



Hybrid



Electric

# Explore our Technologies

## AC Motor Controller

### Gen4 Size 8

# AC Motor Controller Gen4 (Size 8)

An AC motor controller designed to meet the high performance requirements of on-road and off-road Electric (EV) and Hybrid Electric Vehicles (HEV).

A compact, rugged and cost effective design, the Gen4 Size 8 is well suited for EV OEMs, EV conversions and EV drive train system integrators. Its high voltage range, up to 400V DC, is well matched to the needs of the automotive and commercial transport markets. The same hardware platform handles both AC Induction and Permanent Magnet AC motor technologies.

## Features

- Advanced Field Oriented Control
- AC Permanent Magnet Synchronous motor control, including salient, non-salient and BLDC motors
- AC induction motor control
- CAN communications bus allows for easy interconnection of controllers and devices such as Battery Management Systems, displays and VCUs
- CANopen and J1939 protocols
- Configurable as a vehicle control master or as a motor control slave
- Integrated logic circuit, 12 V or 24 V nominal
- Up to 400 VDC supply voltage
- Up to 100 kW peak power output
- Up to 60 kW continuous power output
- Includes an additional dedicated safety supervisory processor
- Safety interlock pulsed enable signal
- IP66 protection
- Highly configurable

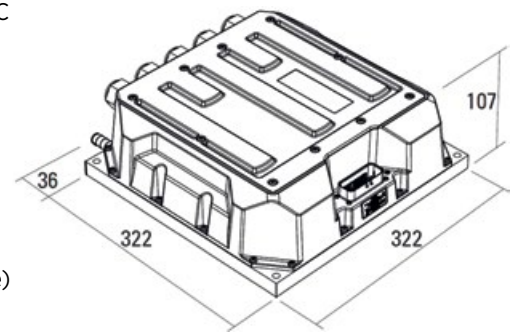
## Key Parameters

- Operating voltage range 128 V to 400 VDC
- Output motor phase current:
  - 400 Arms (boost)
  - 360 Arms (30sec)
  - 300 Arms (2 min)
  - 200 Arms (continuous)
- Water/Glycol cooling
- Forced air or oil cooled options also available (output rating subject to change)
- Safety:
  - Electrical safety to ISO 6494, IEC 60664 and UL840
  - Pulsed safety enable input
  - Pulsed status output
- Environmental:
  - -40°C to +85°C operation
  - IP66 protection
  - ISO 16750

## Integrated I/O

The Gen4 Size 8 includes a fully-integrated set of inputs and outputs (I/O) designed to handle a wide range of vehicle functions. This eliminates the need for additional external I/O modules or vehicle controllers and connectors.

- All I/O protected to 40 V
- 4 analogue inputs 0 - 10 V
- 4 digital inputs
- 3 power supplies 0 - 10 V 100 mA
- 3 contactor/solenoid outputs max 2 A
- Motor temperature sensor input
- Programmable 5 V to 10 V encoder supply
- Motor encoders supported include Resolver, UVW hall effect sensors, Sin/Cos sensors and incremental AB encoders



322 mm (L) x 322 mm (W) x 107 mm (H)



For Additional BorgWarner Information  
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