SuperMini

Microprocessor Controlled Battery Charger-Analyzer

NEW!

- **Three Charge Modes (0 to 20A):**
  - **(single and dual rate)**
  - **Constant Voltage (float)**
  - **Constant Current with Peak Voltage Stop**
- **Three Discharge Modes (0 to 40A):**
  - **Analysis (Capacity Test)**
  - **Deep Cycle**
  - **Constant Resistance Capacity**
- **Battery Temperature Monitoring**
- **Interfacing to the BTAS16 Battery Management System for monitoring, programming and control**
- **Fully Protected**

HIGHLIGHTS:

The *Super*Mini is a precision instrument designed to charge and analyze (discharge) Nickel-Cadmium, Sealed Lead-Acid and other types of rechargeable batteries (up to 40A-Hr).

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

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

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 commonly tested batteries.

The *Super*Mini can be interfaced to the BTAS16 Battery Management System, achieving remote monitoring, programming of test parameters and control of operations.

CHARACTERISTICS:

In the Constant Current Charge mode, the current is programmed via the keypad and is independent of the battery voltage, from 0 volts (short circuit) up to 40V. 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 as constant current (as in 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 constant current (as in the CC mode) and it is terminated automatically when the battery reaches the programmed peak voltage.

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

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

A temperature controlled fan turns on only as required, thus providing for a quiet standby operation.

The Control Processor monitors the operation of the unit and provides the following safety features:

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

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

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

OVERTEMPERATURE: The Processor monitors the internal temperature of the Load Banks and returns a fault if the internal temperature exceeds the preset limits. Equally with the battery temperature that is monitored by way of the Temp-Plate.

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

SPECIFICATIONS

1. CURRENT
   - Charge: constant current, programmable: 0 to 20A in 0.1A steps.
   - Discharge: constant current, programmable, 0 to 40A in 0.1A steps.

2. VOLTAGE:
   - Charge: 0 to 40V
   - Discharge: 3 to 26V at full current, up to 44V at reduced currents (1,000W 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 44.0V on charge and from 3.0V to 28.0V (up to 44V at reduced currents) on discharge, with an accuracy of 2% ±0.1V (in 0.01V steps)

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 199.9A. 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.

7. PROTECTION:
   - Line Current, Charge Current and Discharge Current via Front Panel Circuit Breakers.

8. LINE VOLTAGE:
   - 115/230VAC, ±10%, 50-60Hz

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

10: WARRANTY:
   - One year parts and labor.

Price and Specifications subject to change without notice **B602*(10FEB015)***

Providing Battery Testing Solutions to the Aviation Industry for over 36 years

JFM Engineering, Inc.
8030 N.W. 67th Street
Miami, Florida 33166, USA
TEL (305) 592-2272 – FAX (305) 594-4933
www.jfmeng.com