

Digital PWM Servo Amplifier

Product Profile

Features

- PWM output control for efficient operation
- Full digital operation – No pots to adjust
- On-Board DSP provides real time monitoring
- Drives many types of motor loads, Rotary or Linear
- Internal fault monitoring & protection
- Non-Volatile storage of all system parameters
- Serial user interface for programming/monitoring
- Sinusoidal, 2-Phase, or Trapezoidal Commutation
- Single ended or differential command inputs
- Dedicated Limit inputs
- 7-Segment LED shows status in real time
- Programmable D/A for analog monitoring
- External reset button
- Compact design saves panel space
- Multiple power ranges and packaging options
- Motor temperature switch input
- Complete isolation from input to output
- Intelligent Power Module for high reliability
- Easy installation – Same interface across products

AC 500, AC 1000 & AC 1500 Series

Description

The AC 500, AC 1000 & AC 1500 series of Pulse Width Modulated (PWM) Servo Amplifiers are designed for high performance OEM applications. These fully digital servo amplifiers are available in a variety of power ranges to drive brushless 3-phase (AC) rotary and linear brushless motors. These amplifiers can be set up to operate in either voltage or current mode using a +/- 10 volt command signal with a simple programming option.

Programmable commutation options include 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 an on board high speed DSP which performs the PID current and voltage 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 on board operating system allows setup and storage of all system parameters via a simple serial interface. The interface can also be used to view all operating parameters. Non-volatile memory provides storage of the parameters during power off conditions.

A seven segment LED Display provides real time monitoring of system status. The DSP disables the outputs and displays an error code in the event of system malfunction.



OUTPUT CURRENT

AC 500 5 Amps Continuous/10 Amps Peak
AC 1000 10 Amps Continuous/20 Amps Peak
AC 1500 15 Amps Continuous/30 Amps Peak

OUTPUT CONNECTIONS

Motor Phases R,S,T
Encoder/Hall Power +5, Common
D/A Output (Programmable by user)
Fault (Open Collector, +5 pull-up)
RS232 (DB-9)
Encoder A, A\, B, B\, C, C\

INPUT CONNECTIONS

Command A, +/- 10 Vdc, Single Ended or Differential
Command B, +/- 10 Vdc, Single Ended or Differential
Limits +/- (Programmable level)
Enable (Programmable level)
Reset
Halls A, B, C
Motor Temperature Switch
Encoder A, A\, B, B\, C, C\ (Programmable Resolution)
Bus Voltage, +/-

COMMUTATION

Sinusoidal from Quadrature Encoder, +/- 10 VDC using Command A
External 2-Phase Sinusoidal, +/- 10 VDC using Command A&B
Trapezoidal, +/- 10 VDC using Command A

INDICATORS

7 Segment RED LED for system status

FAULT MESSAGES

DSP Fault
NVM Fault
Hall Sensor Fault
Encoder Fault
Amplifier Over Temperature
Motor Over Temperature
Absolute Over Current (High Speed Circuit Breaker)
RMS Over Current (Low Speed Circuit Breaker)
Bus Over Voltage
Bus Under Voltage
5VDC Reference Fault

ENVIRONMENTAL LIMITS

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

POWER REQUIREMENTS

Bus Voltage, 70-340 VDC

PACKAGING OPTIONS

Module (Requires External DC Bus Voltage)
Stand Alone (Includes AC Power Supply)
Multi-Axis (Can include AC Power Supply)
3U (Please contact factory for details)

OPTIONS

Breakout modules for I/O connections

WARRANTY

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.

VAREDAN TECHNOLOGIES designs and manufactures custom motion control solutions for the worldwide OEM marketplace.

