

EVd-40 Specifications

Hybrid vehicle battery Power Test equipment

The EVd-40 Power Test is a pre- and post-reconditioning tool for quality control of aftermarket electric vehicle battery production. The EVd-40 integrates a "smart" charger (Sorensen XG 1700 power supply) with NuVant Systems high power discharge electronics. The Sorensen performs constant current (CC), constant voltage (CV) and complex mixed mode constant current – constant voltage (CCCV) charging protocols at voltages up to 600 V. This enables recharge of any type of rechargeable battery.



The EVd-40 can discharge batteries at high power (10,000 watts). A Prius battery subjected to this discharge power will exceed initial currents of 40 amps.

Pre-reconditioning screening:

In-coming cores can be connected to the EVd-40 and charged to pre-set voltages. A core is then subjected to high power discharge to identify weak modules prior to subjecting the pack to EVC-30 reconditioning.

The system includes:

- software configured laptop computer (USB connection to EVd unit)
- software upgrades

Compatible hybrid battery vehicles:

- Toyota Camry
- Toyota Prius (and Prius C)
- Toyota Avalon
- Toyota Highlander
- GM Tahoe
- GM Escalade
- GM Yukon
- *other vehicles (including Li-ion) coming soon
- Lexus CT200H
- Lexus GS450H
- Lexus GS450H
- Lexus RX400H
- Honda Civic
- Honda Insight
- Ford Escape

Discharge	
Max Discharge Power	10,000 watts
Number of voltage sensors	up to 40

Charge	
Max Charge Power	1560 watts
Max Charge Voltage	600 V
Max Charge Current	2.6 A
Constant Current (CC) Constant Voltage (CV) Indicator	CV: TTL High (4-5 V) CC TTL Low (0-0.6 V)
Additional specs (line regulation, output ripple, noise, etc.)	Can be found at: https://www.programmablepower.com/products

Voltage Reading	
Measured DC Potential Ranges	0 - 20V
Resolution	2.6mV

Data Acquisition	
Minimum Sampling Interval	150 ms
DAC Resolution	13-bit

Accessories	
Laptop	MS Windows
Cables	28-40 module config.

Physical dimensions and weight	
EVd-40: L x W x H: Weight	25" x 20" x 30": 155 lbs
Laptop	5 lbs

The NuVant mission is to “Bring electrochemistry to the streets.” Everyone can learn to use NuVant battery refurbishing equipment.

The EVd-40 is equipped with 40 sensors for measurement of individual module voltages during Power Test discharges. The Power Test tool uses a high voltage harness (sold separately) for monitoring up to 40 Toyota prismatic modules during the high power discharge.

Custom harnesses for individual module monitoring of other batteries can be prepared upon request. Individual module voltage monitoring during high power discharge identifies weak modules that are not identified during lower power battery reconditioning processes.

Note: Because the number of modules (and order of modules) vary per vehicle battery pack, the EVd battery harnesses are not interchangeable. EVd buyers must purchase battery harnesses for their specific battery pack.