



INNOVATIVE SOLUTIONS FOR THE POWER INDUSTRY

Regenerative Electric-Vehicle Acutation Node (RE-VAN™)

RE-VAN™ is an outdoor rated device designed to simulate an Electric Vehicle (EV) to test dc fast chargers or ultra-fast chargers. RE-VAN™ is capable of EV communications using either CCS1 or CCS2 EV chargers.

The RE-VAN™ can emulate an end-to-end EV charging process up to the rated dc capacity of a charger, with or without using any battery storage system. RE-VAN™ is also available as rack-mounted for indoor setups.

Applications

- DC fast and ultra-fast charger testing, including:
 - Safety and functional testing (following IEC 61851)
 - Interoperability and conformance testing (CharIN-CCS, ISO 15118)
- Analysis of Vehicle-to-Grid Integration (VGI) and any impact on host systems (SAE J2894)
- Cybersecurity testing of EV chargers, using a third-party controller interface.



Why use a simulator?

Testing Limitations Using an EV

- Limited charging power due to available cars in market
- Fixed battery characteristics per EV
- Tests repeatability issues due to inability to set initial conditions
- Safety concerns with EVSE failure during tests.

How Can RE-VAN™ Help?

- High-power testing up to 500 kW, 1,000 V, 500 A dc
- Adjustable user-specific battery characteristics
- Adjustable test conditions offering easy repeatability
- Designed for testing chargers with additional safety features.



PICTURED: RE-VAN™ ultra-fast R-Series exterior and interior (containerized version)

CONTACT US:

Features and Benefits

- High-power testing
- Built-in library of EVs with selectable initial condition
- Regenerative / minimizing losses during simulations
- Programmable and repeatable test procedures
- Provides interface for third-party controllers
- Compliant with ISO 15118 dc EV communication, with IEC 61851-23 for CCS2 coupler interface, and SAE J1772 for CCS1 coupler interface.



PICTURED: Outdoor lab setup for functionality testing DC fast and ultra fast charging stations using ultra-fast charger R-Series

Model	Fast Charger Tester B-Series	Fast Charger Tester R-Series	Ultra-Fast Charger Tester R-Series
Power range (charge)	25 kW - 100 kW	50 kW-250 kW	250 kW-500 kW
Maximum dc current (charge)	280 A	250 A	500 A
DC voltage range (charge)	350 V - 500 V	330 V - 1,000 V	730 V - 1,000 V
Tap box connection (for regenerative output, three-phase plus ground, four wires)	----	480 Vac / 600 A, 60 Hz	480 Vac / 600 A, 60 Hz
Container auxiliary power (split-phase plus ground, four wires)		120 / 240 Vac, 30 A, 60 Hz	
Regenerative or battery-based	Battery	Regenerative	Regenerative
Indoor / outdoor rated		Rack-mounted (indoor); containerized (outdoor)	

Item	Indoor-rated Lab Version B-Series	Indoor-rated Lab Version R-Series	Containerized Solutions
Dimensions (H x W x D)	• Battery setup: 4' x 8' x 4' • Control rack: One rack (19" 27-U)	• Transformer: 5' x 4' x 3.6' • Power conversion system: 7' x 2' x 4' • AC/DC and control panel: 7' x 6' x 3'	Standard sea container
Ambient operating temperature	+65 °F to +75 °F (18 °C to 24 °C)	+65 °F to +75 °F (18 °C to 24 °C)	-20 °F to +110 °F (-29 °C to +43 °C)

Quanta Technology, LLC.

4020 Westchase Blvd.
Raleigh, North Carolina 27607

©04/2022, Quanta Technology, LLC.

Quanta Technology, LLC has used reasonable efforts to ensure the accuracy and completeness of the technical data presented in this document. Quanta Technology, LLC makes no warranty or representation for its contents, including technical and/or business considerations, risk, impacts, intended or unintended consequences, or outcomes that may determine the value or use of this document. Specific technical data can be provided upon request. Quanta Technology, LLC reserves the right to modify the technology and data contained herein at any time.

Document number: QT-FL-05-X-04-22

CONTACT US:

919-334-3000

[quanta-technology.com](https://www.quanta-technology.com)

info@quanta-technology.com

[LinkedIn.com/company/quanta-technology](https://www.linkedin.com/company/quanta-technology)