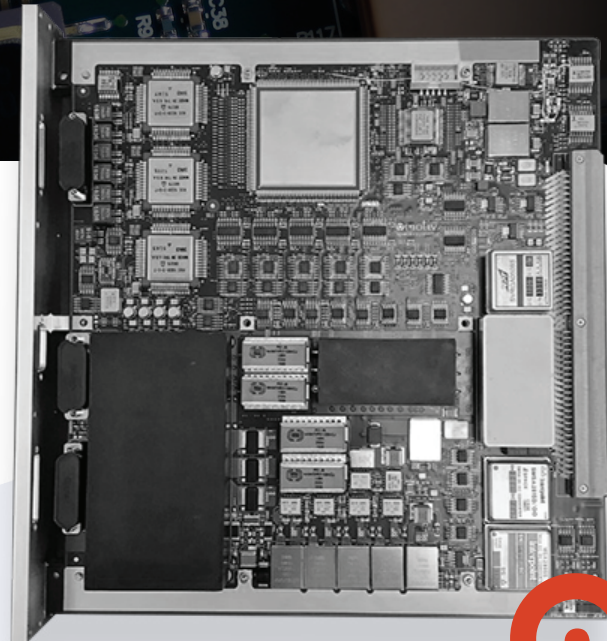












Alpha-II Motor Controller

Universal Brushless/Stepper DC Motor Controller

Motiv's Alpha-II motor controller is an incredibly capable and flexible single channel robotic motion control card. It can be used for a wide variety of applications in nearly all domains. The Alpha-II controller is the most capable motor controller on the market.



FEATURES

-  **Single Axis Motor Controller Card**
-  **Supports 3-Phase BLDC or Stepper Motors**
-  **Stepper Modes:**
Full Step and Half Step
-  **BLDC Control:**
Current, Velocity, & Position
-  **Commutation:**
Hall Sensor, Resolver/
Field Director
-  **Feedback:**
Absolute Encoder,
Multi-Speed Resolver
Sensing, Inductosyns
-  **Operational Temperature Range:** -55C to +125C
-  **I/O port for configurable digital interfaces**
-  **Radiation Tolerance:**
Total Ionizing Dose 100kRad
-  **Communication:**
RS-485/422
-  **Telemetry:**
Motor Current, Bus Voltage,
Board Temperature, User
Defined Telemetry (External):
8+ analog channels
-  **Physical Dimension:**
243.8mm x 261.9mm
Chassis Mount
-  **Voltage or Power Handling:**
20V – 100V Operations, up to
6A continuous (600W)

SAMPLE APPLICATIONS

- + High Fidelity Robotics
- + Precision Pointing Systems

EXPORT RESTRICTIONS

Export of the Alpha-II Motor Controller is controlled under Export Control Classification Number (ECCN) 9A515.x and is available for sale in the countries listed in Group A:5.



About Motor Controllers

Motiv designs and delivers advanced motion control solutions for the extreme environments of space. From earth orbit, to deep space, to the cryogenic temperatures of the moon we have solutions to get you moving. Motiv's innovative motor controllers drive everything from robots to deployment mechanisms. In most cases the controllers can be tailored for your specific environment for radiation and parts pedigree to allow you to rapidly move from the lab to flight with the same architecture – saving you time and money.

PHYSICAL SPECIFICATIONS

Mass:

~1.8kg w/ frame

Dimensions:

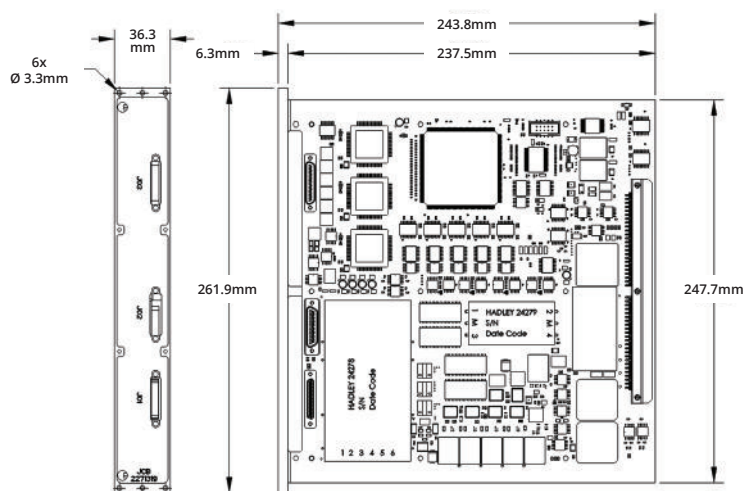
243.8mm x 261.9mm

Temperature:

-55°C to +125°C

System Interfaces:

- **Input Power**
- **RS-485/422 Communication**
- **E-STOP**



ELECTRICAL SPECIFICATIONS

Input Voltage	20V-100V
Current Capability	6A (Continuous) 10A (Peak)
Quiescent Power	~2W
Commutation Interface	Halls, Resolver, Absolute Encoder
Sensory Interfaces	Resolvers, Inductosyns, Quadrature Encoders, Temperature Sensors, Strain Gauges, Potentiometers, Contact Switches
Radiation Tolerance	100kRad

PERFORMANCE DATA

Primary Functions:

Single Axis Robotic Brushless Drive

PID Velocity/Position Control, Current Control, Open Loop PWM Drive, Output Sensing Interfaces, Brake Control

High Power Applications

On Board EMI Filtering, Fine Current Sensing

Primary Applications:

On-Orbit Servicing Robots (i.e. Restore-L RA), Large Planetary Robotics (i.e. M2020 RA), On-Orbit Assembly Robots

