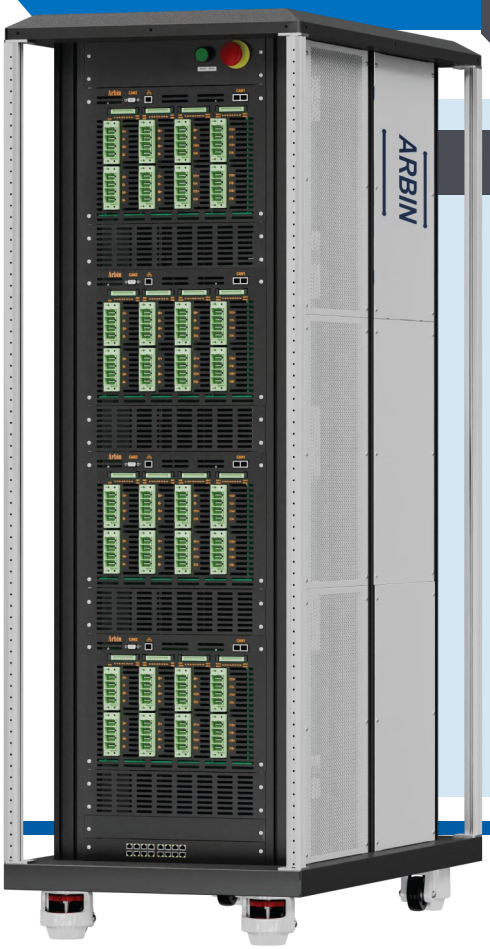
Regenerative Battery Testing

RBT-Cell Series



Key Features

- **100ppm Precision** with industry-leading 24-bit resolution across four current ranges per test channel
- **Channel Density:** 16 channels per module, capable of output currents ranging from ±100 A up to ±1,600 A per module
- **Minimize** Floor Space with up to 64 channels per chassis in a compact footprint
- **Parallelable** so any number of channels on the 16 channel module can be connected to increase the current handling capability
- **Reduce Energy Consumption:** Efficient regenerative circuitry can return up to 83% of discharge energy back to the system and/or grid

Precision Meets Efficiency

As the demand for energy storage solutions grows, so does the need for regenerative technology that not only accurately tests and characterizes batteries, but also contributes to a sustainable future.

Arbin's Regenerative Battery Testing (**RBT-Cell**) series combines high-precision measurements and SiC based regenerative technology to reduce the overall energy cost of your testbed. This innovative technology enables researchers to generate reliable and repeatable data without compromising on results in the pursuit of energy efficiency.

Standard Configurations

Voltage Options			
6 V Options	-6 to 6 V	0 to 6 V	2 to 6 V
10 V Options	-10 to 10 V	0 to 10 V	2 to 10 V
20 V Options	-20 to 20 V	0 to 20 V	2 to 20 V

Current Ranges			
100 A Configuration	100 A	25 A	
300 A Configuration	300 A	150 A	50 A
400 A Configuration	400 A	200 A	50 A
Parallelable up to 1,600 A			

System Information

System Characteristics	
Channels per Module	4 or 16
Channels per Chassis	Up to 64
Current Ranges per Channel	Up to 3 (auto switching)
Channel Parallel	Up to 1,600 A
Current Rise Time	<1 ms for 4CH module <2 ms for 16CH module
Regenerative Efficiency	Up to 85%
Control & Measurement Specifications	
Accuracy, Voltage	±0.015% FSR
Accuracy, Current	±0.01% FSR
Precision	±0.01% FSR
Measurement Resolution	24 Bit
Control Resolution	16 Bit
Time Resolution	100 µs
Data Acquisition Rate	Up to 1 kHz
Chassis Specifications	
Cooling	Air-cooled with built-in variable speed fans
Input Power	340V3P – 520V3P
Chassis Size	Width: 25” (635 mm) Depth: 45” (1143 mm) Height: 72” (1,828.8 mm)

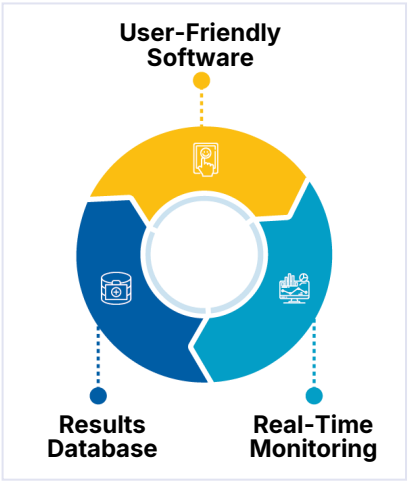
Application Focus

- Facility integration to interface with temperature chambers, test facilities, or other third party systems.
- Data Sampling and Logging: Powerful embedded controllers provide ultra-fast data sampling and logging.
- Comprehensive safety features for lithium-ion battery testing.
- Dynamic data acquisition based on changes in time, voltage, and current to capture more data when it’s needed and maintain efficient file sizes.
- Simulation of Real World Test Profiles
- dQ/dV & Coulombic Efficiency
- Cell-level Quality Control & Grading

Powerful Software Integration

Arbin’s RBT-Cell system, powered by our latest MITS software, optimizes the battery testing process by simplifying control of the testing process, and integrating the test station into a test facility.

- Create and manage test schedules, monitor real-time testing, and analyze results.
- Integration with third-party hardware and automation software.
- Suitable for both laboratory and production environments.
- Test data securely stored in a range of robust databased formats including MS SQL, PostgreSQL, or utilize Apache Kafka for additional flexibility.



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