

Automotive Battery and Electric Vehicle Test

The growing focus on the electric and hybrid vehicles brings new challenges to the design, validation, and production of automotive battery components and battery management systems (BMS). Due to the high levels of energy stored and released in the automotive batteries, there are significant safety risks to be addressed. It is therefore crucial to partner with a solutions provider that understands the safety issues, current and voltage requirements, and the unique complexity of these systems.

Konrad Technologies has been providing solutions for the automotive industry for over 20 years. We helped some of the largest automotive suppliers and OEMs to address their electric and hybrid battery testing needs. Our team provides expertise in testing battery packs components such as battery cells, safety elements, and sensors. We support our clients through the entire development cycle: from the requirements development to the production test. Our engineers integrate into our client's internal teams to provide on-site and off-site support, regular project peer reviews via cloud-based collaboration tools, and thorough process documentation.

"We always approach Konrad Technologies for real-time system applications. Konrad Technologies works with NI hardware and software to provide outstanding testing solutions. We are glad to have them as our trusted partner." - Lab manager at a Top Five automotive OEM.

Project Example: Battery Cell Monitoring System

Konrad Technologies partnered with one of the largest automotive OEMs to develop and build a battery cell monitoring system (BCMS) for long-term monitoring of 950 battery cell voltages distributed across ten thermal chambers. The system performs one ten-second measurement on each cell daily, with a sampling rate of 1 Hz. The BCMS logs the measurement values and compares them against pre-defined limits.

The voltage measurements for each cell are logged to a file and a customized GUI highlights any cell with results outside of the specified limits. In between the measurements, the system electrically disconnects the cells from the DMM to minimize discharge. The temperature inside each incubator is logged with preset alarm limits. The system notifies the operator if a chamber is not operating within test specifications.



Konrad Technologies: We Know How to Test Automotive Systems and Components!

In the automotive industry, the expertise of Konrad Technologies extends far beyond battery test. Over the past 20 years, we've provided automotive suppliers and OEMs with hardware and software solutions to test various sensors, ECUs, cameras, radars, wireless keyfobs, infotainment systems, displays, and many other components, sub-components, and complete systems.

Konrad Technologies is a leading provider of AD/ADAS test solutions. We offer test options for 77 GHz automotive radar test systems, sensor fusion test systems, and HiL-based test applications for ADAS functional tests. Our company develops scalable, flexible, and reliable test systems and simulators for camera, radar and LiDAR sensors that enable both OEMs and suppliers to meet their test needs and quality metrics for validation and production test applications. In 2021, Konrad Technologies received the Best Practices award from Frost & Sullivan for its scalable and configurable sensor fusion HiL test solutions.



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