

Explore our Technologies

# AC Motor Controller Gen4 Size 8

from BorgWarner

BORGWARNER

# AC Motor Controller Gen4 (Size 8) from BorgWarner

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, 12V or 24V nominal
- Up to 400VDC supply voltage
- Up to 100kW peak power output
- Up to 60kW continuous power output
- Includes an additional dedicated safety supervisory processor
- Safety interlock pulsed enable signal
- IP66 protection
- Highly configurable

## Integrated I/O

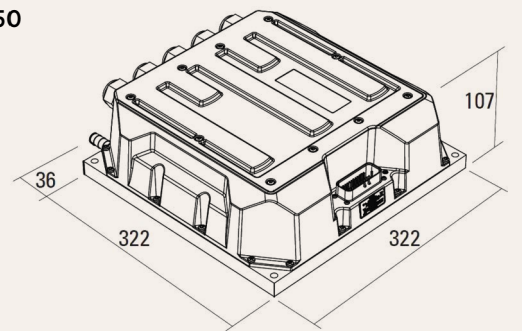
The Gen4 Size 8 includes a fully-integrated set of inputs and outputs (I/O) designed to handle a wide range of vehicle functions. This eliminates the need for additional external I/O modules or vehicle controllers and connectors.

- All I/O protected to 40V
- 4 analogue inputs 0 – 10V
- 4 digital inputs
- 3 power supplies 0 – 10V 100mA
- 3 contactor/solenoid outputs max 2A
- Motor temperature sensor input
- Programmable 5V to 10V encoder supply
- Motor encoders supported include

Resolver, UVW hall effect sensors, Sin/Cos sensors and incremental AB encoders

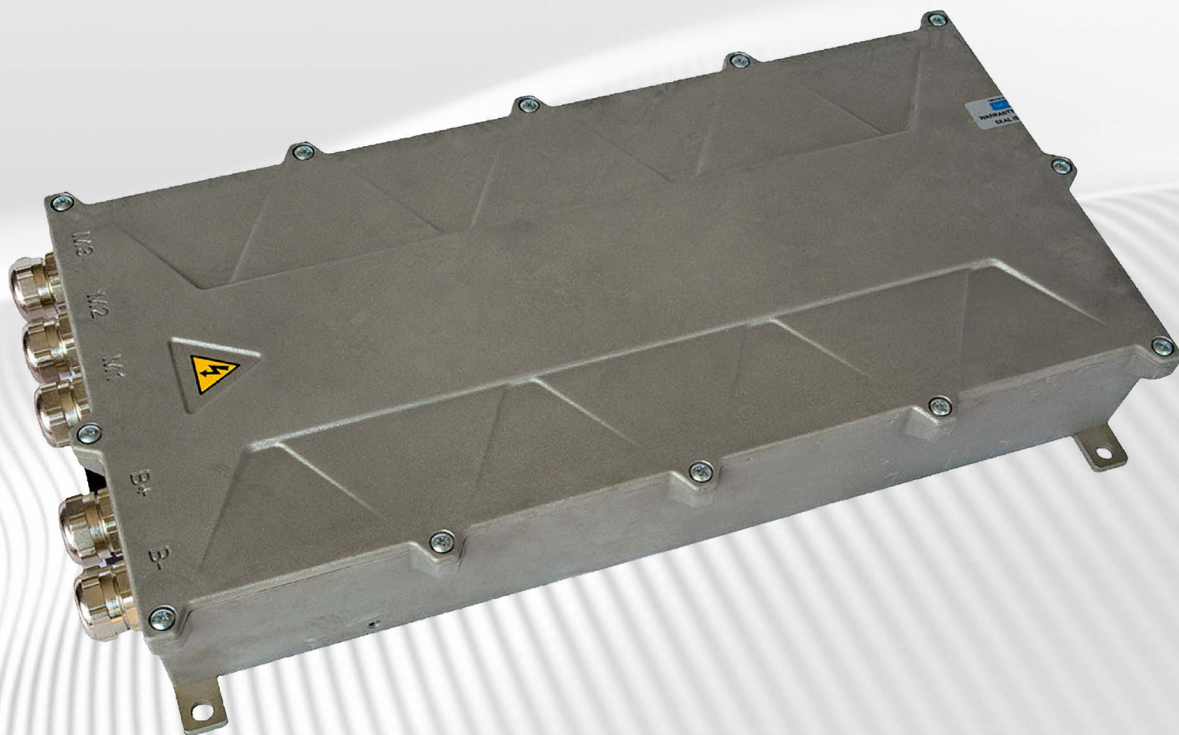
## Key Parameters

- Operating voltage range 128V to 400VDC
- Output motor phase current:
  - 400 A rms (boost)
  - 360 A rms (30sec)
  - 300 A rms (2 min)
  - 200 A rms (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



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





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# AC Motor Controller Gen4 Size 10

from BorgWarner

BORGWARNER

# AC Motor Controller Gen4 Size 10 from BorgWarner

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

The Gen4 Size 10 is capable of operation up to 800Vdc and up to 450A rms phase current.

## 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, 12V or 24V nominal
- Up to 800VDC supply voltage
- Up to 300kW peak power output
- Up to 150kW continuous power output
- Includes an additional dedicated safety supervisory processor
- Safety interlock pulsed enable signal
- Highly configurable

## Integrated I/O

Gen4 Size 10 includes a fully-integrated set of inputs and outputs (I/O) designed to handle a wide range of vehicle requirements. This eliminated the need for additional external I/O modules or vehicle controllers and connectors.

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

## Key Parameters

- Operating voltage range at full current 50V to 800V
- Output motor phase current:
  - 400A rms (2 min)
  - 200A rms (Continuous)
- Water/Glycol coolant (oil cooling available for custom applications)
- Weight: 10.9kg

## Dimensions

