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Instruction Manual

LEAD ACID

BATTERY CHARGER

AC-DC Lead Acid Battery Charger 12V DC 2Amp	31AC0212A
AC-DC Lead Acid Battery Charger 24V DC 2Amp	31AC0224A
AC-DC Lead Acid Battery Charger 12V DC 4Amp	31AC0412A
AC-DC Lead Acid Battery Charger 24V DC 4Amp	31AC0424A
AC-DC Lead Acid Battery Charger 12V DC 5Amp	31AC0512A
AC-DC Lead Acid Battery Charger 24V DC 5Amp	31AC0524A
AC-DC Lead Acid Battery Charger 24V DC 7Amp	31AC0724A
AC-DC Lead Acid Battery Charger 12V DC 8Amp	31AC0812A
AC-DC Lead Acid Battery Charger 12V DC 10Amp	31AC1012A
AC-DC Lead Acid Battery Charger 24V DC 10Amp	31AC1024
AC-DC Lead Acid Battery Charger 12V DC 12Amp	31AC1212A
AC-DC Lead Acid Battery Charger 12V DC 25Amp	31AC2512
AC-DC Lead Acid Battery Charger 24V DC 25Amp	31AC2524
AC-DC Lead Acid Battery Charger 12V DC 50Amp	31AC5012

Caution ! Failure to observe this warning may result in damage to equipment and improper functioning of the battery charger.

※ **INDOOR USE ONLY (DRY LOCATION)**

Read these installation and operating instructions thoroughly before connecting and using the battery charger.

About the unit itself

- The battery charger must only be used for the purpose specified by the manufacturer.
- Do not operate the battery charger if the housing or cable is or appears damaged.
- The battery charger must be positioned and secured in such a way that it cannot fall over or down. The mains cable from the battery charger must be plugged into a suitably earth outlet only (for all models excluding the 2A charger models).
- Ensure good ventilation.
- The battery charger must be kept in a safe place out of the reach of children.
- The battery charger must not be operated in a damp or wet environment.
- Servicing or repair must only be carried out by a qualified person who is familiar with the risks involved and the relevant regulations.

※ Turn the Charger off before connecting or disconnecting the Battery Charger to the Battery.

Note : DEPENDING ON MODEL, TURN THE BATTERY CHARGER SWITCH TO THE OFF POSITION OR DISCONNECT THE MAINS BEFORE CONNECTING OR DISCONNECTING THE BATTERY CHARGER TO THE BATTERIES.

- ※ Connect the Charger Negative lead to the Battery Negative terminal and the Charger Positive lead to the Battery positive terminal before turning the charger ON.
- ※ Check the battery and charger each day if they are left turned ON for prolonged periods of time.
- ※ Ensure the Battery is charged using the correctly rated Battery Charger (i.e. 12V Battery is used with a 12V Battery Charger or 24V with a 24V Charger) otherwise you are likely to damage your Battery. Your Battery manufacturer can tell you the charge (voltage) rate.
- ※ When mounting the charger in an enclosed housing be sure to have proper ventilation so that the charger has sufficient air flow to operate safely and correctly.
- ※ **General safety and installation information**

Warning! The following fundamental safety measures must be observed when using electrical equipment to avoid the danger of : • Electric Shocks • Fire • Injury • Damage to Property

● **Caution, for installation on Marine Vessels**

- Wrong installation of electrical units on a boat can lead to corrosion of the vessel. Installation should only be carried out by a qualified Marine Engineer or Electrician

● Features

- Compact, light and robust design.
- Uses high efficiency switching controllers.
- High reliability & safe operation.
- Pole error and short circuit protection.
- Easy installation by brackets on the housing (on most models except for 2A).
- Rectifier function can be used as a Power Supply as well.
- 3-stage charger characteristic for rapid and complete battery charging.
- Ideal for charging Lead Acid batteries in many types of applications.
- LED charge status display.

● LED Indicator - For Part No. : 31AC0212A & 31AC0224A (2A models)

Red : Light → Power On / Green : Light → Fully Charged

- For Part No. : 31AC0412A & 31AC0424A & 31AC0512A & 31AC0524A & 31AC0724A & 31AC0812A

31AC1012A & 31AC1212A

Red : Light → Power On / Yellow : Light → Charging / Green : Light → Charged

- For Part No. : 31AC1024 & 31AC2512 & 31AC2524 & 31AC5012

Red : Light → Power On / Yellow : Light → Charging / Yellow : Dark → Charged

● Installation and Operation

- The battery charger must be installed in a location which is protected from exposure to damp. Ensure that the location is well ventilated and that the surface on which it is mounted is level and sufficiently strong. The air intake on the base and the air outlet on the rear must always be unobstructed.
- Before connecting or disconnecting the DC cable, set the mains switch to "off" and/or unplug from the mains always.

● Choosing the right Charger for a specific Battery capacity

To achieve the best performance, choose the correct battery charger for the battery. A charger's DC current rating should be between 7% to 20% of the amp hour rating of ONE battery.

If there is more than One battery being charged (i.e. in Parallel or in Series), we recommend you seek professional advice from a qualified engineer/electrician.

● Input voltage

- Make sure the mains voltage is suitable for the charger before plugging in & turning the Charger on by checking the Chargers rated Input voltage (see Battery Charger's specifications or label).

● About the cables

- If cables have to be inserted through metal walls or other sharp edged Materials, use suitable cable ducting or cable bushes.
- Do not lay cables loose or with sharp bends on electrically conductive materials (metal).
- Do not lay AC INPUT mains cable and DC OUTPUT cable together in the same cable duct.
- Lay cable in such a way that they are not a trip hazard.
- The specified minimum cable cross-section must be complied with.
- Lay cables in such a way that they are not exposed to the risk of damage.
- Secure cables properly.
- Do not pull the cables.

● **Fan**

Two way action : A. Bulk → Fast speed B. Float → Slow speed (Not applicable to Part no. 31AC0212A & 31AC0224A)

● **Rectifier function**

The battery charger could be used as a Power Supply to provide up to the maximum current rating stated to Power the end product (voltages will be the higher charger voltages). However, it is recommended to connect the end product directly to the battery. This applies in particular to end products with high peak currents (e.g. high start-up current in the case of Compressors).

- **Caution** - Batteries without venting must not be charged, as there is otherwise the danger of explosion through the occurrence of electrolytic gas.
- Nickel-cadmium batteries and non-chargeable batteries must not be charged with the charger. The casing of these types of batteries could potentially burst or explode.

- **Warranty** In case of a warranty claim, please return the charger to your re-seller for credit or replacement. You should always check the fuse before returning the charger to your re-seller.

Conditions that may void the warranty :

Modifying the charger in any way.

Causing abuse or damage to the charger or not following the CAUTION warnings.

Using the charger in an area that allows the charger to continually overheat.

Running the charger in a wet or damp environment.

● **Troubleshooting : Test Guide**

You must be sure the battery charger you are using has the proper current and voltage rating for the batteries being charged.

Always check the fluid levels in your batteries (if applicable).

Be sure your batteries are not powering any load from any equipment or instruments whilst charging.

* Drawing a load on the batteries may cause the battery charger not to shut off and damage your batteries.

If your charger is not working correctly, you should check the following:

1. Check the output is connected correctly (not reversed).
2. Check the fuses of the battery charger are intact.

* Only replace the fuse with the same rating as original. The wrong specified fuse could cause serious damage to the Charger.

● **Simple Troubleshooting Table**

Problem and Symptoms	Possible Reason	Solution
If the power LED Indicator is off and there is no output voltage when charger is plugged in	1. No AC input 2. Charger has malfunctioned	1. Check AC power source / Check AC fuse 2. Notify your re-seller
If input voltage is normal, but charging LED indicator (equalizer) is off when charging	1. Polarity connection maybe reversed 2. Output connection maybe short or open 3. Output DC fuse loose (Except : Part : 31AC0212A & 31AC0224A) 4. Charger has malfunctioned	1. Check input cable 2. Check output cable 3. Check output DC fuse 4. Notify your re-seller
If input voltage is normal, but charging LED indicator (equalizer) stays permanently on	1. Battery malfunction 2. Charger has malfunctioned	1. The battery is faulty, please stop charging & have the battery replaced. 2. Notify your re-seller
If the charging indicator turns on immediately after going off (after indicating full charged)	Battery maybe not be fully charged and/or has malfunctioned	It means the battery is not fully charged and it maybe defective. Please have the battery replaced.

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