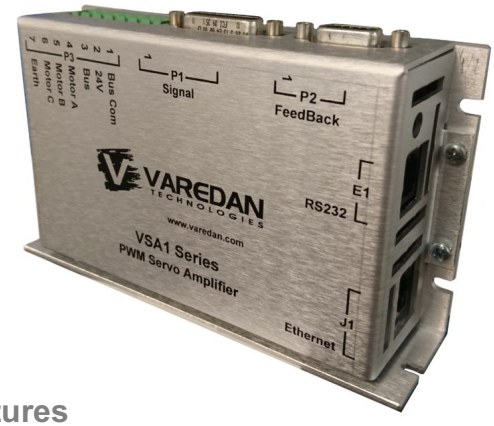
VSA1-510 Series
Digital PWM Servo Amplifiers

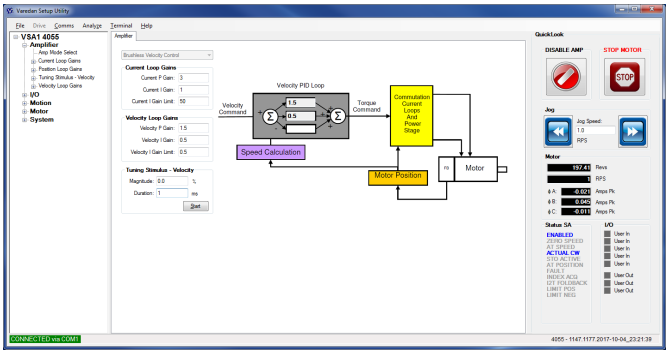
Model	Current Cont./Peak	Bus Voltage	Power Continuous
VSA1-510	5/10A	12 - 75VDC	325W



Details

Varedan has a long history of providing reliable high performance linear servo amplifiers for OEM customers. Following that tradition, the VSA Digital PWM Servo Amplifier line extend our product offerings to include advanced digital controls, efficient power delivery, compact footprint, and simple to use tuning and configuration utilities while retaining the reputation for superior reliability and performance.

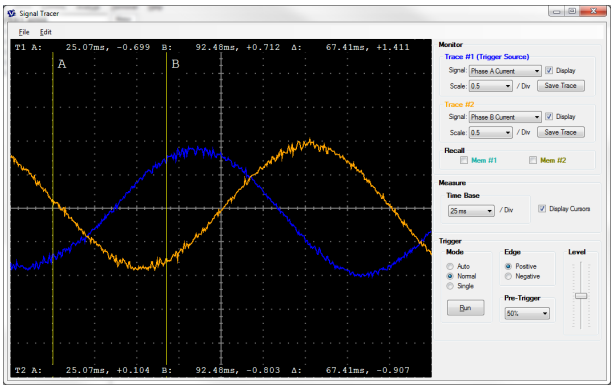
The PC based VaredanGUI™, with its built-in command stimulus and real-time oscilloscope signal tracer views, reduces the requirements for external equipment while setting up new systems. The standard Ethernet based communications easily connects with all modern computers. Full system configuration can be saved and uploaded for quick and easy drive provisioning.



The VSA1-510 features a powerful microprocessor to provide reliable, high-precision motor control, stored motion profiles, and real-time scope functionality. The VSA1-510 features all standard modes of operation, from current (torque) mode to position mode, and includes external sine commutation mode for compatibility with advanced controllers and legacy applications. All standard forms of encoder feedback plus an auxiliary quadrature port can be utilized, giving the user the high level of flexibility and freedom.

Features

- 24V Keep Alive Option
- Fully Opto-Isolated I/O
- Up to 60kHz PWM Rate
- Digital Current/Torque, Velocity and Position Control
- Single and 3-Phase; Linear, Rotary, and Voice Coil Motors
- Ethernet and RS232 Communications (Optional)
- Dual Feedback Ports, Input & Output, Supporting Halls, Quad, Sine and Absolute Digital Encoders
- PC Based VaredanGUI™ for configuration and tuning
- Supports ABSine 2-Phase External Commutation for 3-Phase Motors
- Output Filter Board (Optional)
- Expansion Interface Board (Optional)



Real-time oscilliscope for Easy Setup

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Digital PWM Servo Amplifiers

OUTPUT CONNECTIONS
3 Digital Outputs, Opto-Isolated (Sink or Source), 5-24V, Up to 100mA load current
1 Analog Output, 0-5V
Ethernet (UDP) - Transmit
RS232 – Transmit (Optional)

INPUT CONNECTIONS
5 Digital Inputs, Opto-Isolated (Sink or Source), 5-24V
2 Analog inputs, Differential, ±10V
Ethernet (UDP) - Recieve
RS232 – Receive (Optional)

FEEDBACK
Primary Feedback Port:
Incremental Quadrature Input (Differential), Analog Sine/Cos Input (Differential), BiSS, EnDat, Step/Direction Input

Auxiliary Feedback Port:
Incremental Quadrature Input/Output (Differential), Synthesized Quadrature Output (Differential), 3 Additional Differential Digital I/O

Halls (Digital):
3 Inputs U,V,W (Single Ended)

KEEP ALIVE VOLTAGE (Optional)
24VDC

MECHANICAL
Dimensions: 5.50" x 3.55" x 1.45"
Weight: 0.70 Pounds

PWM POWER STAGE
Phases: 3-Phase MOSFET Based Power Section
Modulation: Center Based Modulation
Switching Frequency: 20kHz, 40kHz, 60kHz
Current Loop Bandwidth: Up to 4kHz (dependent on switching frequency and motor parameters)

OPERATIONAL MODES
1-Phase CurrentTorque
3-Phase Current/Torque (Internal Commutation)
3-Phase ABSine Torque (External 2-Phase Commutation)
Velocity Contol
Position Control
Step/Direction
Stored Motion
Cam/Following

FAULT PROTECTION
Amplifier Protection Features
Under-Voltage Protection
Over-Voltage Protection
Over-Temperature Protection
Over-Current Protection
Short Circuit Protection
Motor Protection Features
Motor Over-Temperature Input (NTC, PTC)
Continuous Current Limit (I2T)
Peak Current Limit

OPTIONAL FEATURES
Output Filter Board

-3dB Roll-Off Frequency	Peak Current	Max PWM Frequency
2MHz	10A	60kHz
715kHz	10A	20kHz

Expansion Interface Board
RS232 Serial Input/Output

ENVIRONMENTAL LIMITS
0 to 70 deg. C Ambient
-40 to 85 deg. C Storage
5 to 95% Relative Humidity. Non-condensing.