

Modular Power Control System

MPCS

Our next-generation Modular Power Control System (MPCS) offers a compact and lightweight design, that delivers premium power and performance while utilizing BAE Systems' trusted power electronics.

This latest system offers product flexibility while maintaining significant system efficiency. The modular approach provides both vehicle manufacturers and operators with options to customize a power control system that meets your needs, without paying for excess capability.

Our system is designed to provide propulsion power to a central motor, e-axle(s) or wheel hub motors, while accommodating the power requirements of electric heaters, battery pack combiners, fast and slow charging and high voltage accessories. Our inverter systems are designed using common, interchangeable component modules to power single, dual or multi-motor vehicles.



BAE Systems' Modular Power Control System



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

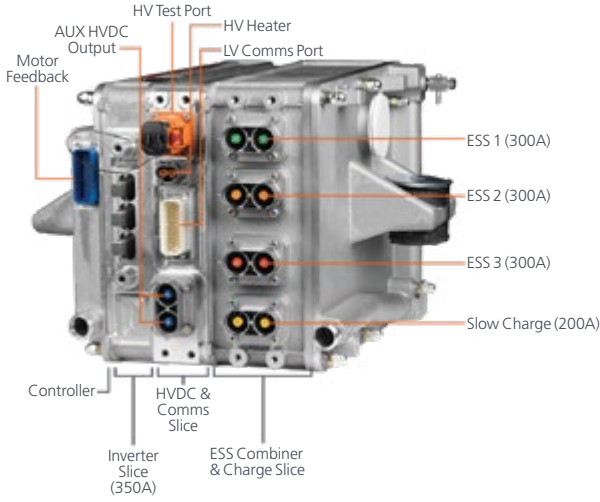
Features

- Modular, scalable design
- Common modules
- Configurations for a variety of traction application systems
- Rugged, compact multi-functional design
- Multi-drive capabilities, available for systems with multiple motor/ generator combinations including powered axles
- Advanced technology with silicon carbide switches
- No regularly scheduled maintenance is required

Functions

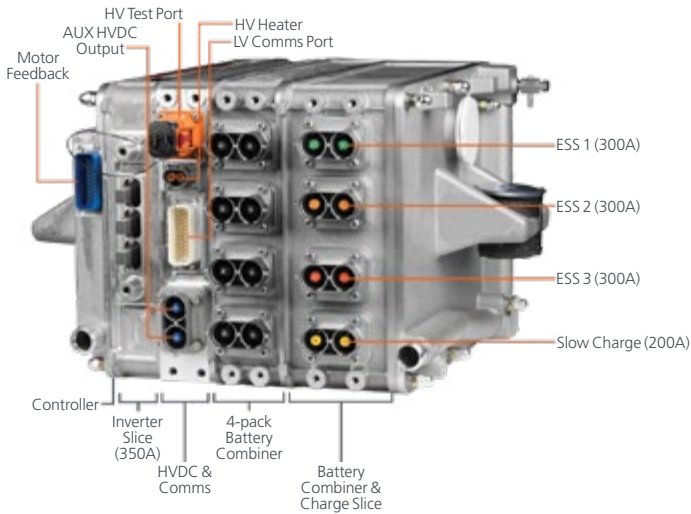
- 3-phase inverter(s), up to 4 motors
- HVDC charger interface: slow and fast charging
- High-voltage multi-pack battery combiner
- HVDC accessory power output
- HVDC electric heater output
- HV AC&DC ground fault monitoring
- J1939 Diagnostic messaging

Battery Electric Configuration, Class 5/6/7



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

Battery Electric Configuration, Class 7/8 Day Cab

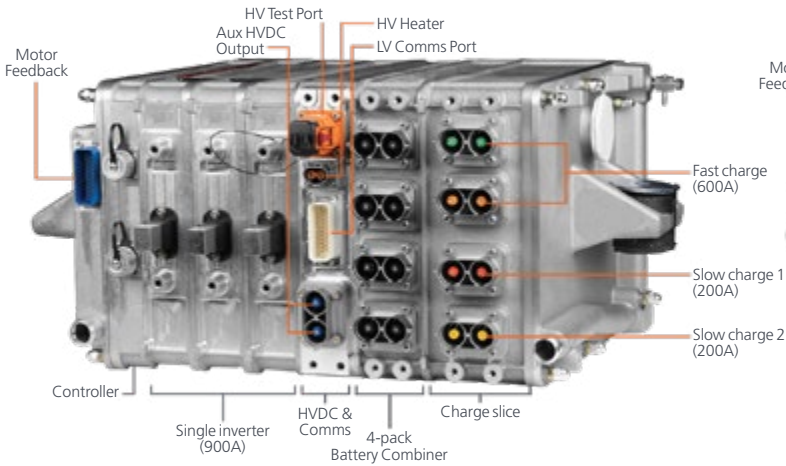


Module height: 305.8 mm Module depth: 382.2 mm

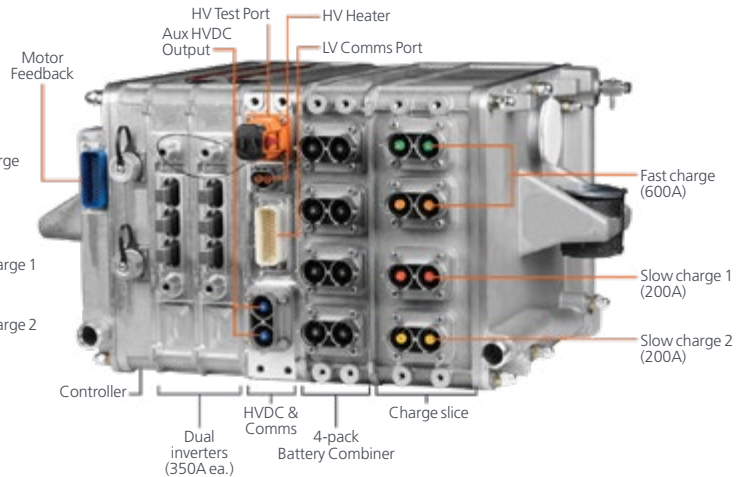
MPCS Ratings:

- 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 Electric Configuration, Class 8 OTR (Central Motor)



Battery Electric Configuration, Class 8 OTR (Tandem e-axle)



North America
BAE Systems
1098 Clark Street
Endicott, NY 13760
USA

Rest of World
BAE Systems
Marconi Way
Rochester, Kent ME1 2XX
UK

This document gives only a general description of products and services and except where expressly provided otherwise shall not form part of any contract. From time to time, changes may be made in the products or conditions of supply.

Published work © 2023 BAE SYSTEMS. All rights reserved.

BAE SYSTEMS is a registered trade mark of BAE Systems plc.

CS-20-B10_04_25_23