

Sailnovo®

SMART BATTERY CHARGER

Car & Motorcycle

Read and understand these instructions before attempting any operation of this battery charger and retain for future reference!



6V/12V



For Indoor Use



IP65



CONTENT

1. IMPORTANT SAFETY INSTRUCTIONS	1
2. PERSONAL SAFETY PRECAUTIONS	2
3. PRODUCT OVERVIEW & SPECIFICATIONS	3
3-1 Product Overview (Mode Selection, LCD Display)	
3-2 Specifications	
4. OPERATING INSTRUCTIONS	6
4-1 INTENDED USE	
4-2 PREPARING TO CHARGE	
4-3 CONNECTION	
4-4 CHARGING	
4-5 SAFETY FEATURES	
4-6 CHARGING TIME	
4-7 ADAPTER FOR SUPPLY FUNCTION USE	
5. TROUBLESHOOTING	7
6. MAINTENANCE INSTRUCTIONS.	8
7. DISPOSAL AND RECYCLING	8

1.IMPORTANT SAFETY INSTRUCTIONS

Please save these instructions. This manual contains important safety and operating instructions. Read all instructions and follow them with each use of this product.

SAVE THESE INSTRUCTIONS.

This manual contains important safety and operating instructions. You may need to refer to these instructions at a later date.

CAUTION. //

1. To reduce risk of injury, charge lead-acid wet cell, gel or AGM automotive type rechargeable batteries. Other types of batteries may burst causing personal injury and property damage.
2. Do not expose charger to rain or snow.
3. Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons.
4. To reduce risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.
5. Make sure cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
6. An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure:
 - a. The pins on the plug of the extension cord are the same number, size and shape as those of the plug on the charger;
 - b. That extension cord is properly wired and in good electrical condition;
7. Do not operate charger with damaged cord or plug, replace the cord or plug immediately.
8. Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified serviceman.
9. Do not disassemble charger; take it to a qualified serviceman when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
10. To reduce risk of electric shock, unplug charger form outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.
11. WARNING - RISK OF EXPLOSIVE GASES
 - a. WORKING IN VICINITY OF A LEAD-ACID BATTERY IS DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON IT IS OF UTMOST IMPORTANCE TO READ THIS MANUAL AND FOLLOW THE INSTRUCTIONS EXACTLY EACH TIME BEFORE USING CHARGER.
 - b. To reduce risk of battery explosion, follow these instructions and those published by battery manufacturer and manufacturer of any equipment you intend to use in vicinity of battery. Review cautionary marking on these products and on engine.
12. Prohibit 12V STD, 12V AGM/C, 12V M , 12V LFP, RECOND, SUPPLY and other charging modes to charge 6V lead-acid batteries or any lithium batteries;
13. 12V LFP mode is only suitable for 12V lithium iron phosphate battery, not for other lithium batteries, it is forbidden to charge other lithium batteries;
14. For lead-acid batteries with a battery voltage of less than 3V for a long time, it is recommended to replace the battery if the voltage cannot be increased using this charger;

15. For the battery that displays BAD on the screen, it is recommended to replace the battery;
16. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference.
- (2) this device must accept any interference received, including interference that may cause undesired operation.



WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the product.

2.PERSONAL SAFETY PRECAUTIONS

1. Someone should be within range of your voice or close enough to come to your aid when you work near a lead-acid battery.
2. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
3. Wear complete eye protection, and clothing protection. Avoid touching eyes while working near battery.
4. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enter eye, immediately flood eye with running cold water for at least 10 minutes and get medical attention immediately.
5. NEVER smoke or allow a spark or flame in vicinity of battery or engine.
6. 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.
7. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a lead-acid battery. A lead-acid battery can produce a short circuit current high enough to weld a ring or the like to metal, causing a severe burn.
8. Use the charger for charging Lead acid, Gel, Calcium, AGM and EFB batteries. It is not intended to supply power to a low voltage electrical system other than in a starter motor application. Do not use battery charger for charging dry-cell batteries that are commonly used with home appliances. These batteries may burst and cause injury to persons and damage to property.
9. NEVER charge a frozen battery.

3.PRODUCT OVERVIEW& SPECIFICATIONS

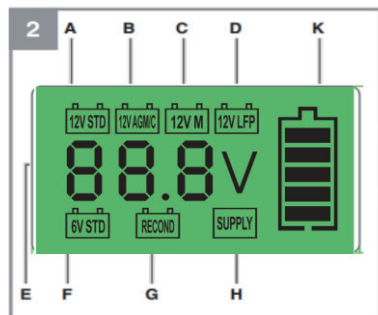


3-1 PRODUCT OVERVIEW

①-Mode Selection Button

1. Press" Mode" Button to select among the 4 Normal charging modes (12V STD, 12V AGM/C, 12V M, 12V LFP)
2. Press and hold for about 3-5S to enter these three Additional Modes : 6VSTD,RECOND ,SUPPLY
3. Two ways to exit: To Press and hold again for about 3-5S to enter a certain 12V memory mode; Or Power off and enter 12VSTD or a certain 12V memory mode.
4. Normal: 12V STD, 12V AGM/C, 12V M, 12V LFP
5. Additional functions: 6V STD, RECOND , SUPPLY

②-LCD Display



- ③ Inlet power cable with plug
- ④ Battery Terminal Negative(black) Clamp
- ⑤ Battery Terminal Positive(red) Clamp
- ⑥ Outlet power cable
- ⑦ O-ring with fuse
- ⑧ Adapter for Supply Function Use(Only 10A)

LCD Display	Explanation
A-12V STD	Up to 14.5V, charging a 12V standard lead-acid battery
B-12V AGM/C	Up to 14.8V, charging a 12V AGM battery or charging in winter mode with an ambient temperature of -4°F/-20°C to 41°F/+5°C
C-12VM	Up to 14.4V, charging a 12V battery for maintenance purpose
D-12V LFP	Up to 14.6 V, charging a 12V LiFePO4 battery
E-Battery voltage indicator	Accurate to 0.1V [faulty battery (BAD) / fully charged (FUL)/ connected with reverse polarity or short-circuit at the clamps (Err)]
F-6VSTD	Up to 7.5V, suitable for charging 6Vsmall batteries
G-RECOND	Up to 16.5V ,charging a 12V deeply discharged battery
H-SUPPLY Mode	Work as a 12V Power supply
K-Charging Indicator	Indicate the charging process, each bar represents approximately 20%.

3-2 SPECIFICATIONS

4A	
Parameter	Standard
Operating voltage	120V, 60Hz
Max Input Power	70 W
Charge end voltage	7.5V or 14.4 V or 14.6 or 16.5V (+/-0.3V)
Charging Current 12VSTD/AGM/GEL	Max. 4A
12V LFP charging program	14.6 V DC / 4A
12V M charging program	14.4V DC/ 1A
12V RECOND charging program	16.5V DC/1.5A
6V STD charging program	7.5 V DC / 2A
Battery charge capacity	4-120Ah
SUPPLY function output max.	3A
Protection class	II
Protection class	IP65
Ambient temperature	-20°C/-4°F~ 40°C/104°F

6A

Parameter	Standard
Operating voltage	120V, 60Hz
Max Input Power	100 W
Charge end voltage	7.5V or 14.4 V or 14.6 or 16.5V (+/- 0.3V)
Charging Current 12VSTD/AGM/GEL	Max. 6A
12V LFP charging program	14.6 V DC / 6 A
12V M charging program	14.4V DC/ 1A
12V RECOND charging program	16.5V DC/1.5A
6V STD charging program	7.5 V DC / 2 A
Battery charge capacity	4-150Ah
SUPPLY function output max.	5 A
Protection class	II
Protection class	IP65
Ambient temperature	-20°C/-4°F~ 40°C/104°F

10A

Parameter	Standard
Operating voltage	120V, 60Hz
Max Input Power	160 W
Charge end voltage	7.5V or 14.4 V or 14.6 or 16.5V (+/- 0.3V)
Charging Current 12VSTD/AGM/GEL	Max. 10A
12V LFP charging program	14.6 V DC / 10 A
12V M charging program	14.4V DC/ 2A
12V RECOND charging program	16.5V DC/2.5A
6V STD charging program	7.5 V DC / 2A
Battery charge capacity	4-200Ah
SUPPLY function output max.	10A
Protection class	II
Protection class	IP65
Ambient temperature	-20°C/-4°F~ 40°C/104°F

4. OPERATING INSTRUCTIONS

4-1 INTENDED USE

The product is designed to charge and maintain 6V/12V lead-acid batteries with a capacity of 4-200 Ah. (4A:4-120Ah; 6A:4-150A; 10A:4-200Ah) The charger has been optimised to maintain the battery of your motorcycle or car when it is not being used over longer periods of time, for example over the winter. The charger is designed to charge Lithium, Gel, AGM and standard lead-acid batteries.

Any use other than that described above will damage this product and involves the risk of short circuits, fire, electric shock, etc.

4-2 PREPARING TO CHARGE

1. If necessary to remove battery from vehicle to charge, always remove grounded terminal from battery first. Make sure all accessories in the vehicle are off, so as not to cause an arc.
2. Be sure area around battery is well ventilated while battery is being charged.
3. Clean battery terminals. Be careful to keep corrosion from coming in contact with eyes.
4. Add distilled water in each cell until battery acid reaches level specified by battery manufacturer. Do not overfill. For a battery without removable cell caps, such as valve regulated lead acid batteries, carefully follow manufacturer's recharging instruction.
5. Study all battery manufacturer's specific precautions while charging and recommended rates of charge.
6. Determine voltage of battery by referring to the vehicle's manual and make sure the output voltage mode is correct.

4-3 CONNECTION

To avoid sparks which could cause an explosion, the mains supply should always be disconnected before making or breaking battery connections. Connect the battery clips or ring terminals to the battery in the following order:

1. Connect the positive charging lead (RED) to the positive post of the battery (marked + / +ve or P).
 2. For vehicles with the battery still installed: Connect the negative charging lead (BLACK) to the vehicle chassis (marked - / -ve or N), well away from the battery, fuel line, and hot or moving parts.
- For batteries removed from the vehicle: Connect the negative charging lead (BLACK) to the negative post of the battery (marked - / -ve or N).

After connecting the clips, rotate them slightly so as to remove any dirt or oxidation, thus ensuring a good contact.

4-4 CHARGING

1. First make sure your battery is a 6V or 12V battery. Do not charge batteries with different operating voltages!
2. Connect the battery charger to the power supply.
3. Select the appropriate charging mode for your batteries with the "Mode" button. Refer to 2-1 Product Overview for a description of the individual operating modes.
4. Then connect the battery charger to the battery with the correct polarity. If connected with reverse polarity or short-circuit at the clamps "Err" will be lit.
5. This battery charger is equipped with an automatic memory function, i.e. whenever AC supply is connected, it starts in last selected mode.
6. After the charging process, disconnect the battery charger from the mains supply. First remove the clamp from the negative terminal and then from the positive terminal.

4-5 SAFETY FEATURES

This battery charger is fitted with the following safety features:

- Short circuit Protection
- Overload Protection
- Reverse Polarity Protection
- Overcharging Protection
- Over-temperature Protection

There is no reverse polarity protection in the supply mode

4-6 CHARGING TIME

A partially charged battery will take less time to charge than a fully discharged battery. The approximate charging time for a battery can be calculated using the following equation:

$$\text{Charging time/h} = \frac{\text{Battery capacity in Ah}}{\text{Amp. (charging current)}}$$

4-7 ADAPTER FOR SUPPLY FUNCTION USE (ONLY 10A)

1. Long press the Key for about 3-5S to Select the charger into "Supply" MODE.
2. Use below adapter to connect the charger and the appliances which need to power up.
3. Then the Appliance can be opened for use.



5. TROUBLE SHOOTING

Error code	Condition	Possible Cause	Solution
Err	The charge does not begin.	The battery clamps are connected with reverse polarity. The battery correctly clamps are connected.	Sdisconnect& reconnect
		The battery voltage is not matched with the selected mode.	Confirm that battery voltage is matched with the mode.
Bad	The charge does not begin.	The battery is defective.	Replace the battery.
Bad	The charge voltage is too low	The battery is deep-discharged or defective.	Charge over 12-hour first, if the battery back to a normal voltage, it's regenerate.
	Battery is not full charged after 24-hour charge	The charge current is too low.	Select a higher charge rate.
	The battery voltage rising fast	The charge current is too high.	Select a lower charge rate.

6.MAINTENANCE INSTRUCTIONS

This charger requires minimal maintenance. As with any appliance or tool, a few common sense rules will prolong the life of the battery charger.

ALWAYS BE SURE THE CHARGER IS UNPLUGGED BEFORE PERFORMING ANY MAINTENANCE OR CLEANING.

1. Store in a clean, dry place
2. Coil up the cords when not in use.
3. Clean the case and cords with a slightly damp cloth.
4. Clean any corrosion from the clamps with a solution of water and baking soda.
5. Examine the cords periodically for cracking or other damage and have them replaced if necessary.
6. ⚠️ **WARNING:** All other service should be done by qualified personnel only

7.DISPOSAL AND RECYCLING

The equipment is supplied in packaging to prevent it from being damaged in transit. The raw materials in this packaging can be reused or recycled. The equipment and its accessories are made of various types of material, such as metal and plastic. Never place defective equipment in your household refuse. The equipment should be taken to a suitable collection center for proper disposal. If you do not know the whereabouts of such a collection point, you should ask in your local council offices.

MADE IN CHINA