

Electric Vehicle DC V2G Fast Charger

BI-DIRECTIONAL

Provides DC fast charging and reverse power flow (V2G) capability for grid-tie applications to allow vehicles to act as power sources.

DC LEVEL 1 & 2 CHARGING

Coritech VGI Series chargers provide up to 30 kW (Level 2) charging with SAE J1772-CCS and CHAdeMO connectors.

Maximum charging capacity of 60 kW is available with dual inverter and rated cable (See VGI-60 model).

V2G SUPPORT

VGI Chargers provide full communications capability for connectivity to Utility ISO's, Aggregators and Microgrid Controllers using high speed and secure Ethernet-Based protocols.



CORITECH VGI-30

- 200-600 Vdc, Plug-in Electric Vehicle Battery Charging
- SAE J1772 CCS Compliant for DC Level 1 and Level 2 Charging and * Reverse Power Flow. CHAdeMO option available
- Outdoor Weather Rated Type-3R Enclosure
- 480 Volt 3-Phase Grid Power Connection
- Volt/VAR Optimization (VVO) for grid stabilization and power factor correction

OVERVIEW

Plug-in electric vehicles are commercially available today with most vehicles having Level 1 and Level 2 AC charging capability only. AC charging requires on-board chargers within the vehicle to convert AC power to DC power, which the vehicle battery requires. The use of on-board chargers adds burden to the vehicles in the form of size, weight, cost and heat. In addition, AC charging at 240 Volts AC has limitations to the amount of power or Kilowatts that can be delivered to the vehicle. This limitation results in lengthy, undesirable charging times to "fill up" the vehicle's battery. DC Fast Charging is a method in which the charger is placed off-board and the AC power conversion to DC takes place within the external stationary charger thus reducing burden on the vehicle.

Coritech VGI Series DC Fast Chargers contain state-of-the-art power electronics (bi-directional inverters) which efficiently convert AC-to-DC power for charging and DC-to-AC for sending vehicle battery power to the utility grid for Vehicle-to-Grid (V2G) operation. The inverters are UL-Approved and meet UL-1741 requirements for utility connected power inverters. Coritech chargers provide many safety features including over-current protection, ground fault detection and emergency shutdown capability to assure safe and reliable fast charging of electric vehicles. An easy to use color touchscreen operator interface guides the user through a simple procedure to initiate each charging session.

Bi-Directional DC EV Charger Features



FAST DC CHARGING

Coritech VGI Series chargers provide the fastest power transfer available today for DC charging, limited only by the maximum current capacity of the industry standard SAE J1772-CCS or CHAdeMO connector.

V2G – VEHICLE TO GRID

One of many benefits to owning electric vehicles is to have the ability to use the vehicle as an additional energy source when not in use. Electric vehicles contain large batteries which store significant amounts of energy. This energy can be used to provide power back to the utility AC power grid for many benefits such as offsetting power demand, reducing peak demand charges, stabilizing the grid during power outages and high demand periods.

VVO – VOLT VAR OPTIMIZATION

Coritech chargers provide the ability to influence the stability of the grid by providing VVO to contribute or absorb reactive power (kVAR) to influence the grid power factor.

AGGREGATOR CONTROL

Coritech chargers provide the ability for each vehicle's charging activity to be controlled from a remote grid "Aggregator" system which manages overall grid performance, health and stability. Aggregators also can communicate with local utility ISO's for participation in the energy markets.

Technical Specifications

- Utility Grid Connection: 480 Vac, 3 Phase, 44A Max.
- Vehicle Connection: SAE J1772-Combo CCS or CHAdeMO
- Aggregator Connection: Ethernet, Modbus TCP/IP, SEP 2.0
- Dimensions: 36 x 24 x 81 inches
- Weight: 400 lbs Approx.
- Volt/VAR Optimization: -18 to +18 kVAR
- Battery Voltage Range: 200-600 Vdc
- Battery Charging Power*: 30 kW 60A Max
- Reverse Power Flow V2G*: 30 kW 60A Max
- Operator Interface: 7" Color Touchscreen
- Environmental:
 - Enclosure: Outdoor Rated Type 3R
 - Operating Temp: -20 to +120 Degrees Fahrenheit
 - Humidity: 0-95%
- Safety: Over-Current Circuit Breaker, GFCI, DC Isolation
- Emergency Shutdown Pushbutton

* Technical specifications shown for VGI-30 Model. Power limits are based on individual vehicle battery voltage range; to utilize full 30kW capacity of the charger the battery voltage must be greater than approx. 500Vdc. Digital communications between vehicle and charger assures that power transfer is always within safe operating limits of both charger and vehicle.

SERVICES AVAILABLE

- Technical Support
- Installation and Setup
- Maintenance
- Application Support
- Hardware Support
- Guaranteed Warranty

Certifications and Standards

- UL1741, IEEE1547a, IEC62109-1,2
- UL2202, UL2231-1, UL2231-2

CORITECH  SERVICES

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TECHNICAL SUPPORT

Coritech provides full technical support for all hardware and software. Chargers are all equipped with remote access support to allow dial-in diagnostics and troubleshooting support.

VEHICLE INTEGRATION

Coritech provides integration and engineering services and support to develop hardware and communications integration between the vehicle and charger.

Coritech has developed a communications interface which conforms to SAE standards for electric vehicle charging including SAE J1772 and J2847 and ISO-15118.

TURNKEY SOLUTIONS

Coritech can provide a turnkey solution through their network of partners to supply infrastructure, vehicles, chargers and aggregator software and systems.

For more information on any of our products or services please visit us on the Web at: