggle to the appropriate charge mode.
- 4.) The mode LED will illuminate the selected charge mode and the Charge Icon will illuminate (depending on the health of the battery) indicating the charging process has started.
- 5.) The charger can now be left connected to the battery at all times to provide maintenance charging.

Auto-Memory: The charger has built in auto-memory and will return to the last charge mode when connected.



Pulse Repair



Intelligent Detection



Multi Protection



Temp. Detection



Winter



Summer

SPECIFICATIONS:

- Product Model:
- AC Input Voltage: 100-240V 50/60Hz
- Output Voltage: 12V/24V
- Output Current: 12V10A & 24V5A
- Output Volt under No Load: 27.6V
- Minimum Start Volt: >9.0V
- Input Power with Load: MAX.120W
- Input Power under no Load: 2.8W
- Net weight: 470g
- Dimension: 158x90x50mm