

Modular Power Control System

MPCS

Our next-generation, Modular Power Control System (MPCS) offers a compact and light-weight design, delivering best-in-class power and performance utilizing game-changing power electronics.

Our latest power control system offers the greatest product flexibility while maintaining the highest system efficiency. Our modular approach provides both vehicle manufacturers and operators with options to configure a power control system that meets their needs without paying for excess capability.

The MPCS's scalable approach allows customers to design a custom system based on power requirements for their specific application. Our system is designed to provide power for propulsion to the central motors while also accommodating the power requirements of the wheel hub motors, electric heaters, battery pack combiners, and fast and slow charging. Our inverter systems are designed using common, interchangeable component modules to power both single motor and dual motor vehicles.



BAE Systems Modular Power Control Systems are custom configurable to decrease size and weight of our system and increase the efficiency of your vehicle.



Build a power control system based on your power needs using modular slice technology.

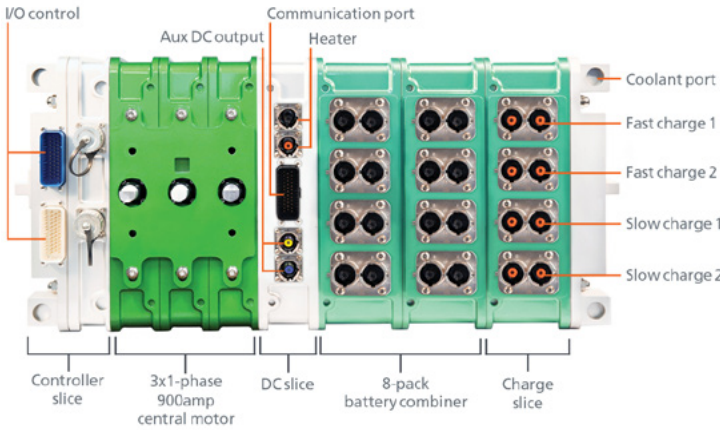
Features

- Modular, scalable design
- Common modules
- Configurations for a variety of traction application systems
- Rugged, compact multi-functional design
- Multi-drive capabilities, available on system with up to two motor/generator combinations including powered axles
- Advanced materials such as silicon carbide
- No regularly scheduled maintenance is required

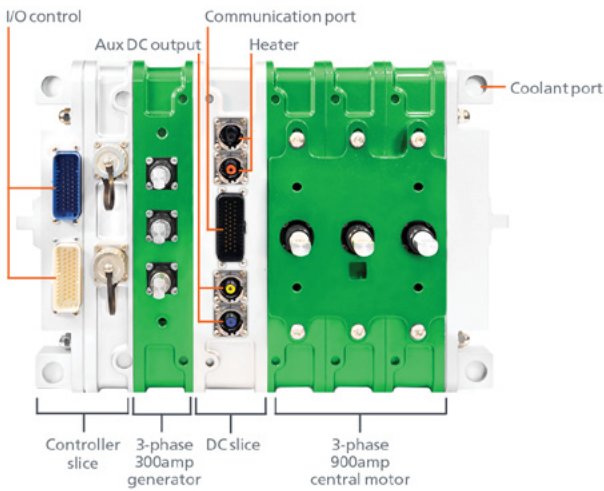
Functions

- 3-phase inverter
- Direct current (DC) charger interface: slow and fast charging
- High-voltage battery pack combiner
- DC accessory power output

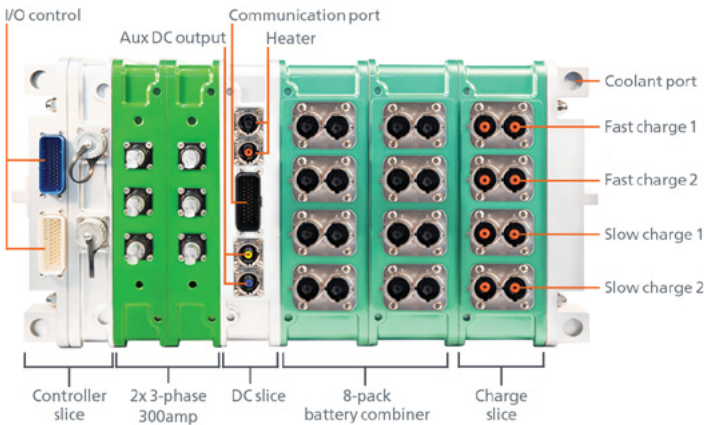
Battery Electric Configuration



Electric Hybrid Configuration



Battery Electric E-axle Configuration



MPCS Module Weight & Widths		
Module (Slice)	Approximate Weight (kg)	Approximate Width (mm)
Left end cap	7.2	105
Right end cap	5.9	100
Controller	4.4	54
AC 3-phase	8.9	62
AC 1-phase	8.1	62
DC	7.0	68.5
Battery Combiner	10.3	80
Charge	19.2	115

Module height: 305.8 mm Module depth: 382.2 mm
 *size and weight are based on slice customization

MPCS Ratings:

- Flow rate required = 40 lpm (10.6 GPM)
- Operating temperature = -40 to 75 °C
- WEG temperature = -40 to 65°C
- 3-phase module current = 350Arms continuous
- 3x 1-phase module current = 900Arms continuous
- Slow charge max = 200 Adc continuous
- Fast charge max = 600Adc for 8 min. 450Adc continuous
- Battery connection limit: 75A continuous each (600A w/8) 100A Peak (10 min.) each (800A w/8)

North America

BAE Systems
 1098 Clark Street
 Endicott, NY 13760
 USA

www.gettozero.com

Rest of World

BAE Systems
 Marconi Way
 Rochester, Kent ME1 2XX
 UK

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