DC Fast Charging Test Solutions

Modular, Scalable Fast Charger Test Equipment

"Today, DC fast chargers now operate at higher voltage levels to accommodate faster charge times & larger batteries. NHR's modular & scalable power enables you to test today's technologies & expand for future test requirements."

Guide: EV Charging Test solutions (pdf)

NH Research (NHR) provides modular, scalable test equipment that is ideal for DC fast charging applications. NHR's test solutions also enable the testing and development of improved electric vehicle (EV) charging systems and solutions such as *V2G, V2L, V2X and wireless.* EV charging infrastructure is critical for the adoption and growth of electric vehicles (EV). As such, it is critical for EV charger manufacturers to find the right test solutions to reduce development time and enhance product performance.
Today, DC fast chargers now operate at higher voltage levels to accommodate faster charge times and larger batteries. NHR's modular and scalable power enables you to test today's technologies and expand for future test requirements. NHR's 9410 Regenerative Grid Simulator is used to simulate the Grid or AC power source while NHR's 9300/9200 Battery Emulator is used to emulate the high voltage battery or DC load. NHR's next generation battery emulation capability provides faster, scalable and more repeatable testing. NHR's 9300/9200 Battery Emulator can safely emulate a DC fast charger, or a high voltage battery that can accept DC fast charging. Battery emulation dramatically reduces testing time, provides highly repeatable test results and creates a safer test environment. The ability to emulate a wide range of vehicles, regardless of its battery characteristics and power levels, dramatically simplifies test.

Key Battery Emulation Features:

- Battery emulation sinks & sources to maintain voltage regulation
- Fast response times to emulate real world conditions
- Source mode emulates Level 3 DC chargers
- Regenerative load > 90% Energy Efficiency
- Layered, built-in safety features

App note: Charger testing (pdf)

EV Fast Charging Test Solutions

Bi-directional DC Source & Battery Emulation

NHR's Battery Emulators, or simulators, are designed to emulate a battery rather than using a real battery. Using batteries as power sources for fast charger testing is extremely time-consuming and costly. Testing with batteries can delay projects, increase safety risks and hinder engineering productivity. As electrification is evolving to higher power demands, the ability to emulate a battery with speed and precision is critical.

- **High Voltage Battery Emulator – 9300 Series**
- **Battery Emulator – 9200 Series**

Charger, V2G, ESS & Grid-Tied Product

NHR's AC/DC Sources & Loads are ideal for testing EV chargers & the grid. **AC Sources** are for testing inverters, V2G, ESS & grid-tied products. **AC/DC Loads** are used to simulate any inductive, capacitive, resistive load.

- Regenerative Grid Simulator
- Regenerative 4-quadrant AC Load

New! EV Charging Brochure with Comemso.

Comemso and NHR have partnered to offer a complete test solution for EV charging including hardware, software, and communication protocols. This brochure offers insight on how our solutions work together to provide a full solution for customers who also require testing the communications interface.

NHR provides next generation AC and DC power test solutions to simulate the electric vehicle, EVSE, OBC, fast charging and V2G applications. Comemso solutions measure and verify both the communication and the load circuit on standard-conformity during charging and records all deviations. Together, we ensure testing to all standards worldwide.

Electric Vehicle and E-Mobility charging test solutions (pdf)

NHR 9300/9200 Series Battery Emulator.

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- Bidirectional Power Supplies vs. Battery Emulators

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