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ARBIN BT2000 - Battery Test Equipment

Arbin's hardware design allows for extremely flexible specifications in terms of the voltage range, and the current ranges for the test channels. The BT-2000 can be custom designed to meet the parameters of any experiment, or test schedule.
Providing Battery Test Stations ranging from single cells to modules to large packs, Arbin can design a test station that will fit your requirements

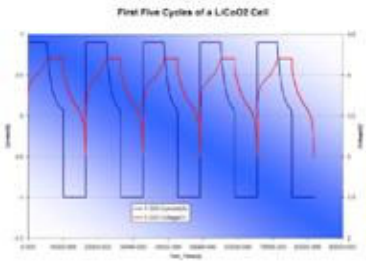
Hardware Features:

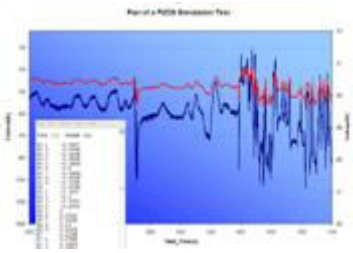
- Completely Independent Channels allow users to run multiple independent tests simultaneously without affecting what is happening on the other channels
- Industry Leading Accuracy up to 0.02% for low power and 0.05% for high power applications
- Current Rise Times as fast as 10us allowing for extremely reliable testing and response rates
- Potentiostatic/Galvanostatic Functionality enables each channel to run advanced electrochemical experiments with both voltage and current control
- Four-Point Kelvin Probe Connection for all main channels
- Plug and Play Channel and Auxiliary Modules for easy expansion and maintenance. This allows users the flexibility to have your test station grow as your testing requirements grow.
- Channel Paralleling allows users to parallel several of the main channels together to increase the current handling capability of the system
- Multiple Current Ranges for improved accuracy over a wide range of testing conditions.
- Dual Voltage Ranges available upon request

The BT-2000 is controlled by an external PC running our MITS Pro software. Using the MITS Pro software, you will have the capability of running any standard or customized test profiles that are required for your research.

Some of the common applications designed for Battery research include:

Life Cycle Testing - BT2000 can perform charge/discharge cycling of multiple cells or batteries simultaneously to obtain charge and discharge capacity, energy, DC internal resistance, and other valuable information.





Device Simulation - BT2000 allows the user to input collected dynamic device-performance information (current, voltage, power vs. time) and the system will charge/discharge according to the data. This prevents the user from having to program complex test profiles.

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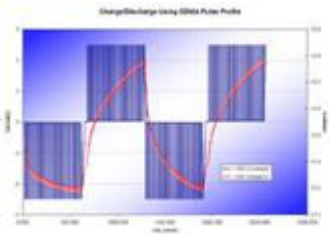
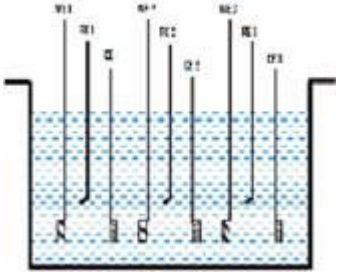


Telecommunications Battery Testing - With optional pulse hardware, BT2000 allows the user to charge and discharge using GSM/CDMA or another user-defined custom pulse profile. With this option, the user can perform a single pulse with up to ten stages or a repeated pulse with 10 stages per cycle.
With Arbin Instruments powerful MITS Pro software, users can program very basic to very complex schedules using the simple boolean logic scheduling process.
Near Limitless Research and Development Potential

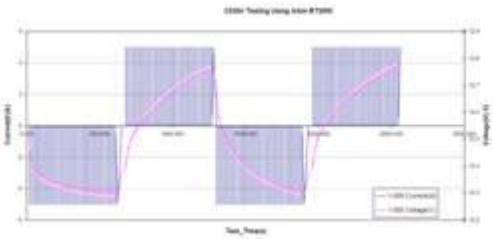
OPTIONS:

The BT-2000 can be fully customizable both in terms of main channels and also auxiliary channels in order to obtain additional data while running experiments.
Some of the common options include:



Auxiliary Voltage Channels
can be used for numerous applications but the most common is to measure individual cell voltages within a pack. They can also be used to measure and monitor a reference or working electrode in a multi-electrode experiment.

High Speed Pulse



allows the user to use GSM, CDMA, IDEN pulse types or custom design their own sub-second pulse profiles. Each pulse can have up to 10 stages and the pulse can be run once or repeated as in mobile phone applications.

Auxiliary Temperature Channels
can be used to measure and record temperature data. They can be inserted into the pack or cell or just used to measure room temperature. Arbin offers both thermocouple and thermistor options.

Smart Battery is used to communicate with smart batteries using SMBus 1.1 or 2.0 (please specify at time of order). This feature will allow users to read/write registers on the smart battery as well as compare data collected from the smart battery with data that the Arbin system measures directly.

External Charger/Load
allows the user to connect his own charger or load to the system and program the BT2000 to charge/discharge using his charger/load at a predetermined step in the test schedule. The system internally and automatically connects the battery to the charger/load. During the External Charge/Load step, the Arbin system collects data about the charger/load performance.

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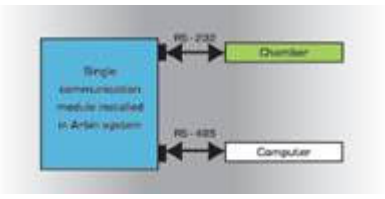
Temperature Chamber Interface
allows the user to integrate the BT2000 system with a temperature chamber and controller. This allows the system to set the temperature set points and ramps separately in each step for completely automated control. No more trying to time the temperature set points separately.



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