



Explore our Technologies
**AC Motor Controller
Gen4 Size 2/4/6**

from BorgWarner

BORGWARNER

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The Gen4 range represents a well established **design in compact AC controllers**.

These reliable controllers are intended for on-road and off-road electric vehicles and feature the smallest size in the industry for their power capacity.

Thanks to the high efficiency it is possible to integrate these controllers into very tight spaces without sacrificing performance. The design has been optimised for the lowest possible installed cost while maintaining superior reliability in the most demanding applications.

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 protocols
- Configurable as a vehicle control master or as a motor control slave
- Autocheck system diagnostic
- Hardware & software failsafe watch-dog operation
- Integrated fuse holder
- IP66 protection
- Highly configurable

Integrated I/O

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

- 8 digital inputs
- 2 analogue inputs (can be configured as digital)
- 3 contactor/solenoid outputs
- 1 encoder supply output – programmable 5V or 10V
- Motor temperature sensor input
- Motor encoders supported include UVW hall effect sensors, Sin/Cos sensors and incremental AB encoders

Key Parameters

MODEL	Size 2	Size 4	Size 6	Size 2	Size 4	Size 6	Size 2	Size 4	Size 6	Size 4
Nominal Battery Voltage	24 VDC	24 – 36 VDC		36 – 48 VDC			72 – 80 VDC		96 – 120 VDC	
Maximum Operating Voltage	34.8 VDC	52.2 VDC		69.6 VDC			116 VDC		150 VDC	
Minimum Operating Voltage		12.7 VDC		19.3 VDC			39.1 VDC		48 VDC	
Peak Phase Current (2 min)	300 A	450 A	650 A	275 A	450 A	650 A	180 A	350 A	550 A	300 A
Boost Phase Current (10 sec)	360 A	540 A	780 A	330 A	540 A	780 A	215 A	420 A	660 A	360 A
Continuous Phase Current (60 min)	120 A	180 A	260 A	110 A	180 A	260 A	75 A	140 A	220 A	120 A

