

Application: Supplying DC input power for HEV testing

Hybrid electric vehicles (HEV) need flexible and capable DC power supplies to provide power for test

Test Challenges

Hybrid electric vehicle (HEV) and electric vehicle (EV) test starts with a reliable and stable DC voltage in the range of a few kW to many tens of kW. High-power batteries, fast chargers, DC/DC converters, and battery electronic control units all require many kW of power during test at various voltage and current combinations. At these high power levels, protecting the device under test (DUT) is also very important.

Solution

Keysight Technologies, Inc. N8900 power supplies' autoranging output characteristic covers more voltage and current combinations. Use one power supply for high voltage/low current or low voltage/high current. Built-in voltage, current, and power measurements monitor HEV/EV DUT power consumption and built-in protection keeps the DUT safe during test.

Solution description

Keysight N8900 Series autoranging system DC power supplies

- N8920A-N8924A (5 kW out, 208 VAC in)
- N8925A-N8930A (10 kW out, 208 VAC in)
- N8931A-N8937A (15 kW out, 208 VAC in)
- N8940A-N8944A (5 kW out, 400 VAC in)
- N8945A-N8950A (10 kW out, 400 VAC in)
- N8951A-N8957A (15 kW out, 400 VAC in)

Benefits from key power supply features

HEV/EV test requires a wide range of input voltages. One power supply can cover the entire range.

- Autoranging provides more voltage and current combinations from a single power supply output.

Different HEVs/EVs have varied input voltage, current and power requirements. Choose from a broad range of power supplies.

- 5 kW, 10 kW, and 15 kW outputs can be paralleled to >100 kW
- Voltages from 80 V to 1500 V
- Currents from 20 A to 510 A

HEV/EV test needs can change over time. Safeguard for the future.

- Adjust to changing power needs by paralleling outputs
- Adapt to changing I/O needs by using one of several built-in interfaces:
LAN, USB, GPIB, and analog interfaces all standard

Free up more rack space for other HEV/EV test instrumentation by using less space for power.

- High power density fits 15 kW in just 3U (5.25 in, 133 mm height)

Protect the HEV/EV with built-in over-voltage, over-current, and over-temperature protection.

Simplify HEV/EV power evaluation with built-in voltage, current, and power measurements.

Resources

Keysight N8900 Series autoranging system DC power supplies

- Keysight N8900 webpage: www.keysight.com/find/N8900
- Keysight N8900 product fact sheet: <http://literature.cdn.keysight.com/litweb/pdf/5991-0904EN.pdf>
- Keysight N8900 data sheet: <http://literature.cdn.keysight.com/litweb/pdf/5991-2818EN.pdf>
- Keysight N8900 introductory video: http://www.youtube.com/watch?v=5OKF1M_DRTg

Contact

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