Features for Cell Testing in EV/HEV Test Labs

- Drive simulations with standard Electric Vehicle tests: FUDS, SFUDS, GSFUDS, DST and ECE-15L
- Drive Cycle Conversion automates test program development from acquired battery usage data
- Constant Current Power or Voltage Control
- Bipolar capacity for discharging cells to below zero volts
- Parallel circuit operation for greater flexibility in test specification
- Assignable Data Channels

**Voltage:** 0-12V  
**Current:** 1µA - 300A  
**Accuracy:** >+0.1% full-scale accuracy*  
*0.02 – 0.05% full-scale accuracy in temp/humidity controlled environment.

**Data Sampling Rate:** 2-10ms sub-step/burst

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**Features for Cell Testing in EV/HEV Test Labs**

- Drive simulations with standard Electric Vehicle tests: FUDS, SFUDS, GSFUDS, DST and ECE-15L
- Drive Cycle Conversion automates test program development from acquired battery usage data
- Integration with Battery Management Systems: CAN, I2C, SMBus compliant database management
- Constant Current Power or Voltage Control
- Bipolar capacity for discharging cells to below zero volts
- Parallel circuit operation for greater flexibility in test specification
- Assignable Data Channels
- Also able to test battery packs and cells
- Discharge power recycled to AC line for cooler, more energy-efficient operation

**Voltage:** 0-100V  
**Current:** up to 2000A  
**Accuracy:** >+0.1% full-scale accuracy*  
*0.02 – 0.05% full-scale accuracy in temp/humidity controlled environment.

**Data Sampling Rate:** 10ms

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**Features for Cell Testing in EV/HEV Test Labs**

- One or two circuit FTF systems
- Up to 1.2 megawatts
- Full 300 kW power delivery throughout range
- Parallelable circuits & cabinets
- Full power delivery
- Drive simulations with standard Electric Vehicle tests: FUDS, SFUDS, GSFUDS, DST and ECE-15L
- Drive Cycle Conversion automates test program development from acquired battery usage data
- Integration with Battery Management Systems: CAN, I2C, SMBus compliant database management
- Battery Simulation mode for electric motor/generator testing with users-specified controls: battery voltage, internal resistance, maximum current, maximum power
- Discharge power recycled to AC line for cooler, more energy-efficient operation

**Voltage:** 15-1000V  
**Current:** 750A  
**Power:** up to 300kW (optional parallel operation up to 1.2 MW)  
**Accuracy:** >+0.1% full-scale accuracy*  
*0.02 – 0.05% full-scale accuracy in temp/humidity controlled environment.

**Data Sampling Rate:** 10ms
Collaboration at its Best

Bitrode and A&D Technology deliver the ultimate in laboratory management

Bitrode is now applying its years of experience in battery formation, testing and equipment to create the safest laboratory systems and software programs in the industry. Currently adopted by MAGNA’s eCar program and in use at GM’s Global Battery Lab, the system is already well-positioned to become the industry standard for advanced battery testing.

General Motors is now using Bitrode’s fully automated battery test system in their new Global Battery Lab located in Warren, Michigan. Comprised of A&D’s Labminder, iCentral, and Bitrode’s test equipment, the state-of-the-art A&D iTest EV solution represents a major advancement in world class battery laboratory management.

Bitrode’s GM-Inspired Production Test & Management System

Bitrode and Bauer Controls collaboration results in state-of-the-art production battery laboratory systems

The DLS-850 Production Battery Test System combines a Bauer PCS Test Control System with the Bitrode FTF/LCV Battery Section and Pack Cycler to provide a comprehensive quality control solution for production battery charging and testing. The system runs in real-time on the shop floor to deliver quality and process information to operators, quality engineers, supervisors, and production managers.

The DLS-850 battery test system features flexible high-tech test capabilities coupled with a robust architecture intended for high volume production battery manufacturers. Detailed test measurements and dependable safety monitoring make this system an integral part of the quality control process.
Bitrode meets the changing needs of a sophisticated market by delivering reliable equipment, advanced performance, and long term support to manufacturing companies of all sizes. We offer an extensive product line of formation and laboratory test equipment, as well as software tools, battery simulation and manufacturing automation tools appropriate to all battery applications and chemistries.

In addition to our wide range of products, we offer engineering services in both hardware and software to meet any requirements in any application. We enjoy a long history of partnership with other best-in-class suppliers on large turn-key projects. Our collaboration with A&D Technologies, for example, has resulted in the placement of their iTest system in GM's Advanced Battery Lab laboratory in Warren, Michigan, and our partnership with Bauer Controls end-of-line test systems resulted in a turnkey system for GM's production facility in Brownstown.

“Our team has over 25 years (collective) experience with Bitrode equipment and wouldn't trust our testing to anyone else. Accurate and reliable testing is critical to our success.”

Carmine Pizzurro, eCAMION

“Our machines have been running 24/7 and we never have a hiccup!”

Mike Kaler, Cross & Black

“Programming on a Bitrode is really a dream compared to the others—who are much, much more difficult to program. Bitrode makes my job easy.”

Tom Hund, Sandia National Labs

“Bitrode has always been the most reliable equipment in the industry; I have always endorsed their products.”

Karl Keckan, Ford Motors (retired)

“Bitrode has been the mainstay in our laboratory for years...we’ve depended on our machines to be accurate and reliable year in and year out.

Bob Connell, General Motors R&D

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