LA Series
800 & 1500 Watt Linear Servo Amplifiers

<table>
<thead>
<tr>
<th>Model</th>
<th>Current Cont./Peak</th>
<th>± VDC Bus Voltage</th>
<th>Power Cont./Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-830</td>
<td>15/30A</td>
<td>±12 - ±150VDC</td>
<td>800/3000W</td>
</tr>
<tr>
<td>LA-835</td>
<td>18/35A</td>
<td>±12 - ±150VDC</td>
<td>800/4500W</td>
</tr>
<tr>
<td>LA-840</td>
<td>20/40A</td>
<td>±12 - ±150VDC</td>
<td>800/6000W</td>
</tr>
<tr>
<td>LA-1535</td>
<td>20/35A</td>
<td>±12 - ±150VDC</td>
<td>1500/3000W</td>
</tr>
<tr>
<td>LA-1545</td>
<td>25/45A</td>
<td>±12 - ±150VDC</td>
<td>1500/4500W</td>
</tr>
<tr>
<td>LA-1555</td>
<td>30/55A</td>
<td>±12 - ±150VDC</td>
<td>1500/6000W</td>
</tr>
</tbody>
</table>

Details

The LA series Linear Servo 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 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 our optional VMC2 plug-in motion board, full sinusoidal commutation can be provided from a motor mounted encoder.

With true linear output (as opposed to pulse width modulation), these 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 continuous visual indication of system status. The DSP disables the outputs and displays an error code in the event of system malfunction.

In addition to the modules shown, we also offer multi-axis baseplates that can include power supplies and fans, requiring only AC power to run.

Features

- Linear Output Control for quiet operation
- Multiple Power Levels Share Common Interface
- Single-Phase and Three-Phase Versions
- Safe Operating Area Protection of Power Devices
- Zero Crossover Distortion
- External Sinusoidal or Trapezoidal commutation
- Over Current Protection
- Over Voltage Protection
- Up to 10kHz Bandwidth
- Non-volatile Storage of All System Parameters
- RS-232 Serial Communications Interface
- Dedicated Limit inputs (Trapezoidal Mode)
- Exclusive Autobalance Feature Speeds Setup
- 7-Segment Display Shows Status in Real-Time
- Optional Single-Axis Motion Controller
- Factory Programmable Options
**OUTPUT CONNECTIONS**
- Motor Phases A, B (Single Phase) - A, B, C (3-phase)
- Hall Power +5V, Common
- Motor Current (I RMS Out)
- Fault (Open Collector, +5V pull-up)
- RS232 - Transmit

**INPUT CONNECTIONS**
- Command A, ±10V, Single-Ended or Differential
- Command B, ±10V, Single-Ended or Differential
- Limits ±
- Enable
- Reset
- Hall Sensors A, B, C
- Motor Temperature Switch
- RS232 - Receive

**COMMUTATION**
- External 2-Phase Sinusoidal, ±10V using Command A&B
- Trapezoidal, ±10V using Command A
- Sinusoidal with option plug-in card.

**BANDWIDTH**
- 10kHz Maximum

**INDICATORS**
- 7-Segment LED for system status

**MECHANICAL**
- Dimensions
  - LA-830/835/840: 7.50” x 8.00” x 4.75”
  - LA-1535/1545/1555: 7.50” x 8.00” x 5.75”
- Weight
  - LA-830/835/840: 7.8 pounds
  - LA-1535/1545/1555: 9.8 pounds

**PROGRAMMABLE / JUMPER SETTINGS**
- RMS Overcurrent Trip Level
- RMS Overcurrent Trip Time
- Absolute Overcurrent Trip Level
- Motor Reverse (Trap Mode)
- Commutation Mode
- Input Filter 3dB Frequency
- Transconductance Ratio
- Command Signal Type
- Current Loop Bandwidth

**FAULT PROTECTION**
- Safe Operating Area
- Absolute Overcurrent
- RMS Overcurrent
- Bus Overvoltage
- Bus Undervoltage
- ±15V Bias Supply
- Amplifier Over Temperature
- Motor Over Temperature
- Hall Sensor Error
- Hall Sensor 5V Supply
- Internal 5V Supply
- Internal 2.5V Supply
- Autobalance
- DSP Error
- NVM Error

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

**POWER REQUIREMENTS**
- ±15vdc Bias Supply @300mA per side
- ± DC Motor Bus Supply

**OPTIONS**
- Breakout modules for I/O connections
- VMC2 Motion control card

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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.