

Model	Current	Bus Voltage	Power
LAD-310S-4A	4A Cont. 10A Peak	+15V to +56V	300W Cont. 600W Peak
LAD-310S-4A-DCSA			
LAD-310S-4A-ACSA			

Description

Varedan LAD 300S series are compact 4 axis digital linear current amplifiers designed to drive up to 4 single phase loads such as brush-type motors or voice coils. They are the perfect choice for systems requiring low radiated noise, zero distortion and low drift from the drive electronics. It is powered by a single external 15 to 56 VDC unipolar bus. With true class AB linear output stage (as opposed to PWM, pulse width modulation), the amplifiers are extremely quiet and provide very low distortion for smooth motor operation.

A 20 MHz salve SPI interface is designed to receive up to 4 channel digital current references. 4 channel 16-bit DAC with full resolution converts the digital current references to analog current commands.

The design of these amplifiers includes an on-board high-speed DSP that monitors all key system functions in real time and provides protection for the outputs by limiting output power to a "Safe Operating Area". An intelligent user interface allows setup and storage of all system parameters via the serial interface. Non-volatile memory provides storage of the parameters during power off conditions. A 7-segment LED display provides a visual indication of system status.

LA 310 has 4 current loop gain settings, selectable via front edge DIP switch. Customer can utilize this feature to drive 4 different loads or drive one load with 4 different bandwidth settings.

Varedan offers 3 different module packages, standard, DC stand alone and AC standalone. standard module is an excellent selection for OEM applications. DC standalone module has a full covered enclosure with a cooling fan integrated. AC standalone integrates a 300W linear power supply and 2 cooling fans into the package, in which 110/240VAC power can apply directly.



Features

- 4 Axis drive in compact package
- 20MHz SPI current reference interface
- Linear output control for quiet motion control
- High output current +/-10A
- 300 WATT continuous dissipation capability
- Unipolar power supply +15 to +56 VDC
- 4 current loop gain settings
- 4 transconductance ratio settings
- Up to 5KHz current loop bandwidth
- Low current drift
- Zero crossover distortion
- Over current, voltage, temperature protection
- Safety operation area (SOA) protection
- Non-volatile storage of all system parameters
- 3 packages (Standard, DC standalone, AC standalone)
- Smart fan control
- 7-segment display shows status in real-time

OUTPUT CONNECTIONS

Motor 1 Phase A, B (Load #1)
Motor 2 Phase A, B (Load #2)
Motor 3 Phase A, B (Load #3)
Motor 4 Phase A, B (Load #4)
Current 1 to 4 monitor (+/-5V, 2A/1V)
Voltage 1 to 4 monitor (+/-10V, 11V/1V)
Fault (opto-isolated)
RS232 (Transmit)

INPUT CONNECTIONS

SPI salve interface (20MHz maximum)
Enable (opto-isolated)
RS232 (Receive)

Front-EDGE SWITCH SETTINGS

Current loops 1 to 4 bandwidth
Current 1 to 4 transconductance ratios

BANDWIDTH

5KHz maximum

MOTOR BUS VOLTAGE

+60 VDC maximum

LED INDICATOR

7-segment LED for system status

POWER REQUIREMENTS

Standard module
DC motor bus supply
DC standalone module
DC motor bus supply
AC standalone module
110VAC or 240VAC

PROGRAMMABLE SETTINGS

I2T over current trip level and time
Absolute current trip level
Bus over voltage level
Input filter selection
Enable level
Enable source
Fan control mode

FAULT PROTECTION

Safe operation area
Absolute over current
I2T over current
Bus over voltage
Bus under voltage
Internal logic voltage
Over temperature
DSP error
Non-volatile memory error

MECHANICAL

Standard module
Dimensions 7.15" x 3.45" x 2.7"
Weight 2.0 lb
DC standalone module
Dimensions 10.17" x 3.82" x 3.67"
Weight 3.4 lb
AC standalone module
Dimensions 11.18" x 5.70" x 7.14"
Weight 15.0 lb

ENVIRONMENTAL LIMITS

0 to 70 deg C ambient
-40 to 85 deg C storage
5% to 95% relative humidity. Non-condensing

WARRANTY

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