EECOPower - RAPID BATTERY CELL TESTING SOFTWARE

- 3 Second Cell Test
- Advanced Characterization Techniques
- Self Learning Technology

EECOMOBILITY's rapid battery cell test is ideally suited to the production testing of battery cells. The manufacturing, storage and transport of cells can impact their state of health and, performing cell testing is critical for the safety and performance of the energy storage system. The EECOPower test can be performed in less than 3 seconds, is easily implemented and does not interfere with conventional tests that are currently being performed.

Traditionally, testing the batteries on production lines consists of a measurement of the Open Circuit Voltage (OCV) and basic impedance. These tests do not provide much information on the presence of impurities defects in battery cells and will only determine the most severe battery faults. While defective cells are not common, their impact on the safety of the battery pack over its life can be significant. Faults are often caused by small amounts of contamination and minor defects inside the cell and over time, these can cause the battery to slowly degrade.

EECOMOBILITY has created a rapid battery test that is extremely sensitive. The test is a result of many years of research on batteries and EECOMOBILITY's advanced information extraction technologies.

The rapid battery test consists of three key elements.

The first element is EECOMOBILITY's proprietary signal –a low-current high-frequency signal designed specifically to excite the battery cell to provide a comprehensive temporal and spectral response from the cell. This signal is very short, approximately 3 second in length, yet provides information about the cell that typically takes hours or days to measure using traditional methods. The response of the cell is measured by recording the voltage at the terminals.

The next element of the process utilizes EECOMOBILITY's patented fault signature analysis – converting the recorded voltage into a small signature that represents a fingerprint of the cell's response and dynamics. This signature is compared with an established baseline from one or more healthy cells.

The third element of the system is the application of artificial intelligence to determine if the cell has any faults or defects. This whole process takes less then 3 seconds to complete.

The system consists of software to generate the input signal and to analyse the battery response. We use proven hardware that can apply the signal to the battery and measure the current and voltage and temperature of the battery cell. EECOMOBILITY provides a complete system using proven customized off-the-shelf hardware with our integrated software.

Other technologies we are commercializing include:

- Rapid testing of battery modules and packs
- On-line state of health monitoring of batteries for implementation within Battery Management Systems (BMS)

EECOMOBILITY
224-200 Longwood Road S
Hamilton, Ontario
L8P 0A6
+1 (289) 674 – 0250 Ext. 59079
info@eecomobility.ca