

StableMate

CONSTANT CURRENT CHARGER

Installation and Operating Instructions



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The Power of Excellence

FM1253
REV B

INSTALLATION AND SAFETY INSTRUCTIONS

All STABLEMATE chargers are for indoor use only. Charging areas must be clean, dry and free from combustible materials, and/or open flames. Charging areas must be properly ventilated and smoking should never be allowed in or near the charging area. The temperature of the charging room should be between 32 °F and 104°F.

CAUTION To reduce the risk of fire, use only on circuits provided with branch circuit protection as indicated in the following table in accordance with the NATIONAL ELECTRIC CODE ANSI/NFPA 70.

MODEL DESCRIPTION	BRANCH CIRCUIT PROTECTION REQUIRED	INPUT VOLTAGE	LINE CORD SIZE REQUIRED	INPUT CONNECTOR SUPPLIED
A15237 1-24 CELL 25 A	20 A	120 VAC	120 V 20 A	120 V 20 A NEMA 5-20
A15236 1-24 CELL 25 A	20 A	120 VAC	120 V 20 A	120 V 20 A NEMA 5-20
A15238 1-24 CELL 50 A	20 A	240 VAC	240 V 20 A	240 V 20 A NEMA 6-20

MODEL DESCRIPTION	AC INPUT CURRENT			AC FUSE		
	208 V	240 V	480 V	208 V	240 V	480 V
A15561 18-40 CELL 50 A	30A	26A	13A	40A	35A	17.5A
BRANCH CIRCUIT PROTECTION REQUIRED – 60A MAX.						

Battery charging products can cause serious injury, death or damage to other equipment and property if the safety rules are not strictly followed.

HANDLE AND CABLE HOLDERS INSTALLATION

Model A15237 and A15561 have cable holders and mounting hardware contained in a box with the output connector. Install the holders to the charger sides in the following manner: Place the bent part of the holders into the slots found on either side of the charger; Secure using the supplied thread-forming screws and washers.

Model A15236 and A15238 are equipped with a handle and cable holders. To install the handle for use, remove the 6 mounting bolts that secure the handle to the charger back, turn the handle over and reinstall the same 6 bolts. The cable holders from the factory are installed on the sides of the cabinet. To position them to the top of the cabinet remove the mounting screws that secure the holders in place and also remove the 2 screws and washers from the very top of the unit. Reposition the holders so that the bent portion extends down over the side of the charger and install 1 screw and washer into the cabinet top.

STABLEMATE CHARGER CONTROL FEATURES

- Automatic five-second delayed start upon connection of a properly sized battery.
- Maximum charge time selectable 8, 12, 18, 24 hours via front panel rotary switch.
- Battery voltage is continually monitored.
- Automatic charge termination by DV/DT or time termination.

- Manual On / Off Equalize switch will override the DV/DT function. The charger will run until the MAX TIME setting has been reached.
- Use the EQUALIZE function to charge sulfated or large amp-hr batteries.
- Automatic fault shut down: displayed by a flashing sequence of the SHUTDOWN LED
 - **1 Short flash and 1 Long flash** - Battery Disconnect or Low charging current - The battery was disconnected while on Charge or the charging current was less than 3 amps.
 - **2 Short flashes and 1 Long flash** - The number of cells connected to the battery was greater than 24 or 40 cells, depending on model.
 - **3 Short flashes and 1 Long flash** - Charge duration timer expired - check the setting of the timer switch on the front panel.
- Displays:
 - CHARGING LED - illuminates red during the charge cycle.
 - SHUTDOWN LED - illuminates solid red when the stop button has been pressed and flashes red for problem shutdown.
 - EQUALIZE LED – on solid yellow when unit is set to Equalize, flashes yellow when unit is in Equalize Charge mode.
 - AC POWER LED - illuminates orange when AC power is connected to the unit.
 - CHARGE COMPLETE LED - illuminates green when the battery is fully charged.

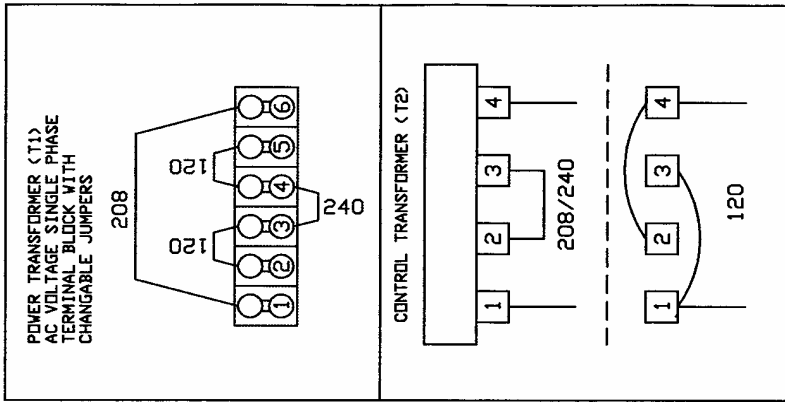
OPERATING PROCEDURE

Verify that the charger is wired for the input AC source available. Connect the charger to AC source. The AC POWER LED will illuminate.

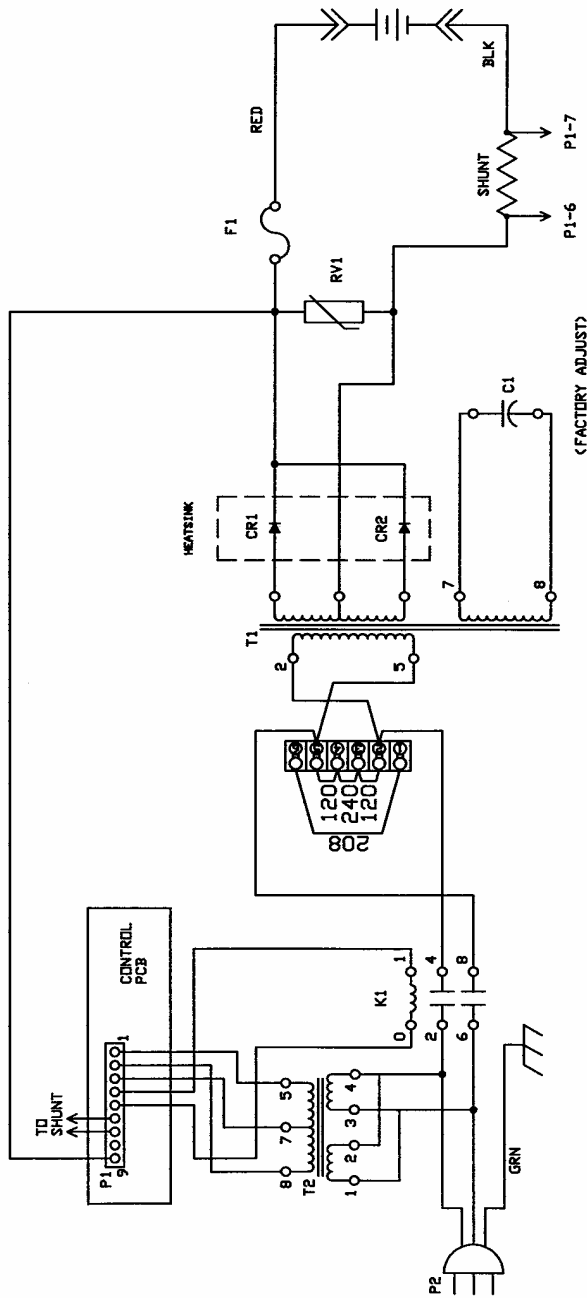
Connect a battery with proper number of cells to the charger. All LED's will flash for five seconds. If the charger and battery are matched and all are in good working order, the charger will check for the state of the battery and start charging. If the charger and battery are mismatched or either is defective the charger will shutdown and display a fault code. Consult the charger front panel label and this manual for fault codes.

The charger will automatically terminate the charge cycle when the DV/DT point is reached unless the Equalize button is pressed or a fault condition occurs. After a normal charge completion the CHARGE COMPLETE LED will illuminate. The battery can now be safely unplugged since all charging has stopped. If the charger was still in charge mode, pressing the STOP button would terminate the charging process and allow the battery to be safely unplugged.

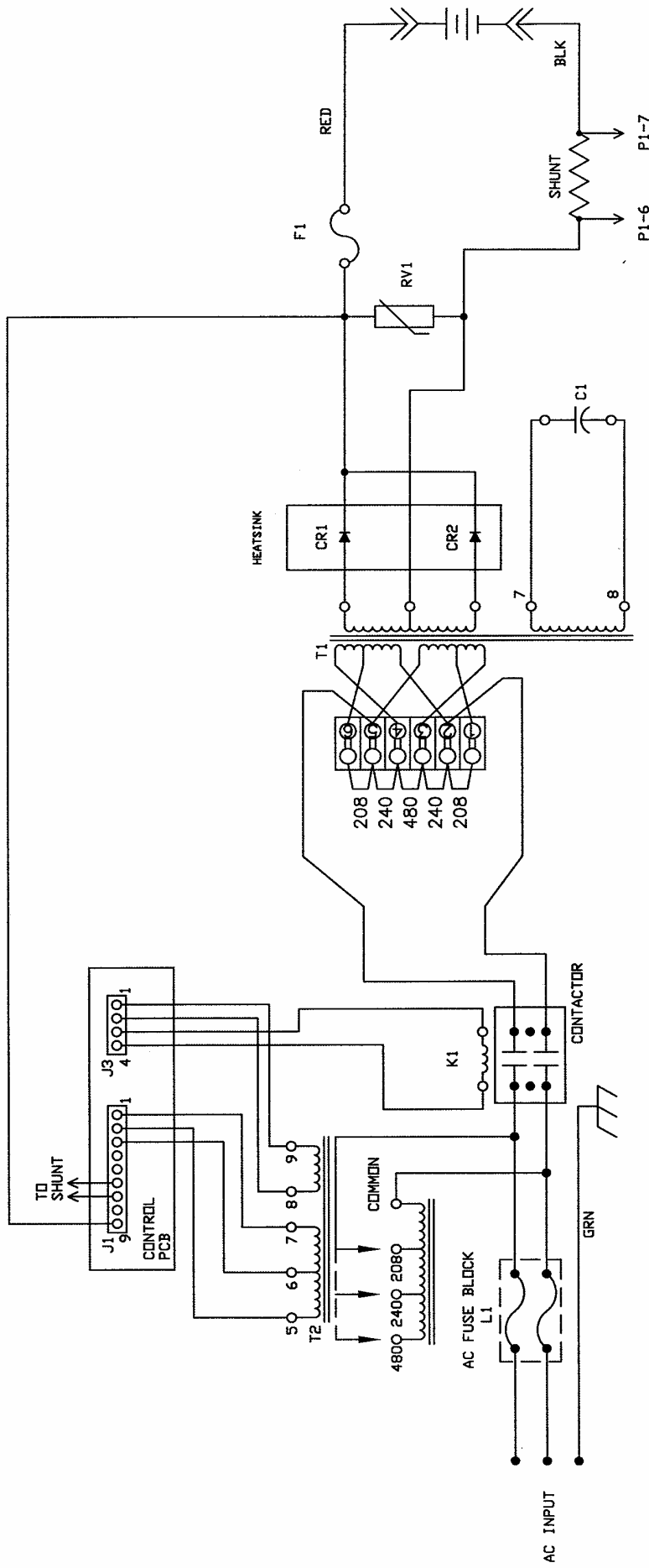
If the EQUALIZE button is pressed, the EQUALIZE LED will illuminate and the charge cycle will terminate by the time set by the front panel rotary switch.



Schematic for A15236, A15237 & A15238



- C1 CAPACITOR
- CR1,2 DIODES
- F1 FUSE, DC OUTPUT
- K1 RELAY, CONTROL 12V
- P2 PLUG, AC INLET
- P1 PLUG, CONTROL BOARD
- T1 TRANSFORMER, MAIN
- T2 TRANSFORMER, CONTROL
- RV1 VARIATOR



Schematic for A15561

- C1 CAPACITOR
- CR1,2 DIODES
- F1 FUSE, DC OUTPUT
- K1 CONTACTOR, 40A
- J1, J3 PLUGS, CONTROL BOARD
- T1 TRANSFORMER, MAIN
- T2 TRANSFORMER, CONTROL
- RV1 VARISTOR
- L1 AC FUSE BLOCK

CHARGER WARRANTY

APPLIED ENERGY SOLUTIONS warrants that each new and unused battery charger manufactured and supplied with good workmanship is free from any known mechanical defect, provided that (A) the product is installed and operated in accordance with the accepted industrial standards and in accordance with the printed instructions furnished by APPLIED ENERGY SOLUTIONS, (B) the product is used under normal conditions for which designed, (C) the product is not used in a corrosive, abnormally dusty or high humidity moisture condensing environment, and (D) the product is not subjected to misuse or negligence, and the product receives proper care, protection and maintenance under supervision of competent personnel.

Warranty Terms and Conditions

APPLIED ENERGY SOLUTIONS StableMate Industrial Battery Chargers are warranted for 1 Year⁽¹⁾ (5 years on power transformers and diodes)⁽²⁾, which begins on the date of shipment from APPLIED ENERGY SOLUTIONS.

NOTES: ⁽¹⁾Warranty covers parts and labor, ⁽²⁾Warranty covers parts only
AC fuses and DC fuses are not warranted unless they are found to be defective prior to use.

NON-TRANSFERABLE WARRANTY. This warranty is extended by APPLIED ENERGY SOLUTIONS only to the original user (purchaser) of new equipment from APPLIED ENERGY SOLUTIONS or one of its authorized agents. The product purchased under this agreement shall be used exclusively by the buyer. There shall be no third party beneficiary of this warranty.

REPAIR LIMITATIONS. APPLIED ENERGY SOLUTIONS has the right to site inspection and judgment of the claimed defects in any product covered by this warranty. APPLIED ENERGY SOLUTIONS' liability is limited to the repair of any defects found to exist by APPLIED ENERGY SOLUTIONS or, at APPLIED ENERGY SOLUTIONS' option, the replacement of the defective product.

APPLIED ENERGY SOLUTIONS and its authorized agents shall not be liable for direct or indirect damages in excess of such repair or replacement. In no event shall the purchaser be entitled to recover for contingent expenses from, but not limited to, telephone calls, telegrams, travel expenses, lodging, duties and taxes, labor, rental or replacement equipment, loss of business or profit or other commercial losses.

CONTINUED USE OF DEFECTIVE PRODUCTS. The continued use of an APPLIED ENERGY SOLUTIONS Industrial Battery Charger that is known to be defective VOIDS ALL WARRANTIES.

REPAIR OF MODIFIED EQUIPMENT. Except as authorized in writing the warranty specified does not cover any equipment that has been repaired by any party other than APPLIED ENERGY SOLUTIONS or its authorized agents. Except as authorized in writing the warranty specified does not cover any equipment that has been modified, mechanically or electrically, by any party other than APPLIED ENERGY SOLUTIONS.

WARRANTY EXPENSE LIMITATIONS. APPLIED ENERGY SOLUTIONS will limit the warranty expense of all chargers to be paid at a maximum of the original purchase price of the charger.

The provisions of this warranty shall not apply to product in use outside of the continental USA.

Except as stated above, all other warranties and conditions, either expressed or implied, including implied warranties of merchantability and fitness for a particular purpose, are excluded and buyer assumes all risk and liability resulting from the use of goods. APPLIED ENERGY SOLUTIONS neither assumes or authorizes any persons to assume for APPLIED ENERGY SOLUTIONS any other liability in connection with the sale or use of the goods sold and there are no oral agreements or warranties collateral to or affecting this written warranty.

When installing, servicing or operating these products, safe practices should be used by skilled and qualified technical persons