



MODEL CP Series

KEY FEATURES

- High power density
- DSP-based control
- Applicable for induction motor or permanent magnet motor
- Regenerative braking
- Over temperature protection
- Over voltage protection/over current protection
- Wide range temperature endurance
- CAN-bus interface communication
- Easy and quick assembly with EV propulsion motor
- Applicable for BEV/ PHEV/ REEV/ HEV

MOTOR CONTROL UNIT(POWER INVERTER) CP SERIES FOR HIGH VOLTAGE EV APPLICATION

The innovation of CP Series motor control unit (MCU) with DSP-based control is specifically designed for electric propulsion vehicles, embedded with efficient IGBT module for high power density and reliability. Its compact and robust design is suitable for various types of electric vehicle e-Drive system integration, including pure battery EV and plug-in hybrid EV.

MCU configures motor speed and torque after receiving comments from VCU (vehicle control unit) via CAN-bus communication. The MCU converts battery pack DC power source to AC power supply to drive propulsion motor. During vehicle braking, it can regenerate DC power back to battery pack for charging. Efficient cooling system enables its high power density and performance. Protection includes against over current, over voltage and over temperature. Various electrical and environmental tests are passed to meet international standards.

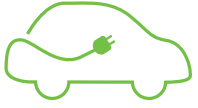
CP Series also comes with integrated dual-mode motor control unit: one larger power controller for traction motor and one smaller power controller for integrated starter generator (ISG). Main application is PHEV, enabling four (x4) driving modes for the vehicle. ISG controller can start the engine of the range extender, control the ISG, and convert AC power to DC which charges the battery pack, or can provide direct DC power to traction motor MCU for lower speed driving.

CP Series MCU provides maximum performance, efficiency, endurance and reliability for electric propulsion application, making electric vehicle drive more accountable

Dual-mode Motor Control Unit
(105kW for TM and 47kW for ISG)



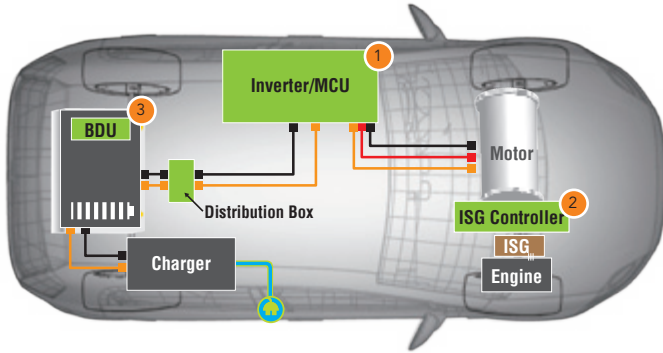
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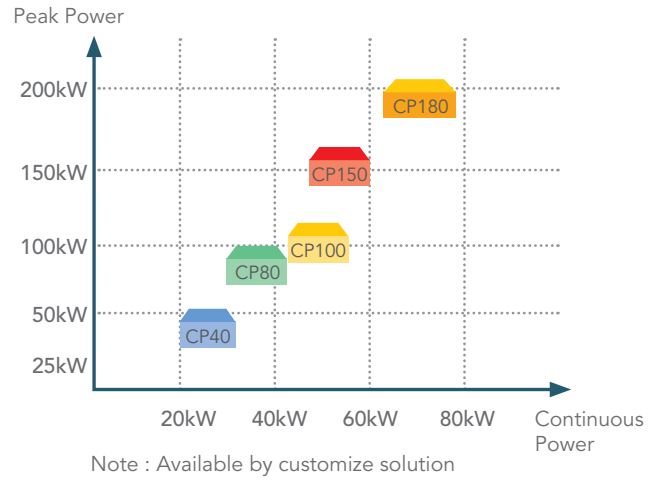
Electrical Vehicle e-Drive Solution

e-Drive Power Electronics

- ① Motor Control Unit (Inverter)
- ② Generator Controller
- ③ Battery Disconnect Unit



CP SERIES MCU PRODUCT LINE



SPECIFICATIONS

Model	CP40	CP100	CP105-47
Input			
Nominal Battery Input	360Vdc	360Vdc	360Vdc
Nominal Battery Input Range	320~420Vdc	330~399Vdc	250~450Vdc
Working Voltage Range	280Vdc	250~450VDC	300Vdc
Output			
Continuous Delivered Power	25kW	45 kW	30kW (ISG) 53kW (TM)
Peak Delivered Power	40kW	100 kW	47kW (ISG) 105kW (TM)
Continuous Output Current	90Arms	190Arms, ≥ 30min	100Arms (ISG) 200Arms (TM)
Maximum Output Current	190Arms	450Arms, ≤ 10sec	160Arms, ≤ 30sec (ISG) 530Arms, ≤ 10sec (TM)
Peak Efficiency (@360VDC)	97%	≥ 97 %	≥ 95 %
Temperature Range			
Operating Temperature	-40~85°C	-40~85°C	-40~105°C
Storage Temperature	-40~95°C	-40~95°C	-40~115°C
Others			
Cooling	Liquid, 6L/min -30~65°C	Liquid, 10L/min -30~65°C	Liquid, 20L/min -30~65°C
Communication	CAN-bus 2.0B	CAN-bus 2.0B	CAN-bus 2.0B
Environment	IP67	IP67	IP67
Weight	7.0kg	10.5kg	24.0kg

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