Super*MasterCharger*
Microprocessor Controlled
Battery Charger-Analyzer

- ♦ **Two Battery Testing**
- ♦ **Three Charge Modes (0 to 50A):**
  - • **Constant Current (single and dual rate)**
  - • **Peak Transfer/Peak Stop**
  - •**Constant Voltage (float)**
- ♦ **Three Discharge Modes (0 to 60A):**
  - • **Analysis (Capacity Test)**
  - • **Deep Cycle**
  - • **Constant Resistance**
- ♦ **Battery Temperature Monitoring**
- ♦ **Interfacing to the BTAS-16 Battery Management System for monitoring, programming and control**
- ♦ **Fully Protected: overcurrent, short circuit, reverse polarity, overheat, open circuit**

HIGHLIGHTS:

The Super*MasterCharger* is a precision instrument designed to charge and analyze (discharge) Nickel-Cadmium, Sealed Lead-Acid and many other types of rechargeable batteries (10A-Hr to 100A-Hr).

With its multiple modes of operation (Constant Current, Constant Voltage, Peak Charge Modes, Analysis and Deep Cycle Discharge Modes), the Super*MasterCharger* can satisfy the requirements of most rechargeable battery systems.

A special Constant Resistance discharge mode is now provided for those batteries that specify capacity testing with a resistive load.

Two large digital meters permit the simultaneous monitoring of voltage and current, while eight indicator lights inform of the status of the operation.

An integral, four digit LED digital timer provides time interval programming in HOURS-MINUTES and optionally in MINUTES-SECONDS. A rechargeable battery provides backup for short power interruptions.

Internal control and programming of Battery Test Functions is achieved through a keypad and an LCD readout. Multiple Battery Test Profiles can be stored in a non volatile memory to facilitate programming for frequently tested batteries .

The SuperMasterCharger can be interfaced to the BTAS-16 Battery Test System to achieve remote monitoring, programming of test parameters and control of the operation.

CHARACTERISTICS:

In the Constant Current Charge mode, the current is programmed via the keypad and it is independent of the battery voltage, from 0 volts (short circuit) up to 85V. The charge current is also independent of the line voltage, within the specified line voltage limits.

In the Constant Voltage Charge mode, the current starts constant (as per the CC mode) and remains constant until the battery voltage is within a fraction of the selected value (0.25V to 0.5V approximately). At this point, the current is automatically reduced and regulated to maintain the programmed battery voltage.

In the Peak Stop Charge mode, the current starts constant (as per the CC mode) and it is terminated automatically when the battery reaches the programmed peak voltage.

In the Analysis Discharge mode, the current starts constant and it is terminated automatically when the battery drops below the programmed voltage.

In the Full Discharge mode, the current starts constant but gradually drops to zero as the battery voltage reaches the 3V to 2V level.

Temperature controlled fans turn on as required, thus providing for a quieter operation.

A monitor circuit provides the following safety features:

REVERSE POLARITY: If the charger is connected in reverse to a battery (or single cell) having at least 0.25V, the instrument will signal a fault and inhibit further operation.

OPEN CIRCUIT: If the charger is started without a battery connected to it, or if the battery is open, or if the battery voltage rises abnormally (overvoltage), the instrument will signal a fault and inhibit further operation.

SHORT CIRCUIT: The Super*MasterCharger* is current limited, therefore, a short circuit will not result in any more current that the programmed level.

OVER/UNDERCURRENT: The microprocessor monitors the current and returns a fault if the output current differs from the programmed current.

OVERTEMPERATURE: The microprocessor monitors the internal temperature and returns a fault if the internal temperature exceeds the preset limits.

SPECIFICATIONS

1. CURRENT
   - Charge: constant current, programmable: 0 to 50A
   - Discharge: constant current, programmable, 0 to 60A. Extended discharge capability to 80A by way of an external module (special order).

2. VOLTAGE:
   - Charge: 0 to 85V
   - Discharge: 3 to 64V with the maximum current limited by power dissipation (1800W max power dissipation).

3. MODES:
   - Constant Current Charge (single and dual rate)
   - Constant Voltage Charge
   - Peak Voltage Charge
   - Capacity Test (constant current and constant resistance)
   - Full Discharge

4. VOLTAGE CONTROL:
   - Programmable: From 00.0 to 85.0V for charge and discharge, with an accuracy of 2% ±0.1V

5. CONTROLS:
   - Keypad for the programming of Battery Test Parameters

6. METERS:
   - Voltage: 3-1/2 digit LED digital panel meter, 0 to 19.99V and 0 to 199.9V scales. Accuracy: 0.5% ±0.1V
   - Current: 3-1/2 digit LED digital panel meter, 0 to 199.9. Accuracy: 1% ±0.2A

6. STATUS INDICATORS:
   - Power ON, Output ON, Cycle End, End Voltage, Capacity Failure, System Warning, System Fault

7. TIMER:
   - Four digit LED. Two speeds: Hours-Minutes and Minutes-Seconds. Battery backed-up.

8. LINE VOLTAGE:
   - 208/230/245VAC, ±10%, 50-60Hz

9. AMBIENT:
   - +5°C to +35°C (check with factory for extended temperature operation).

10: WARRANTY:
   - One year parts and labor.

11: PART NUMBER:
   - 9899603001

Price and Specifications subject to change without notice　　　　　　　　*(4may2016)*