



Features:

- Digital PWM control of brushless, brush and voice coil motors
- Field Oriented Control (FOC) or Sinusoidal Modulation
- Position/Velocity/Torque or 2-phase External Commutation modes
- Non-volatile storage of all system parameters
- On-board DSP provides real-time fault monitoring & protection
- High-voltage bus (up to 340VDC) for fast motor speeds
- High-speed USB or RS-223 serial interface for communication
- Serial, pulse train or +/-10 VDC analog command inputs
- Dedicated and general purpose user I/O
- Front panel 7-Segment LED shows status in real time
- Programmable D/A output for analog monitoring
- Compact design saves panel space
- Built-in user interface for programming/monitoring
- Multiple power ranges and packaging options
- Can be factory customized for specific application needs
- Robust design ensures long life and high reliability



Details:

Varedan Technologies has a long history of providing extremely reliable linear servo amplifiers for OEM customers. Following that tradition, the VSA series of PWM servo amplifiers provide the OEM designer with family of reliable products to suit a wide-range of motion applications.

These digital PWM servo amplifiers are available in a variety of power ranges and packages, and are designed to drive three-phase brushless motors, single -phase brush-type motors or voice coils. These amplifiers can be set up to operate in either position, velocity or torque (current) mode using either the serial interface or an analog +/-10 VDC input command signal. With our exclusive user-selectable modulation, the VSA amplifiers can be configured for either Field Oriented Control (FOC) or Sinusoidal modulation to suit a wide-range of applications.

Brushless (3-phase) commutation options include FOC or sinusoidal from a motor mounted encoder, externally commutated 2-phase sine input or trapezoidal commutation using motor mounted hall sensors.

The design of these amplifiers includes a high-speed DSP which performs the digital PID loop control as well as monitors all key system functions in real-time to protect the amplifier in the event of a system fault. An intelligent built-in operating system allows setup and storage of all system parameters through a simple serial interface using a USB or RS-232 connection. The user interface can also be used to view all operating parameters in real-time. Non-volatile memory provides storage of the parameters during power off conditions.

The use of standard, readily available plug-in connectors provides for easy cabling and connection to the amplifiers.

Packaging options for the VSA series include DC powered module, AC powered single-axis stand-alone and AC powered multi-axis baseplate. Please contact the factory for other configurations or custom features.

Specifications:

OUTPUT CURRENT

- VSA-1530 15 Amps Continuous / 30 Amps Peak

OUTPUT CONNECTIONS

- Motor Phases R, S, T
- Encoder/Hall Power: +5V, Common
- D/A Output (Programmable by user)
- Fault (Open Collector, +5V pull-up)
- Encoder A, A\, B, B\, C, C\ (buffered motor encoder)
- 4 user programmable functions

INPUT CONNECTIONS

- Command A, +/- 10 VDC, Single-Ended or Differential
- Command B, +/- 10 VDC, Single-Ended or Differential
- 4 user programmable functions
- Dedicated inputs – Reset, Enable
- Hall Sensors A, B, C
- Motor Temperature Switch
- Encoder A, A\, B, B\, C, C\ (Single-Ended or Differential)

COMMUNICATION

- RS-232 or USB

COMMUTATION

- Sinusoidal using Quadrature Encoder, +/- 10 VDC using Command A (Position, Velocity, Torque modes)
- External 2-Phase Sinusoidal, +/- 10 VDC using Command A&B (Transconductance mode).
- Trapezoidal, +/- 10 VDC using Command A (Velocity, Torque modes)
- Single-phase mode using Command A (Position, Velocity, Torque modes)

FAULT MESSAGES

- DSP Fault
- NVM Fault
- Hall Sensor Fault
- Encoder Fault
- Amplifier Over Temperature
- Motor Over Temperature
- Absolute Over Current
- I²T Over Current
- Bus Over Voltage
- Bus Under Voltage
- 5 VDC Reference Fault

ENVIRONMENTAL LIMITS

- 0 to 50 deg. C - Operating
- -40 to 85 deg. C - Storage
- 5 to 95% Relative Humidity, non-condensing

POWER REQUIREMENTS

- Bus Voltage, 70 - 340 VDC (Module)
- AC Line 80-240VAC (Stand Alone)

PACKAGING OPTIONS

- Module (Requires External DC Bus Voltage)
- Stand Alone (Includes Power Supply)
- Multi-Axis (Can include Power Supply)

OPTIONS

- Breakout modules for I/O connections

INDICATORS

- 7-Segment LED for system status

DIMENSIONS

- 7.130" x 4.60" x 1.45" (L x W x H) (Module)
- 7.125" x 4.60" x 2.50" (L x W x H) (Stand Alone)
- 13.00" x 10.75" x 5.23" (L x W x H) (Baseplate)

Varedan Technologies warrants this product to be free from defects for a period of one year after the date of shipment and according to the Terms and Conditions of Sale.