



## 5 Year FR Charger Warranty

Vulcan Electric manufactures its hardware products from parts and components that are new in accordance with industry-standard practices. **Vulcan Electric warrants the charger to be free from defects in workmanship or materials for one year from the date of purchase. The rectifier is warranted for an additional two years, and the transformer is warranted for five years from the date of purchase.** During this period, Vulcan Electric will, at its options, repair or replace the defective product free of charge.

This warranty will be considered VOID if the unit has suffered any physical damage or alteration, either internally or externally, and does not cover damage arising from improper use, or from use in an unsuitable environment. This warranty will not apply where the product has been misused, neglected, improperly installed, or repaired by anyone than Vulcan Electric or an Authorized Service Depot. In order to qualify for the warranty, the product must not be disassembled or modified without prior authorization by Vulcan Electric. Repair or Replacement are your sole remedies and Vulcan Electric shall not be liable for damages, whether direct, incidental, special, or consequential, even though caused by negligence or fault.

Vulcan Electric owns all parts removed from repaired products. Vulcan Electric uses new parts made by various manufactures in performing warranty repairs and building replacement products. If Vulcan Electric repairs or replaces a product, its warranty term is not extended. User is responsible for determining whether this Vulcan Electric product is fit for a particular purpose and suitable for user's method of application. Vulcan Electric shall not otherwise be liable for loss or damages, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including, but not limited to, contract, negligence, warranty, or strict liability.

**THIS IS VULCAN ELECTRIC'S ONLY WARRANTY, AND THE COMPANY MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

**To Obtain Warranty Service:** If your Vulcan Electric Charger requires service, please return it to the place of purchase. If you are unable to contact your merchant, or the merchant is unable to provide service, contact:

**Vulcan Electric 1512578 Ontario Ltd.,  
205B Konrad Cres., Markham, Ontario, L3R 8T9  
Telephone: (905) 513-1550, Fax: (905) 513-1557, Website: [www.chargers.ca](http://www.chargers.ca)**

You must obtain a Return Authorized Number from Vulcan Electric before returning a Vulcan Electric Charger directly to Vulcan. Do not return a Vulcan Electric Charger without first obtaining a Return Authorization Number. When you contact Vulcan Electric to obtain service, be prepared to supply the Serial number of your Vulcan Electric Charger. The serial number is located on the front of the unit.

The following information needs to be supplied:

- A description of the problem
- Serial number of the unit (serial number is located on the front of the unit), name and address of the dealer, where you purchased the unit, and date of purchase.
- Package the unit safely, preferably using the original box and packing materials; include the Return Authorization Number, a return address where the repaired unit can be shipped, a contact name and telephone number, and brief description of the problem.

**SHIP ALL UNITS PREPAID.**

# Installation and Operating Instructions



## FR Automatic Motive Battery Charger Easymatic Control Board

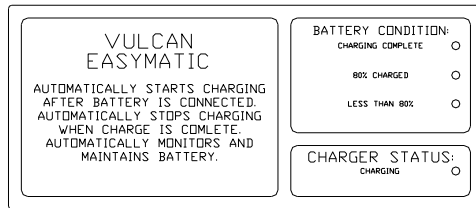


Vulcan Electric Inc., 205B Konrad Cres., Markham, Ontario, L3R 8T9.  
Phone: (905) 513-1550, Fax: (905) 513-1557, Toll Free: 1-800-268-6949  
“Building Canada’s toughest chargers for over a century.”

## Installation



1. Locate the charger in a dry location that is free from vibration, impact damage, and allows for sufficient ventilation. Do not locate the battery charger in the battery compartment.
2. Ensure that the receptacle is properly grounded.
3. Make sure that the battery voltage corresponds to the battery charger voltage and your polarity is correct on the DC connector.
4. All wiring must be in accordance with the Canadian Electrical Code and must also comply with all local electrical codes to ensure a safe installation. Check the product label for AC input voltage and current; be sure your outlet is not overloaded. As a general rule each charger drawing over 5 amps should have a dedicated outlet circuit.



## Normal Operation

1. Plug in the battery charger and connect the charger to the battery to be charged.
2. If the battery is more than 20% discharged the "**Charging LED**" and the "**Less than 80% LED**" will light. If the battery is less than 20% discharged the "**Charging LED**" and the "**80% charged LED**" will light.
3. When the battery voltage raises above the 80% mark the "**80% charged LED**" will light and the "**Charging LED**" will remain lit indicating a finish rate charge is being applied.
4. When the battery is charged the "**Charging Complete LED**" will light indicating the cycle is completed.
5. At various times after a complete charge the "**Charging LED**" will light while the "**Charging Complete LED**" is on, indicating that the charger is cycling through a normal maintain/refresh cycle.

## Charger Troubleshooting

Every Vulcan charger is inspected, operated at full voltage and individually approved before it leaves our facility, should you have issues please check the following reasons. If your charger will still not operate, call us at 1-800-268-6949, and we will assist you.

## The Four Main Reasons a Charger Will Not Start

- 1) All FR type chargers have a low voltage start limit, this assists in not allowing incorrect battery sizes (voltage) from being connected to a different charger size (voltage), i.e.: 24 volt batteries being connected to 36 Volt charger. **Use the correct charger for the battery involved.**
- 2) If you discharge the battery beyond recommended levels from overuse the charger may not start. Regular charging and not over discharging the batteries will resolve this issue, and add life to the battery. **Call your service provider.**
- 3) Check the outlet the charger is connected to for AC voltage. If there are too many devices drawing from a single circuit the breakers may trip. This will cause the charger not to start. **Remove other devices from the circuit, or have a professional install a dedicated circuit.**
- 4) Check the DC connector for damage; the charger is activated by the presence of DC (battery) voltage. A faulty connector will cause the charger not to operate. **Call your service provider.**

## The Four Main Reasons a Charger Will Not Shut Off

If your Charger does not shut off after an extended period (24 Hrs Maximum) you may have:

- 1) A faulty battery; **disconnect the charger and call your service provider.**
- 2) An oversized battery for the rating of the charger; **disconnect the charger and call your service provider.**
- 3) Your battery may be sulfated from extended storage without a charge. **Disconnect the charger and call your service provider.**
- 4) A failed control board on the charger; **disconnect the charger and call your service provider.**

## Charger & Battery Maintenance

The charger requires little maintenance other than occasional vacuuming of dust and ensuring the ventilation is kept free of obstruction. Inspect your AC and DC plugs for damage. If required, have the charger serviced by a professional before further use.

The batteries electrolyte fluid level and specific gravity should be checked at least once a month. Use only distilled water to replenish the electrolyte fluid. Excessive fluid loss is a sign of overcharging. Refer to battery manufacturer's instructions for proper care procedures.



Lead acid batteries emit hydrogen and oxygen gases during recharging; therefore you must vent the battery compartment to prevent these gases from accumulating. Don't smoke or use open flame when working around batteries. Wear appropriate safety apparel including eye protection when handling or working around batteries. Connections to the battery posts must be made with permanent connectors that provide a reliable low-resistance connection. Clean your batteries contacts regularly.