6V/12V Intelligent Car & Motorcycle Smart Battery Charger

Model: LM10AMC

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

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.

2. CAUTION. To reduce risk of injury, charge batteries to manufacturers instructions and specifications. Lithiumax does not warrant any battery that this charger is connected to other than that which it expressly warrants as purchased through Lithiumax by the customer.

3. Do not expose charger to rain or snow.

4. 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.

5. To reduce risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.

6. Make sure cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.

7. 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;
8. Do not operate charger with damaged cord or plug, replace the cord or plug immediately.

9. Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified service centre for testing.

10. Do not disassemble charger; take it to a qualified service centre when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.

11. To reduce risk of electric shock, unplug charger form outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

12. 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 WHILE USING THIS CHARGER.
b. To reduce risk of battery explosion, follow these instructions and those published by the battery manufacturer and manufacturer of any equipment you intend to use in the vicinity of battery. Review cautionary marking on these products and on the engine.

13. Do not use 12V STD, 12V AGM/C, 12V GEL, 12V LFP, SUPPLY and other charging modes to charge 6V lead-acid batteries or 12V STD, 12V AGM/C, 12V GEL on any lithium batteries;

14. 12V LFP mode is only suitable for 12V lithium iron phosphate (LiFePO4) batteries such as Lithiumax, Litemax and ElectriBank branded batteries and not for any other lithium batteries, it is forbidden to charge other lithium battery chemistries with this charger;

15. 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;

16. For the battery that displays BAT on the screen, it is recommended to replace the battery;

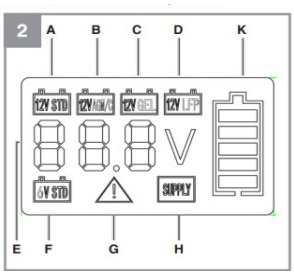
PERSONAL SAFETY PRECAUTIONS

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 a battery.
4. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters the 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 the battery. It might spark or short circuit battery or other electrical part that may cause an 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, EFB and LFP batteries. It is not intended to supply power to a low voltage electrical system other than in a automotive or marine application. Do not use the 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

PRODUCT OVERVIEW&SPECIFICATIONS

1- Mode Selection Button
Press" Mode" Button to select among the 4 normal charging modes (12V STD, 12V AGM/C, 12V GEL, 12V LFP) Warning: Only use LFP setting on Lithiumax, Litemax or ElectriBank Batteries.
Press" Mode" Button to select between the 2 Additional function(: 6V STD, SUPPLY)
Long press “Mode” button for 5 seconds –> switch between Normal to Additional function.
Normal: 12V STD, 12V AGM/C, 12V GEL, 12V LFP
Additional function: 6V STD, SUPPLY

2- LCD Display



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 – 20°C to +5°
C- 12V GEL, Up to 14.3V, charging a 12V GEL battery
D- 12V LFP, Up to 14.6 V, charging a 12V lithium battery
E- Battery voltage indicator, accurate to 0.1V [faulty battery (BAt) / fully charged (FUL)/ connected with reverse polarity or short-circuit at the clamps (Err)]
F-6VSTD, Up to 7.2V, suitable for charging 6Vsmall batteries
G- Reverse polarity or short-circuit
H- SUPPLY Mode, works as a 12V Power supply. Hold MODE Button for 5 seconds to switch to supply mode.
K- Charging Indicator, Indicate the charging process, each bar represents approximately 20%.

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 harness with fuse

2-2 Specifications

LM10AMC
Operating voltage: 220-240V 50/60Hz
Max Input Power: 160 W
Charge end voltage: 7.2V or 14.5 V or 14.8 (+/- 0.3V)
Charging Current 12VSTD/AGM/GEL: Max. 10A
12VLFP charging program: . 14.6 V DC / 10A
6VSTD charging program: . 7.2 V DC / 2 A
Battery charge capacity : 4-200Ah
SUPPLY function output max.: 10 A
Protection class: II
Protection class: IP65
Ambient temperature: - 20℃ ~ 40℃

3.OPERATING INSTRUCTIONS

3-1 INTENDED USE
The product is designed to charge and maintain 6V/12V Lithium (LFP), Gel, AGM and standard lead-acid batteries with a capacity of 4 - 200 Ah. 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. For lithium batteries it is recommended to allow the battery to cycle so intermittent charging is optimal.
Any use other than that described above will damage this product and involves the risk of short circuits, fire, electric shock, etc.

3-2 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. Where specified 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.

3-3 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 oxidization, thus ensuring a good contact.

3-4 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 (220-240V~50/60 Hz).
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 on the LCD screen.
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.

3-5 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

3-6 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:

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

E.g.:

Output: 6V 2A		Output: 12V 4A	
Battery Capacity(Ah)	Time(Hours)	Battery Capacity(Ah)	Time(Hours)
6Ah	3H	32Ah	8H
12Ah	6H	48Ah	12H
15Ah	7H	64Ah	16H
21Ah	10H	100Ah	25H
24Ah	12H	128Ah	32H
30Ah	15H	150Ah	37H

4.TROUBLESHOOTING

Error code	Condition	Possible Cause	Solution
Err	The charge does not begin.	The battery clamps are connected with reverse polarity.The battery clamps are connected.	Sdisconnect & reconnect correctly
		The battery voltage is not matched with the selected mode.	Confirm that battery voltage is matched with the mode.
Bat	The charge does not begin.	The battery is defective.	Replace the battery.
Lo	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.

5. 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 or water dispersant.
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

6. 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 contact your local council offices.