Chad battery testing

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Expanding its R& D laboratories in North America, Freudenberg Sealing Technologies has added a battery testing facility to its headquarters in Plymouth, Michigan.

The lab complements the company"s existing testing capabilities for batteries, H2 electrolyzers and fuel cells, and will increase its functional knowledge and product development capabilities in the field of electric vehicles (EVs). Simulation tests that replicate battery cycling scenarios are also possible in the new laboratory.

With industry experts predicting that the sale of EVs could top 100 million by 2030, it is imperative to vehicle manufacturers that challenges including range, power, safety and charging times are addressed. One solution - the use of lithium-ion batteries with higher energy and power densities - is an attempt to increase vehicle range and power.

However, these batteries have the potential to generate higher heat and pressure during use. Freudenberg Sealing Technologies’ new laboratory will allow engineers to observe thermal runaway and other events as they take place, and incorporate data generated during these tests into research and development activities.

The test chambers are equipped with multiple video cameras and data acquisition systems that operate with more than 100 input channels and capture the data in excess of 60Hz, or 60 data points per second. The company can thus evaluate various operating conditions including thermal runaway caused by battery punctures, overheating and overcharging in these test chambers.

Chad Bauer, senior vice president of technology and innovation for the company, said, "This battery laboratory will help provide valuable insight and the data needed to design solutions for EV products. Our material development experience with fire and thermal applications began more than 20 years ago with our aerospace products and we continue to build upon this knowledge for EV applications."

High precision, integrated battery charge / discharge cycle test systems designed for lithium ion and other chemistries. Advanced features include regenerative discharge systems that recycles energy from the battery back into the channels in the system or to the grid. Systems are configurable and flexible with multiple channel capabilities that can be upgraded as testing requirements change.

Test instrumentation that addresses the many types of new electronic devices and applications that recycle power back to the grid or must sink and source current.

Power conversion within an electric vehicle (EV) includes AC or DC EVSE (EV Supply Equipment), onboard charger, DC-DC converter, and motor driver. Chroma"s EV automated test equipment addresses the

specialized requirements involved in testing the power electronics of electric vehicles during design validation as well as production. The benefits include flexibility, speed, and test data recording, as well as providing statistical analytical reports for design review and product improvement.

High precision, integrated battery cycling and energy storage test solutions designed for lithium ion and other battery chemistries. From R&D to end of line, we provide advanced battery test features, including regenerative discharge systems that recycle energy sourced by the battery back to the channels in the system or to the grid.

Aerospace and Defense fuels innovation for emerging markets and led the development of the technology used today. In turn, research and development teams are faced with new challenges every day. Chroma helps to minimize test challenges by creating leading-edge power conversion test equipment and complete automated test systems.

Chroma provides LED testing solution which include: programmable AC and DC Sources, high precision Power Meters, and LED Load Simulator specifically designed for LED power drivers. Chroma is also able to provide Automated Test Systems suitable for R&D, QA qualifications and mass production.

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