

# Aurora

## Dual-Axis Servo Controller

**120 VDC, 5Amps, Radiation Tolerant**



### Features:

- Supports Permanent Magnet 3-Phase and Stepper Motors
- Fully Digital High-Performance Drive
- 40 kHz PWM Frequency Standard (Consult factory for PWM frequencies up to 100 kHz)
- Multiple Feedbacks Included
  - Serial Encoder over LVDS or RS-422
  - Resolver
  - Hall
- Communication Interfaces
  - CAN
  - RS-422
- Torque, Velocity, or Position control
- Dual-Axis Embedded Motion Controller
- Configurable, user-friendly GUI with Integrated Oscilloscope (HiDS)
- Chassis-cooled

### Specifications:

- Bus Voltage: 120 VDC
- 5 Amps Continuous Motor Current
- Input Current Up to 10 A
- Maximum Output Power: 1200W
- Efficiency >95% (full load)
- Operating Temperature: -40 °C to 71 °C
- Unit Weight: 499g (1.1lbs.)
- Unit Size: 165 mm x 85.8 mm x 22.8 mm (6.5" x 3.38" x 0.9")

### Radiation Tolerance:

- TID: 30-100 kRad
- SEL: 37 Let MeV (Non-Destructive)
- Custom Options are available for Polar and Interplanetary Missions. These may require a tailored testing procedure to ensure mission success. Please contact ESI for more information.

### Compliance:

- Software Design Assurance: DO-178C Option
  - IPC-610 Class III High-Performance Assembly
  - Electromagnetic Interference per MIL-STD-461\*:
    - CE102                      ○ CS116
    - CS101                      ○ RE101
    - CS114                      ○ RE102
    - CS115                      ○ RS103
  - Environmental qualification per MIL-STD-810:
    - Random Vibration (X, Y & Z axes): 17.23 Grms, 20 – 2,000 Hz (0.11 g<sup>2</sup>/Hz)
    - SRS Shock (X, Y & Z axes): 60 to 200 G's, 100 – 750 Hz. 200 G's, 750 – 10,000 Hz.
- Electrical power characteristics: MIL-STD-704

### Customization Available

ESI Motion has the expertise to customize a solution for your project's needs. Contact us today at [sales@esimotion.com](mailto:sales@esimotion.com) to see how we can tailor a solution for you.

\*The EMI features on ESI's Aurora are being sold AS-IS, without warranty. EMI compliance is a complex requirement involving the controller, cabling, and the motor. All parts in the system will require special consideration in order to fully comply with EMI features. Due to this complexity, ESI does not warrant system level EMI compliance.

ESI offers EMI certification services. Certification services can be customized to your needs and typically include a system EMI review, formal compliance testing, and a compliance report. Please contact ESI for details on how to get your system certified to MIL-STD-461.

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