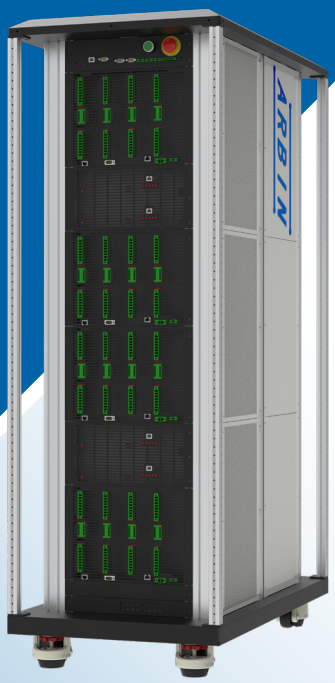
ARBIN LBTS

Laboratory Battery Testing

High-precision solutions for a full range of cell testing applications.



Beyond Precision

Arbin's next generation Laboratory Battery Testing (**LBTS**) series offers industry-leading 24-bit resolution and high-precision measurements. The all-purpose tester provides true bipolar circuitry ensuring cross-zero linearity, four auto switching current ranges per test channel, and embedded MCUs for real-time calculations.

Developed in collaboration with industry leaders Ford Motors and Sandia National Lab, and supported by US DOE funding through DOE ARPA-E, Arbin utilizes exclusive technology to elevate battery testing standards.

Key Features

- **Precision:** 100ppm measurement with industry-leading 24-bit resolution across four current ranges per test channel
- **Natively supports** future in situ upgrade to 6 V range without sacrificing accuracy today
- **True Bipolar Circuitry** to ensure cross-zero linearity with no switching time between charge and discharge
- **Embedded MCU** for real-time calculations of battery capacity, power, energy, IR, and efficiency metrics
- **Maximize Floor Space** with enhanced channel density in a compact footprint

Low Current Configurations	
Voltage Range	Current Range
(-5) to 5V	1A/100mA/10mA/1mA
	5A/1A/100mA/1mA
0 to 5V	10A/1A/100mA/1mA
	20A/1A/100mA/1mA
High Current Configurations	
Voltage Range	Current Range
0 to 5V	50A/10A/1A/10mA
	100A/10A/1A/10mA
	150A/10A/1A/10mA
	300A/10A/1A/10mA
Up to 1200A per Module	

System Characteristics Up To 20A	
Channels per Module	32
Channels per Chassis	Up to 128
Current Ranges per Channel	4 (auto switching)
Channel Parallel	Up to 640 A
Current Rise Time	<200 µs

System Characteristics Greater Than 20A	
Channels per Module	Up to 12
Channels per Chassis	Up to 48
Current Ranges per Channel	4 (auto switching)
Channel Parallel	Up to 1,200 A
Time Resolution	<2 ms

Control & Measurement Specifications	
Accuracy	±0.02% 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
Input Power	220V1P, 208V3P - 520V3P
Chassis Size	Width: 25” (635 mm) Depth: 45” (1,143 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 LBTS system, powered by our latest MITS Pro 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.
- Local or remote control of test channels.
- Test data securely stored in a range of robust databased formats including MS SQL, Post GreSQL, Access, or utilize Apache Kafka for additional flexibility.

CONTACT US

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