

Newsletter

Arbin Systems Pass NRTL Safety Evaluation



Two specific models of Arbin BT2000 system have recently passed standard safety testing administered by Underwriters Laboratories (UL), acting as an OSHA-recognized NRTL (Nationally Recognized Testing Laboratory). The testing procedure evaluates general safety requirements with reference to the UL508A and ANSI/NFPA 70 standards. Based on the inspection, testing and evaluation completed, UL determined that the equipments meet the essential requirements of applicable product safety standards.

The two BT2000 systems have been designed for a US customer doing research in batteries. One system consists of 32 channels with three current ranges of 50A/2A/0.1A, maximum voltage of 5V, and maximum

power of 250W (pictured on the right). A second higher power system consists of 2 channels with three current ranges of 25A/1A/0.1A, maximum voltage of 70V, and maximum power of 1.75kW.

An NRTL is an organization that OSHA (Occupational Safety and Health Administration) has recognized as meeting the legal requirements to provide assessment that a product meets applicable product safety standards. OSHA is a division within the US Department of Labor to assure the safety and health of America's workers. For more information on NRTL program, visit the OSHA website at:

<http://www.osha.gov/dts/otpca/nrtl/index.html>



32-channel battery tester—
NRTL verified

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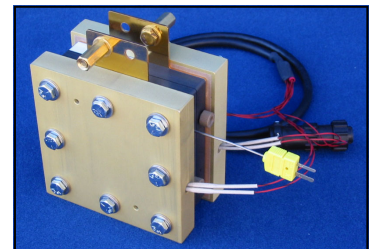
PEM Fuel Cell Fixtures

Arbin supplies PEM fuel cell fixtures for customer interested in testing fuel cell membranes or catalysts. These fixtures are designed in-house by Arbin's fuel cell scientists.

Available fixtures for sale are: 5cm² and 25 cm² single cell fixtures with and without reference electrode; 50cm² single cell fixtures with and without cooling channel; and 100cm² single cell fixtures

with cooling channel. Also available is 100cm² fuel cell stack fixtures for up to 60W power.

These fixtures consist of the graphite plates, gold-plated current collector, cartridge heaters or cooling channel, and necessary connectors and fasteners. MEA (membrane electrode assembly) is optional. ■



25cm² single PEM fuel cell fixture
(thermocouple not included for sale)

PEM/DM Fuel Cell Test System Shipped to UK

A 3-channel, custom-designed, integrated fuel cell testing system was shipped early this year to a customer in UK for research in PEM and DM fuel cells. Each of the electronic-load testing channels is specified at 3 current ranges of 50A/5A/1A, maximum voltage of 20V, and maximum power of 250W. One electronic load channel is dedicated for PEMFC testing unit and the other two channels are dedicated for DMFC testing unit.

The PEMFC testing unit is capable of handling up to

5slpm each of fuel (hydrogen) line and oxidant (oxygen/air) line. Each reactant line is equipped with a dew point humidifier for proper humidification of these gaseous reactants.

The DMFC testing unit consists of two separate sub-units for testing with two different types of fuel – methanol and sodium borohydride. Each fuel line is specified at maximum 60scem capability. A maximum of 1slpm line is specified for the oxidant (oxygen/air) line for both sub-units. ■



A 3-channel combination PEM/DM fuel cell testing system. Left unit for PEMFC, right unit for DMFC testing.

High Power EV/HEV Battery Tester

A test system was delivered last year to a customer working on EV/HEV battery research in China. The system specifications call for a one channel of maximum 500V/500A with a maximum of 250kW charge and 220kW discharge power. A minimum of 10V and one current-range only are specified.

To provide a high level of performance without sacrific-

ing accuracy, efficiency, or system size, the system is designed based on PWM (pulse width modulation) regulation circuitry. The design offers three main advantages over a conventional linear regulation: energy recycling with high efficiency and less heat generation, tighter regulation, and smaller size and lighter weight. ■



1-channel 500V/500A charge-discharge tester for EV/HEV batteries

Arbin Exhibition

Mar 14-17, Ft. Lauderdale, Florida
International Battery Seminar & Exhibition - Booth #B30
www.powersources.net

Apr 27-29, Washington, DC
Small Fuel Cells 2005 - Booth #1
www.knowledgefoundation.com

May 15-20, Quebec City, Canada
ECS Spring Meeting - Booth #10
www.electrochem.org

2005

2-Day Factory Training Schedule

- Mar 7-8 or 21-22
- Apr 4-5 or 18-19
- May 2-3 or 16-17
- Jun 6-7 or 20-21
- Jul 11-12 or 25-26
- Aug 8-9 or 22-23
- Sep 12-13 or 26-27
- Oct 10-11 or 24-25
- Nov 7-8 or 21-22
- Dec 5-6 or 19-20

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Arbin Opens Korean Office

Arbin has officially opened an office in Korea and appointed Mr. YongUn Jeong as the sales manager. The Korean office handles all Arbin products, offering before/after-sales services to the energy testing market, especially focusing on the high power energy market, including batteries and fuel cells. The establishment of a dedicated Korean office is a strategic business decision to accommodate for the strong market growth; strengthening Arbin's presence in the region.

Mr. Jeong, who serves as the manager of Arbin Korea, is fluent in both Korean and English. He has a background in electronics engi-

neering and materials engineering; specializing in electronic instrumentation. He has over nine years work experience in this field.

Seoul is located in the center of the Korean Peninsula between China and Japan. With over 10 million people, the city provides the economic power to Korea.

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Arbin Korea Sales Manager: Mr. YongUn Jeong

Tech Support Update: Software Reinstallation

PC hardware and software problems may, at some point necessitate complete reinstallation of software including operating system and drivers. This could be due to hard disk failures, operating system file corruption, or the PC components are simply wearing out.

There are specific settings to be mindful of when doing one of these complete installs. Some basic settings that should be observed are:

- a. Disable automatic update of daylight saving time. This has been known to interrupt tests if the change happens during testing.
- b. The PC should be configured to not "sleep". Under <Control Panel><Power Options> - "Turn off hard disks"

and "System Standby" should be set "Never".

- c. Hyper-threading should be disabled in the BIOS if the PC has this capability.
- d. Antivirus software should not be set up to do an unattended hard drive scans while tests are running.

Some of these settings may require special instructions to manipulate.

Some versions of Arbin software require specific instructions for reinstallation. Instrument/software specific instructions may be obtained from Arbin technical support. The basic information needed is the serial number of the machine and the version and build date of the Arbin software. ■

News Flash

Building Expansion Project

Construction has begun to expand Arbin's facility in College Station. Ground breaking started in the middle of January with a projected completion date of September 2005. The building project will triple Arbin's current facility size with the main objective to expand the production and testing area. For our guests and visitors, we apologize for the noise and chaos.



Award Time

Dr. John Zhang, Arbin president/chief engineer, received an award from the Research Valley Partnership for recognition and appreciation of Arbin's contribution to the growth and prosperity of the Brazos area economy. Research Valley Partnership is a unique collaboration between the public and private sectors promoting the economic development in the greater Bryan-College Station area in the state of Texas. ■





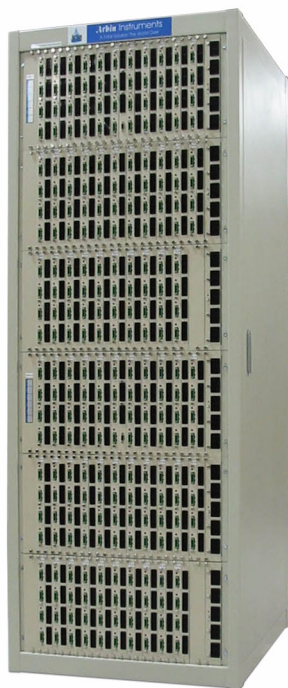
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AIR MAIL

Large Scale Battery Testing for Pilot Production

A 256-channel customized BT2000 system was shipped to a US customer in January. The system will be used in a pilot production of solid-state rechargeable thin film batteries for medical applications.

Each channel of the system is configured with two current ranges of 0.1mA/0.01mA, maximum of 5V and 0.5mW. The voltage measurement and reading accuracy is specified at $\pm 5\text{mV}$, while the current accuracy is at $\pm 0.05\%$ FSR. Two computer are required to handle the operation of the system—one for each set of 128 channels. The customer will provide the necessary hookups between the system and the batteries. ■



256-channel low power testing system for pilot production of thin-film rechargeable batteries

Battery & Electrochemistry Testing - Portable 4-channel System -

- Three current ranges per channel
- Up to 10V, 2A per channel
- Potentiostat/Galvanostat functions
- Pulse testing functions
- Benchtop plug & play system
- Include testing software
- Option to add auxiliary voltage/pressure/thermistor
- Option to add 4x channels up to 16 channels



Special Offer
\$9,995

Expires May 31, 2005

Contact: sales@arbin.com or (979) 690-2751