



Engineering Excellence in Test Stand Applications

# UNICO BATTERY TESTERS

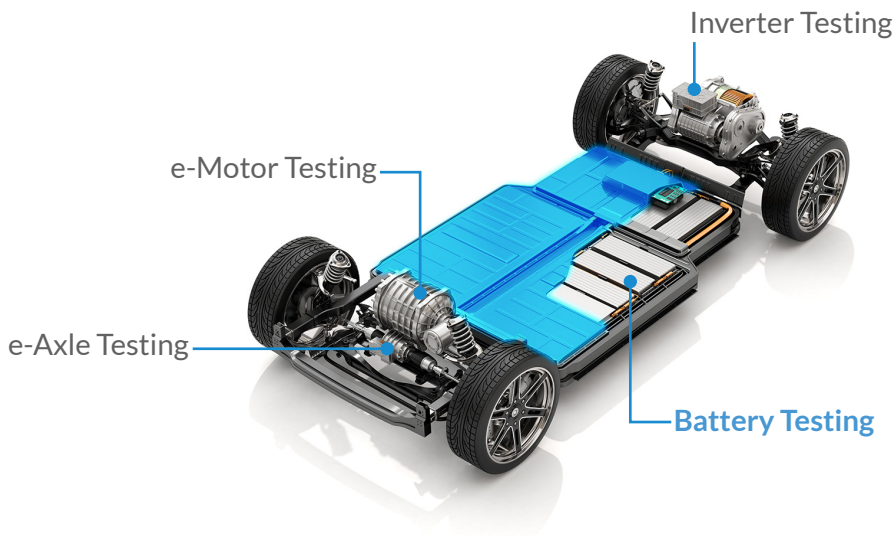
## BAT600 SERIES

Solutions for all Your Battery Pack Testing Needs



UNICO's comprehensive battery pack test portfolio takes advantage of both Silicon IGBTs and SiC MOSFETs to meet diverse industry needs. Whether in the lab, or at end of line test, when your application requires high power, high voltage, exceptional dynamic performance, or even all of these, UNICO provides the optimal solution to your battery pack testing needs. Single and multi-channel solutions are available. Our resonant converter can be used to eliminate the input isolation transformer, and makes it possible to have multi-channel solutions with galvanic channel to channel isolation utilizing a common DC bus architecture that recirculates energy and minimizes power supply requirements.

# APPLICATIONS



- Research and Development
- End of Line (EOL) Testing
- Characterization Testing
- Life Cycle & Endurance
- Safety Testing
- Environmental Testing



Performance



Reliability



Accuracy



Flexibility



Efficiency

# BENEFITS



## PERFORMANCE AND ACCURACY

- SiC technology offers high performance with switching frequencies up to 75kHz or more.
- The highest level of accuracy minimizes errors and uncertainty in your results.



## REDUCED POWER REQUIREMENTS

- Common DC-Bus architecture recirculates energy within the system.
- Single AFE connection for a multi-megawatt system, or multiple test stations reduces installation costs.
- High efficiency reduces operational costs.



## FLEXIBLE HIGH POWER

- High power and performance in a flexible and scalable package.
- Isolated multi-channel capability offers high voltage and power in a significantly smaller package.



## STANDARD DESIGN

- Proven durability and reliability.
- Faster commissioning.
- Configurable systems and custom systems also available.
- Single flexible control interface.

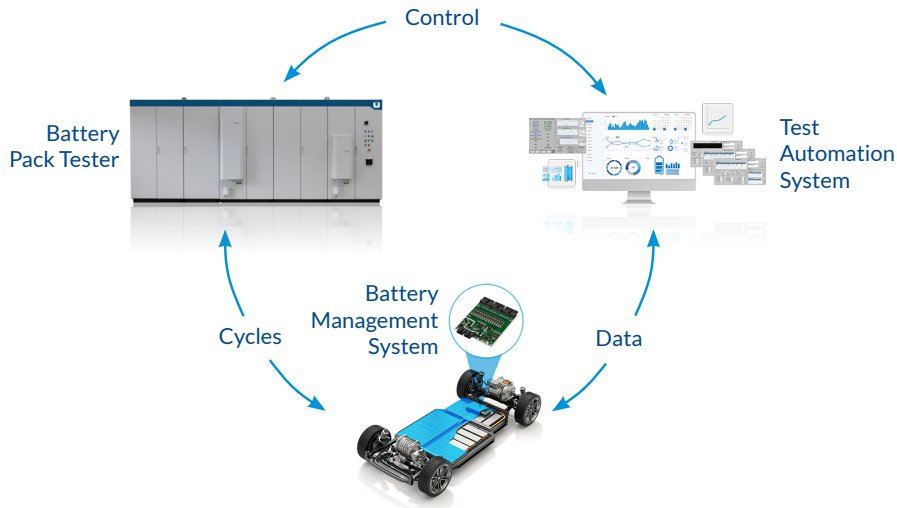


## REDUCED DELIVERY TIMES

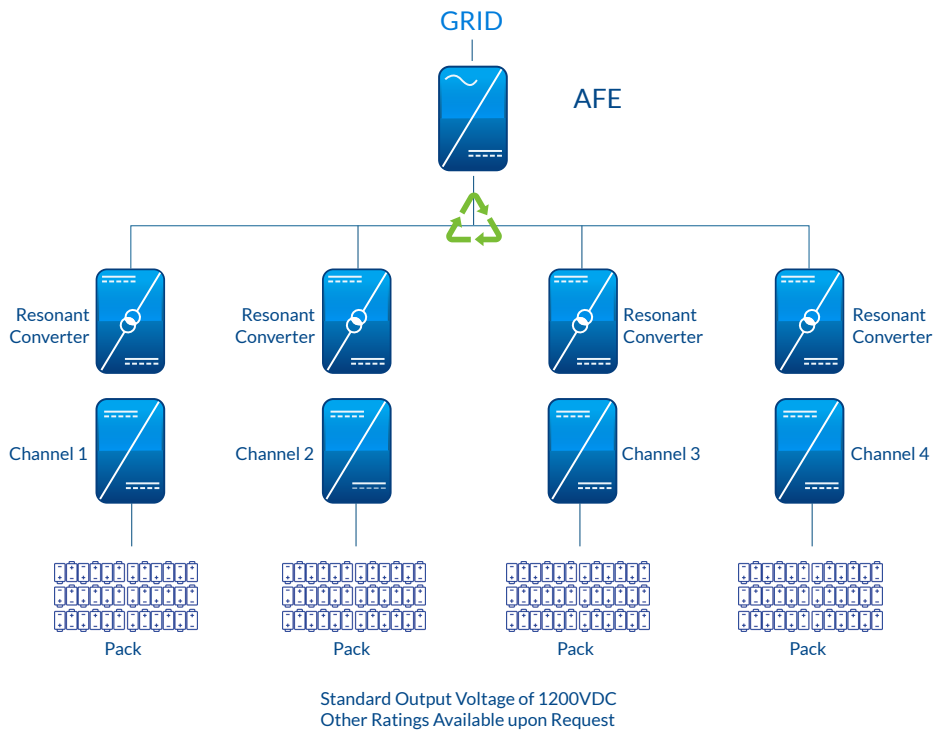
- Both in-stock and ready-to-build standard systems available.
- Configured standard systems have reduced delivery times over custom systems.

# BATTERY PACK TESTER - BAT600 SERIES

The BAT600 Series from UNICO offers a broad range of DC Power solutions developed for the exacting needs of today's battery testing applications for battery packs. We offer efficient single channel or multichannel solutions for high voltage, high power, high performance applications in a wide range of packages from 100kW to 4000kW or more. The BAT600 Series is flexible with a variety of industry standard interfaces available to provide simple and robust connections to your Test Automation System (TAS), allowing for optimal utilization and flexibility of your testing schedules.



## MULTI-CHANNEL SYSTEM WITH RESONANT CONVERTERS FOR ISOLATION



The use of resonant converters for channel to channel isolation provides options for incredibly high efficient battery cycling significantly reducing the test lab operating costs and power requirements. The channel to channel isolation also creates the possibility of putting two of the outputs in series.

# DETAILED SPECIFICATIONS

Specifications	
Available Power Versions	Single systems are available with a wide range of AFE powers from 100kW up to 1600kW, or more.
Output Current	Single systems are available with current outputs of 300A up to 4000A
Overload Current	110% (Other values available as configurable or custom systems)
Output Voltage	50-1200VDC 0-1200VDC (full bridge option upon request) (Other output voltages available upon request)
PWM Switch Frequency	3kHz to 75kHz with interleaving (higher upon request)
Control Modes	Voltage, Current, Power
Voltage Measuring Accuracy	±0.1% FS Standard ±0.05% FS High Precision (±0.01% FS with calibration)
Current Measuring Accuracy	±0.1% FS Standard ±0.05% FS High Precision (±0.01% FS with calibration)
Current Control Accuracy	Better than 0.2%
Voltage Control Accuracy	Better than 0.2%
Voltage Thermal Drift	0.003%/°C
Performance Dynamics	Up to 400A/ms standard performance *Up to 1500A/ms high performance*
Voltage Ramp (10-90% FS)	Not Applicable for Battery Testing
Current Ramp (10-90% FS)	<8.0ms standard performance* <=1ms high performance*
Current Overshoot	±2% Typical Less than +/-1% with dedicated tuning
Current Ripple	Less than 1% Typical
DC Voltage Ripple	0.1% rms of full scale
Power Factor	0.99
Efficiency	Better than 95%

Specifications	
AC Input	Isolation transformer can be selected with your desired input voltage.
Ambient	Up to 40°C, max 1000m above sea level, 95%RH non-condensing
Enclosure	IP54 / NEMA 1 (other options available upon request)
Cooling	Water cooled or air-conditioned racks available
Enclosure Paint	RAL 7035 rough semi-gloss poly powder finish
Certification Compliance	UL, CE (other certifications available)
Control	Local and remote
Built-in Remote Interface Safety and	Analog as well as RS-422, RS-485, two ports (other interface and protocol, see options below)
Safety and Control Interlocks	Hardwired, opto-isolated, software configurable
Data Logging	Data sampler through UEdit®
Battery Emulator	Optional. See battery emulator brochure TST600

Options	
Isolation Transformer	Required. UNICO can offer, or you can supply.
Cabinet Paint Finish	Customer specific color cabinets can be ordered as a configurable or custom system
External Communication Interface (2x Interface Per Cycler)	<ul style="list-style-type: none"> <li>Ethernet with Modbus TCP, ProfiNET and Ethernet IP</li> <li>EtherCAT (Async and Sync)</li> <li>CC-Link</li> <li>CAN open</li> </ul>

\* Performance Specifications are assuming a 600VDC battery with a DCIR=10mΩ and half bridge configuration  
System Full Scale Voltage: 1200VDC  
System Full scale Current: 1000A

The BAT600 Series of Battery Pack Testers from UNICO offer an effective and efficient solution for all your battery test requirements. If your exact needs are not met by our range of standard products, please contact UNICO to discuss our configurable and custom design options.



Specifications are subject to change without notice

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