

GUEST®



MODEL 2602A-24

3 STAGE AUTOMATIC BATTERY CHARGER

OWNER'S MANUAL

SAVE THESE INSTRUCTIONS

1. INTRODUCING THE CHARGER

The 2602A-24 is a “3-stage” electronic battery charger. Rainproof, compact, silent, and completely automatic, the charger produces 24 Volts DC at a full 2 Amps, while using much less AC current than older designs. After it recharges your batteries, it then supplies just enough power to compensate for the energy that batteries lose during storage. Unlike automotive “trickle” chargers, the 2602A-24 will not boil off the electrolyte in properly installed and maintained batteries. When the 2602A-24 is connected to your batteries and plugged into a standard 115 volt / 60 Hz AC outlet with the Guest ConnectCharge Plug, the green LED lets you know the unit is maintaining your batteries.

2. IMPORTANT SAFETY INSTRUCTIONS

This manual contains important safety and operating instructions for the charger. Read all instructions and cautions for the charger and batteries.

WARNINGS

THIS PRODUCT SHOULD ONLY BE USED TO CHARGE LEAD-ACID BATTERY TYPES IN A 24 VOLTS DC SYSTEM. IF USED ON A SYSTEM OTHER THAN 24 VDC, THE BATTERIES MAY EXPLODE AND RESULT IN PERSONAL INJURY.

RISK OF EXPLOSIVE GASES! WORKING IN THE VICINITY OF LEAD-ACID BATTERIES IS DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL OPERATION. BE SURE TO READ THIS MANUAL AND FOLLOW THE INSTRUCTIONS BEFORE USING THE CHARGER.

Personal Safety Precautions

Adhere to the following personal safety precautions when installing or working with the chargers:

1. Someone should be within voice range 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 them immediately with soap and water. If acid enters the eye, flood the eye with cold, running water for at least ten minutes and get medical attention immediately.
5. Never smoke or allow an open flame in the vicinity of the battery.
6. Do not drop a metal tool onto the battery. It may spark, short circuit the battery and may cause an explosion.
7. Remove all personal metal items such as rings, bracelets, necklaces, and watches when working near a lead-acid battery. A battery can produce short circuit currents high enough to weld a ring to metal, causing severe burns.

Preparing to Charge Precautions

Before charging a battery with the charger, read the following precautions:

1. Do **NOT** operate the charger if the cables or LED are damaged.
2. Make sure all external electrical loads are **OFF**.
3. If the battery or batteries must be removed from the equipment in which the charger is mounted, always remove the grounded terminal from the battery first.
4. Be sure the area around the battery is well ventilated while the battery is being charged. Gas can be forcefully blown away using a piece of cardboard or other non-metallic material as a “hand fan”.
5. Clean battery terminals, but keep corrosion particles out of your eyes.
6. **NEVER** charge a frozen battery.

Grounding Precaution

To reduce the risk of shock, connect only to a properly grounded outlet. Do not operate this charger with a two-bladed ground adapter plug or extension cord. Doing so can result in serious personal injury.

3. INSTALLING THE CHARGER

Choosing Mounting Location

The charger should have at least eight inches of unobstructed area on all sides of the unit for effective cooling. The case of this charger will become warm during operation. Do not install onto a carpeted, upholstered, or varnished surface.

Mounting the Charger

1. Use corrosion resistant #6 screws, backed by a flat washer, and secured to the mounting surface with a split-ring lock washer.
2. Hold the charger to the mounting surface and mark the holes.
3. Remove the charger and drill the mounting holes.
4. Align the charger and assemble the mounting hardware. Secure.

DANGER

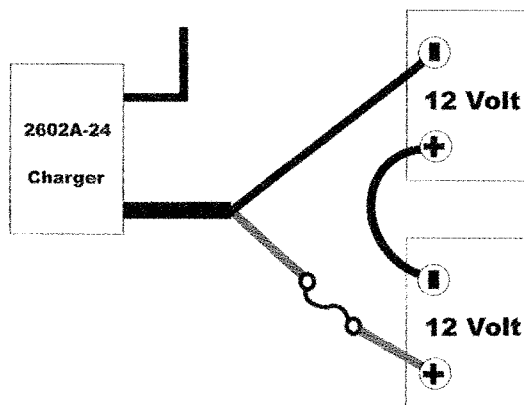
Before working on electrical equipment, first determine there is no live AC power!

Making DC Connections

The output cable includes ring terminals for easy connection to common batteries. Connect the DC output cable to your 24 Volt system as follows:

- a) Red or white wire with in-line fuse to battery (+)
- b) Black wire to battery (-)

The in-line DC fuse protects the charger against reverse polarity battery connection. If the battery is connected in reverse, red to (-) black to (+), this fuse will open. There may be no LED indication of malfunction.



WARNING

Do not cut off or rewire the DC output connector. Any modifications to this product could cause personal injury and void the warranty.

Making AC Plug Connection

After securing the battery connections, plug the charger line cord into an AC outlet that is protected by a Ground Fault Circuit Interrupter (GFCI) breaker.

4. OPERATING THE CHARGER

Proper Operation

When the 2602A-24 senses a drop in battery voltage, it automatically increases output to charge the battery. Through a sophisticated three-stage charging method, the 2602A-24 can fully recharge your batteries in the fastest, healthiest way.

The first stage, known as “**CHARGING**”, restores most of the battery energy. The green LED is blinking during this stage. The charging current is 2 amps and the voltage rises from approx. 24 VDC to approx. 29 VDC.

During the second stage, known as “**FINISHING**” charging, the charger holds the battery at approximately 29 VDC with a gradual reduction of current (amps) delivered. The battery is able to

“absorb” the last 10% of charge as quickly as possible without becoming overheated. The green LED is blinking.

As the battery approaches full capacity, the charger switches into its third stage, reducing the current delivered to as low as 0.1 Amps. The charger also reduces its output to a “**FLOAT**” maintenance level of approx. 27.1 VDC. The Float stage gently “tops off” your battery, and then keeps it fully charged and ready until needed. Now you can store your batteries at full charge indefinitely without overcharging. The steady green LED indicates your battery is fully charged and ready for use.

5. TROUBLESHOOTING

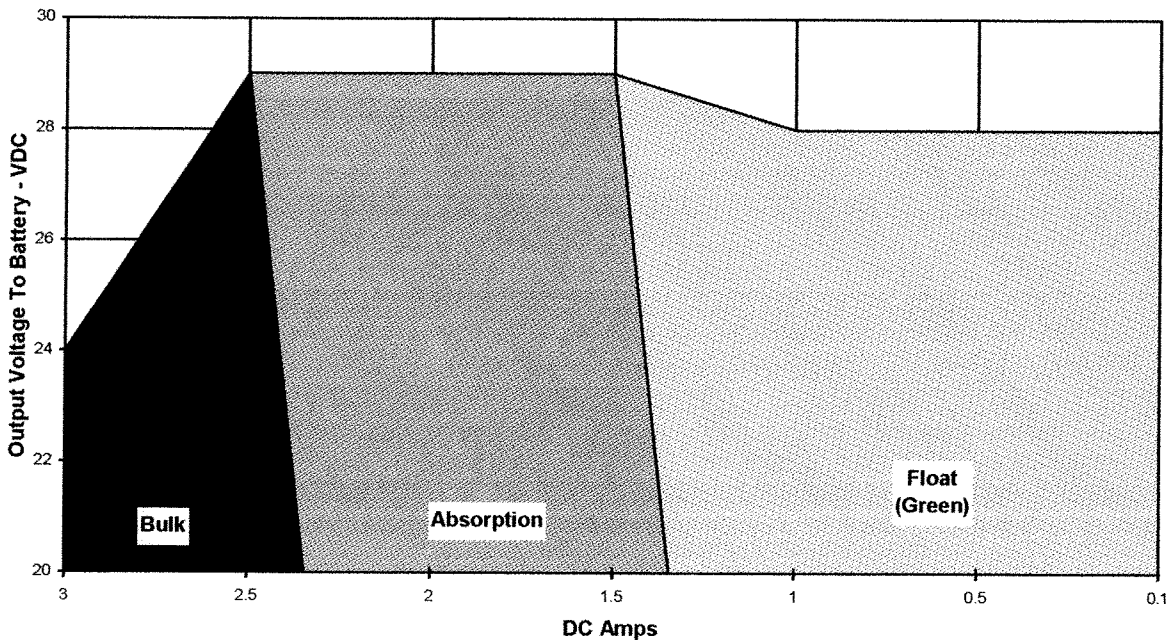
Problem	Cause	Solution
<ol style="list-style-type: none"> 1. Charger does not seem to be charging. 2. Verify that the charger is working: Disconnect charger from battery. Apply AC power. The green LED should now light. If it does, the charger is OK and proceed to troubleshoot. If it does not light, contact the Guest Co. 	<ol style="list-style-type: none"> 1. One or more defective or damaged cells. 2. Charger has reduced its output voltage below the normal level due to a DC overload or a DC short. 3. On-board DC systems are drawing more current than the charger can replace. 4. No AC power available at the charger. 5. Open inline DC fuse. 	<ol style="list-style-type: none"> 1. Load test the battery and replace if necessary. 2. Remove the source of the overload or short. Turn off all DC equipment while charging. 3. Turn off all DC equipment while charging. 4. Connect AC power or reset the AC breaker on the main panel 5. Replace with same rated fuse. Check battery polarity.
<ol style="list-style-type: none"> 1. The green LED continues to blink after 24 Hrs of charging. 	<ol style="list-style-type: none"> 1. Onboard DC systems are drawing between 1 to 2 amps. 2. One or more defective or damaged cells. 3. Low AC line voltage at the charger. 	<ol style="list-style-type: none"> 1. Turn off all DC equipment while charging. 2. Load test the battery and replace if necessary. 3. Apply a higher AC voltage source or reduce the length of the extension cord.
<ol style="list-style-type: none"> 2. Green LED stays on without blinking when the battery is known to be low. 	<ol style="list-style-type: none"> 1. Faulty or contaminated terminal connections. 2. One or more defective or damaged cells. 3. Open inline DC fuse. 	<ol style="list-style-type: none"> 1. Clean and tighten or repair all terminal connections. 2. Load test the battery and replace if necessary. 3. Replace with same rated fuse. Check battery polarity.

6. MAINTAINING THE CHARGER

Periodically clean both battery terminals with baking soda and tighten connections. No other maintenance to the charger is required.

7. SPECIFICATIONS

Output:	
Bulk charging:	24 Volts DC at 2 Amps
Absorption charging:	29.0 Volts DC at 1.4 Amps
Float charge:	27.1 Volts DC at 0.1 Amps
DC Inline fuse:	AGX-6 or equivalent
Input:	
AC Voltage	100 - 130 VAC, 60 Hz
Current Draw	1.0 Amps (max) at full output
Maximum recommended battery size:	
For recharging:	Up to 24 Amp-Hours
Physical Dimensions:	
Height:	2.9 in. (7.4 cm.)
Width:	5.1 in. (12.9 cm.)
Depth:	1.5 in. (3.8 cm.)
Weight:	2.0 lb. (0.9 kg)



Model 2602A-24 Charging Method

FCC Class A EMC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a domestic environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an AC outlet circuit different from the receiver connection.

LIMITED WARRANTY

For two (2) years from the date of purchase, The Guest Co. will, at its discretion, repair or replace for the original consumer, free of charge, any parts found defective in material or workmanship.

Proof of purchase is required: A computerized register receipt is required. Hand-written receipts are not accepted for warranty proof of purchase.

There is no other expressed warranty. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to two years from the date of purchase. This is the exclusive remedy and consequential damages are excluded where permitted by law.

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