



BATTERY MONITORING SYSTEM COMPETITIVE ADVANTAGES

BTECH has deployed systems in over 5,000 installations over the last 22 years and BTECH is recognized as the world's leader in battery monitoring with unique, patented technologies, robust software and services

The Technology

All battery monitoring systems place a momentary test load on the unit (jar or cell) to obtain an ohmic measurement.

The method used can have different results.

Systems using resistance apply a significant test load to the battery and discharge each unit below open circuit voltage to get an ohmic reading, this type of method is non repeatable and is generally set up to measure on a monthly basis. (Example A)

Modular systems (systems utilizing a module powered from the battery) rely on a fixed small amperage test load that is ineffective in obtaining ohmic data in many battery types.

BTECH's Pulsed DC Impedance is better. *BTECH technology does not discharge the batteries or create a chemical reaction during the measurement cycle.* The measurement method is scaled to the batteries used in each application, thus insuring a signal to noise ratio sufficient to make accurate repeatable Impedance measurements.

Only BTECH's technique can measure all of the failure modes in both VRLA and VLA battery systems. BTECH's measurement method uses a test load of 5-20 Amps RMS and produces results with a high signal to noise ratio and includes comprehensive noise analysis and filtering.

The S5 system establishes baselines for impedance during the startup process for each unit. The baselines are used for trending and threshold alarms. As a result, only BTECH can predict failing units accurately with virtually no false alarms.

The consistency and accuracy of our systems is proven in real day to day applications.

Patent protection prevents competitors from using similar measurement methods.

The S5 system controller is a self contained intelligent front end. This approach offers several advantages:

- The S5 digital platform does not require dip switches or trim pots for system set up. Once installed the virtually maintenance free system does not drift or require periodic recalibration
- A computer/server in the battery room is not required (proprietary server based systems are a single point of failure)
- Communications option scaled and tailored to the customers enterprise (Modbus, SNMP, DNP, Dry Contacts)
- Only The S5 system works effectively with advanced charging techniques and computer grade transformer-less UPS technologies
- Ability to operate in remote stand alone applications

BTECH's BVM Software package is un-paralleled in the industry.

The ease of use, built-in graphing, report generation and automatic analysis tools provide the most effective, comprehensive proactive monitoring package in the industry.

BTECH systems *meet or exceed all IEEE recommendations for battery monitoring*, without the need for deep DC discharge testing below the battery's open circuit voltage.



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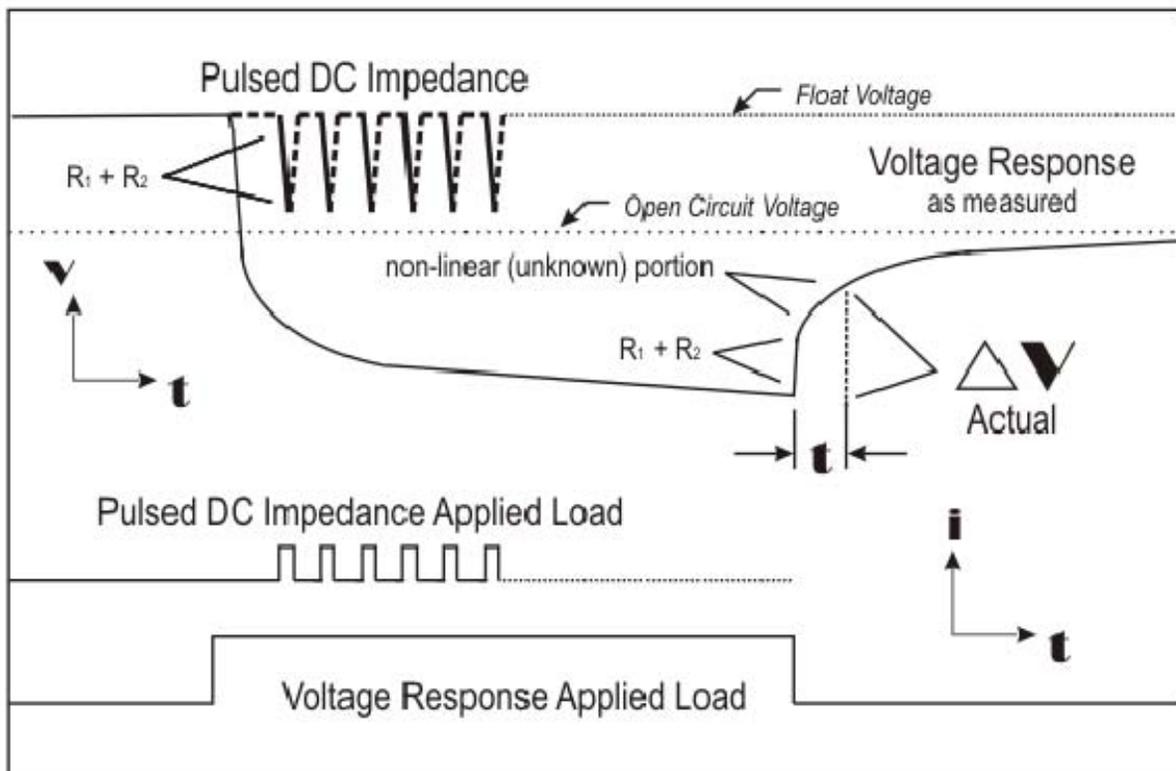
BTECH's factory engineered, designed and manufactured wiring harnesses simplifies installation and eliminates costly field system configuration and installation time.

Where others ship a bale of wires and a box of connectors BTECH provides a prefabricated system.

No Monitoring System is Safer to Install and Maintain. BTECH's Unique Quick-Disconnect Safety Fuses speed battery replacements and protect personnel during installation and maintenance.

BTECH's Services including field services, tech support, and remote monitoring provide the customer with the support expected from a mission critical supplier.

BTECH's Impedance technology is optimized to the customer's specific battery system application



Example A