EVc-30 Specifications

Hybrid vehicle battery reconditioning & cell balancing

Battery reconditioning and cell balancing is a well understood process initially developed for NiCad batteries. NuVant has simplified the process to bring electrochemistry to the streets. The EVc unit is a push-one-button-after-wire-up system for small shops to large vehicle operators. EVc-30 is a world class battery conditioner available in 12, 30 & 120 channel.

NuVant EVc units are the only systems on the market that provide:

- **Internal resistance**
- **Watt-hour capacity**
- **Amp-hour capacity**
- **Nominal module voltages**

EVc-30 battery reconditioning unit connected in parallel to a 28-module Prius pack. One parallel connection does the job.

The turnkey system includes:

- Software configured laptop computer (USB connection to the EVc unit)
- Battery pack cooling box
- Free software upgrades

Compatible hybrid battery vehicles:

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

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Load	
Max Load Voltage	+19 V
Max Charge Current	3 A per channel
Number of channels	30
Max Discharge Current	5 A per channel
Applied Current Accuracy	0.5% of Full scale resolution
Applied Current Resolution	0.3 mA

Potential Measurement	
Measured DC Potential Ranges	+20 V
Resolution	0.6 mV
Accuracy	0.08 or 0.03% of FSR

Current Interrupt (Serial Resistance Measurement)	
Minimum Sampling Interval	4µs
Serial Resistance Precision	0.5%
Measurement Logging time	1 second

Step Impedance Spectroscopy	
Maximum Current Amplitude	5 A
Minimum Sampling Interval	4µs
Minimum Pulse Width	40µs

Data Acquisition	
Acquisition Speed	500 kS/s aggregate Distributed over 1 to 30 channels
DAC Resolution	16 bits

Accessories	
Laptop	MS Windows
Cooling box	Accommodates up to 40 modules
Cables	30-cable set, 7 ft each

Physical dimensions and weight	
EVc-30: L x W x H: Weight	25" x 21" x 25": 170 lbs
Laptop	5 lbs
Cooling box: L x W x H: Weight	38" x 15" x 6": 20 lbs
30 Cables	30 lbs

The NuVant mission is to "Bring electrochemistry to the streets." Everyone can learn to use NuVant battery refurbishing equipment. Do not worry if you know nothing about batteries. Many shops using the EVc-30 had no prior knowledge.

Key Benefits:

- The EVc-30 is designed for simplicity-of-use. No attendance required during reconditioning.
- The battery pack modules (e.g., 28 in a Prius) connect to the EVc-30 unit in only one way for charge and discharge. No re-connecting required between steps.
- Just connect the battery pack to the EVc-30 and then press the start button. Less than 90 minutes of labor required to yield one reconditioned pack per day.
- The EVc-30 provides a state-of-health report on each module including:
  a) Amp hour capacity, Watt hour capacity, Internal resistance
  b) The order in which reconditioned modules are positioned in a refurbished pack
- Module are separately charged and discharged (parallel processing): Modules cannot be refurbished in series (as they are during vehicle use) because module voltages cannot be controlled when in series.
- Lithium ion battery recipes in development
- EVc-30 owners can join the hybrid battery support forum. Regular updates and problem-solving sessions are provided for EVc-30 owners only.

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