

High Power Motor Controllers.

Smooth Performance. Silent.

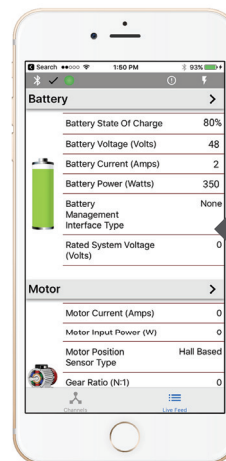
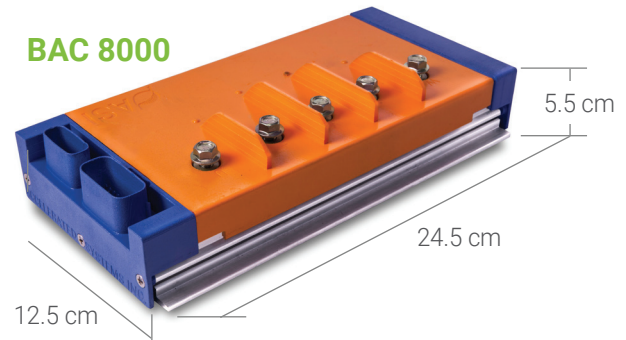
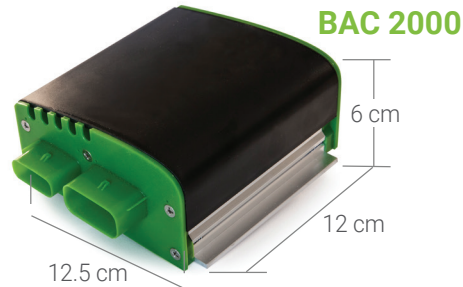
Configurable. Reliable.

INPUT POWER (ALL CONTROLLERS)		
FEATURE	RATING	UNITS
Nominal Input Voltage	36-72	Volts DC
Input Power	Software configurable	

OUTPUT PHASE CURRENT CONTROLLER			
MODEL	FEATURE	RATING	UNITS
BAC 2000	Peak	150	Amps DC
BAC 4000	Peak	460	Amps DC
BAC 8000	Peak	860	Amps DC

CONTROLLER PERFORMANCE	
DESCRIPTION	RANGE
Speed regulation	+/- 5% at top speed
Minimum motor phase to phase inductance	60 uH
Motor control scheme	Sinusoidal field oriented (FOC)
Motors supported	PMAC and BLDC

AVAILABLE OPTION CUSTOM PROTOCOL COMBINATIONS		
CAN	with	Bluetooth (STANDARD)
CAN	with	TTL-232
TTL-232	with	RS-485 (CUSTOM)
TTL-232	with	Bluetooth (CUSTOM)



Includes BACDoor software to fine tune performance. Available for OEM customers.



BAC 2000 | BAC 4000 | BAC 8000

High Power Controllers

The Controller is the Experience!

The ASI BAC 2000, BAC 4000 and BAC 8000 are a series of high density motor controllers that utilize the latest in sinusoidal flux vector control to ensure smooth and quiet brushless DC motor operation and efficient vehicle operation. They can operate over a nominal battery voltage range of 36VDC to 72VDC.

A robust MOSFET-based three phase bridge provides peak efficiencies in excess of 95%, no audible noise. In addition to Hall sensor based motor commutation, sensorless commutation is also supported.

Programmable performance mapping allows throttle and regenerative braking inputs to be adjusted via an optional vehicle display or ASI's BAC Door™ PC configuration. Engineering software to meet specific performance requirements.

Numerous programmable protection features including motor/controller temperature, battery over/under voltage, and motor/battery current limits increase controller and motor longevity.

Features

- Can be attached to additional heat sinking to significantly increase performance
- CAN OPEN optional, Bluetooth optional
- PWM drive for low ripple current and silent drive
- Field oriented control for increased efficiency and smooth motor operation
- Multiple analogue and digital inputs
- Support multiple sensor configurations
- Single pulse and quadrature pedal or wheel speed inputs
- Analog and voltage model based battery management system interfaces
- Sensorless or hall commutation with automatic switching
- Configurable throttle, brake cut-off and regeneration options
- Fault protection including:
 - Bus over and under voltage
 - Motor over current
 - Motor and controller over temperature
 - MOSFET bridge self tests
 - Battery SOC foldback

INPUT SPECIFICATIONS					
TYPE	QTY	DESCRIPTION	VOLTAGE	VMIN	VMAX
Hall sensor inputs	3	Non isolated, diode protected to 50V max Used for motor commutation Max frequency: 1000 Hz Min pulse width: 40 µsec	Logic Low	0 VDC	0.5 VDC
			Logic High	3.5 VDC	5 VDC
Digital inputs	2	Non isolated, diode protected to 50V max Used for pedal first sensor and cruise control related features 1 kHz sampling rate Max frequency: 500 Hz Min pulse width: 40 µsec	Logic Low	-0.3 VDC	1.2 VDC
			Logic High	3.3 VDC	5.3 VDC
5V analogue inputs	3	Non isolated, resistance protected to 30V max Single ended Min 10 bit resolution Used for throttle, brakes, and motor temperature	Analogue	0 VDC	5 VDC
12V analogue inputs	1	Non isolated, resistance protected to 30V max Single ended Min 10 bit resolution Used for BMS	Analogue	0 VDC	12 VDC