

Model	Current	Bus Voltage	Power
LA-310	4A Cont. 10A Peak	+/-12V to +/-100V	300W Cont. 600W Peak
LA-310-DCSA			
LA-310-ACSA			

Description

Varedan LA 300 series are compact, high voltage, high current linear amplifiers designed to drive brushless and brush motors or voice coils. They are the perfect choice for systems requiring low radiated noise, zero distortion and extremely low drift from the drive electronics. 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.

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 provides 3 operation modes, T, S, D, selected via front edge DIP switch. In T mode, the amplifier is configured to drive one 3-phase brushless motor. In S mode, the amplifier is configured as a H-bridge to drive one single-phase motor or a voice coil. In D mode, the amplifier is configured as 3 independent half-bridges to drive up to 3 single-phase motor or 3 voice coils.

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 packages, open-frame, DC stand alone and AC standalone. Open-frame 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. User can directly apply 110/240VAC power to the unit.



Features

- Linear output control for quiet motion control
- Wide bus voltage +/-12 to +/-100 VDC
- High output current +/-10A
- 300 WATT continuous dissipation capability
- Capability to drive up to 3 single phase motors and one 3-phase motor
- 4 current loop gain settings
- Up to 10KHz current loop bandwidth
- Low current drift
- Zero crossover distortion
- Over current, voltage, temperature protection
- Safety operation area protection
- Non-volatile storage of all system parameters
- 3 packages (Open-frame, DC standalone, AC standalone)
- Smart fan control
- Compact design to save panel space
- 7-segment display shows status in real-time

OUTPUT CONNECTIONS

Motor Phase A, B, C (T mode, 3-phase)
Motor Phase A, C (S mode, single phase H-bridge)
Motor Phase A, GND; B GND; C GND (D mode)
Current A, B, C (+/-5V, 2A/1V)
Fault (opto-isolated)
RS232 – Transmit

INPUT CONNECTIONS

Current reference A, +/-10V, single-end or differential
Current reference B, +/-10V, single-end or differential
Current reference C, +/-10V, single-end or differential
Enable (opto-isolated)
RS232 – Receive

Front-EDGE SWITCH SETTINGS

Operation Mode (T, S, D)
Motor Phase A and B bandwidth
Motor Phase C bandwidth
Current reference A and B transconductance ratio
Current reference C transconductance ratio

COMMUTATION

3-phase external 2-phase sinusoidal reference A and B

BANDWIDTH

10KHz maximum

MOTOR BUS VOLTAGE

+/-100VDC maximum

LED INDICATOR

7-segment LED for system status

POWER REQUIREMENTS

Open-frame module
±DC motor bus supply
±15V bias supply (+15V@500mA, -15V@200mA)
DC standalone module
±DC motor bus supply
±15V bias supply (+15V@900mA, -15V@200mA)
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
±15V under voltage
Internal logic voltage
Over temperature
DSP error
Non-volatile memory error

MECHANICAL

Open-frame 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.