Linear Servo Amplifiers

Product Profile

Features

- Linear Output Control for quiet operation
- On-Board DSP provides real time drive monitoring
- Exclusive Autobalance feature simplifies setup
- Safe Operating Area protection of outputs
- Short Circuit Protected
- 10kHz Minimum Bandwidth
- Non-Volatile storage of all system parameters
- Serial User interface for programming/monitoring
- 2-Phase Sine or Trapezoidal commutation options
- Single Ended or Differential Command inputs
- Dedicated Limit inputs (active in Trapezoidal Mode)
- 7-Segment LED shows status in real time
- Programmable D/A for analog monitoring
- External Reset button
- Outputs can drive a wide range of loads
- 200 Watt or 400 Watt versions available
- Configure using jumpers or serial interface
- Motor Temperature switch input

LA 200 & LA 400 Series

Description

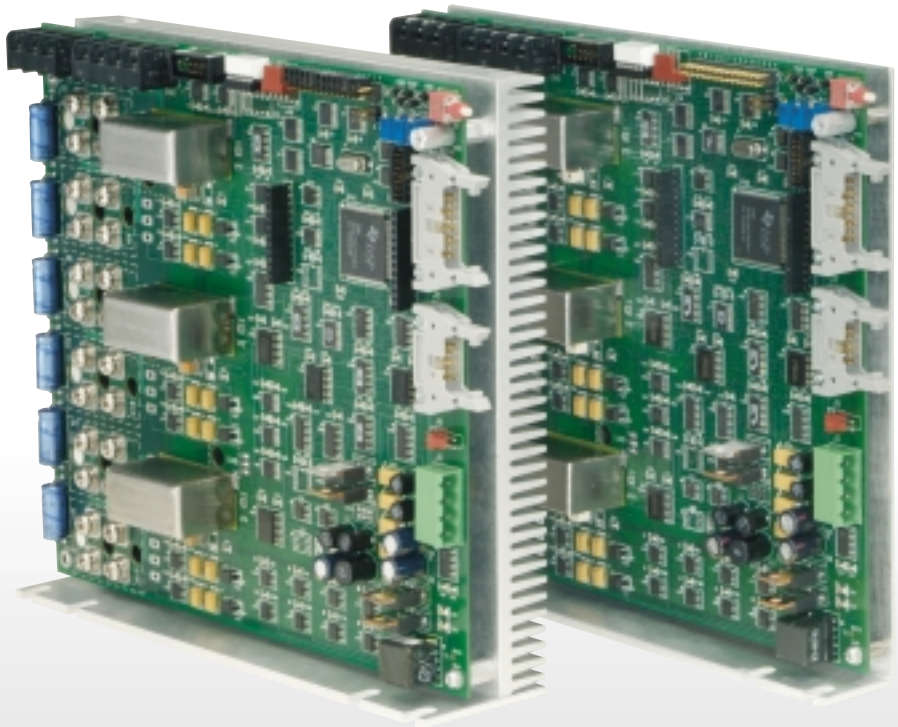
The LA 200 & LA 400 series of transconductance Linear Amplifiers are the perfect choice for systems requiring low radiated noise and zero distortion from the drive electronics. These high power current mode linear amplifiers are well suited to drive low inductance/resistance loads such as brushless and brush servo motors or voice coils. Commutation options include externally commutated 2-phase sine input or trapezoidal commutation using motor mounted hall sensors.

With their true linear output (as opposed to pulse width modulation), these amplifiers are both extremely quiet and provide the ultimate in low distortion for smooth motor operation.

The design of these amplifiers includes an on board high speed DSP which 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 seven segment LED Display provides a continuous visual indication of system status. The DSP disables the outputs and displays an error code in the event of system malfunction.

With our exclusive Autobalance feature the drive can be setup with any motor with just the push of a button. The internal DSP nulls the phase offsets and stores the offset settings in NVM. Autobalance saves time during manufacturing since no tools or training are needed to use this feature.



VAREDAN TECHNOLOGIES

LA 200 & LA 400

Technical Specifications

OUTPUT POWER
200 Watts Continuous/1000 Watts Peak* LA 200
2 Amps Continuous/10 Amps Peak

400 Watts Continuous/2000 Watts Peak* LA 400
4 Amps Continuous/20 Amps Peak
*With proper cooling using customer supplied airflow

OUTPUT CONNECTIONS
Motor Phases R,S,T
Hall Power: +5 VDC, Common
D/A Output (Programmable by user)
Fault (Open Collector, +5 pull-up)
RS232-Transmit

INPUT CONNECTIONS
Command A, +/- 10 VDC, Single Ended or Differential
Command B, +/- 10 VDC, Single Ended or Differential
Limits +/-
Enable
Reset
Halls A,B,C
Motor Temperature Switch
RS232-Receive

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

BANDWIDTH
10kHz Minimum

INDICATORS
7 Segment RED LED for system status

PROGRAMMABLE/ JUMPER SETTINGS
Transconductance Ratio
Absolute Overcurrent Threshold
RMS Overcurrent Threshold
RMS Overcurrent Time Delay
Input Filter Frequency
Sine/Hall Commutation Mode
Single Ended/Differential Command
Current Loop Bandwidth
Motor Reverse (Hall Mode)

FAULT MESSAGES
DSP Fault
NVM Fault
HALL Sensor 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
+ 5 VDC Reference Fault
+/-15 VDC Reference Fault
Safe Operating Area Fault

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

POWER REQUIREMENTS
+/- Bias Voltage, 15.0, +/- 0.15 VDC, 0.3 Amps
+/- Bus Voltage, +/-10VDC to +/- 75 VDC, 10 Amps

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.*

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