BATTERY TESTING LABORATORY

The Ohio State University is home to a battery testing and aging facility. This facility is dedicated to battery testing, modeling, and analysis for a wide variety of battery technologies. The laboratory is designed for safe operation 24 hours a day, 7 days a week. Data is automatically archived and available real time through a dedicated internet connection so testing can be monitored remotely.

CAPABILITIES

The laboratory boasts several programmable channels for low and medium voltage (up to 60v) for up to 400 Amps that allow multiple batteries to be evaluated simultaneously. Custom designed Peltier-Junction battery test fixtures with feedback controllers allow us to tightly monitor and control cell temperature.

Although the system can evaluate many battery configurations, it was designed specifically for accelerated aging and aging assessment of NiMH and Li-ion cells.

The laboratory also holds an AV900 heavy-duty DC cycling station. This station can provide two channels of DC power at 750 kW (900 volts) per channel. The system is designed for automotive use and incorporates a CAN communication interface.

The laboratory has three 32 cubic foot environmental chambers that can be used to pre-treat batteries or maintain a desired temperature throughout the test.

Ohio State has also developed a unique motor test stand that is capable of evaluating and testing DC motors with 500 MW capacity. When combined with the AV900, we provide a unique capability in evaluating large DC battery motors.

APPLICATIONS

The equipment and capabilities offered through the battery testing and aging facility allow industry partners to evaluate and prove battery performance for automotive platforms. The applications that benefit from the facility include electric vehicle development as well as traditional automotive battery applications. The accelerated aging and assessment tools allow for rapid results tied to project development. The team making up this laboratory is working for the advancement of battery dependent automotive systems.

THE OHIO STATE UNIVERSITY

The Center for Design and Manufacturing Excellence (CDME) is the manufacturing port of entry into Ohio State. With a dedicated staff of product engineers and participation by research faculty, CDME is able to move at the speed of industry while continuing to innovate. Equipment, facility and staff are all utilized in the most efficient productive manner for any project.

CDME provides industry with a simple expeditious way to access the technical and physical assets of the University and the surrounding research community. Easy contract mechanisms and unambiguous business terms allow industry certainty around the value proposition of the engagement before any project begins.

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