

Series	Current Cont./Peak	± VDC Bus Voltage	Power Cont./Peak
LA-415*-SA	5/15A	±12 - ±85VDC	400/1800W
LA-525*-SA	10/25A	±12 - ±85VDC	500/1950W
LA-830*-SA	15/30A	±12 - ±150VDC	800/3000W



## Details

The LA Series Stand-Alone 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.

The AC line powered stand-alone package provides all the necessary power supplies, cooling fans and interfaces for most OEM applications.

## Features

- Linear Output Control for Quiet Operation
- Three Power Levels 400W, 500W, 800W Continuous
- 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
- Serial User Interface for Programming/monitoring
- USB or RS-232 Communication with Amplifier
- Configure Using Jumpers or Serial Interface
- Dedicated Limit inputs (Trapezoidal Mode)
- Compact Design Saves Panel Space
- Integrated Forced Air Cooling
- Integrated Power Supplies (only AC power required)
- Optional Single-Axis Motion Controller

**OUTPUT CONNECTIONS**

Motor Phases A, B, C (3-phase)  
Motor Phases A, B (Single Phase)  
Hall Power +5V, Common  
Motor Current (I RMS Out)  
Fault (Open Collector, +5V pull-up)  
RS232 - Transmit  
USB Transmit

**INPUT CONNECTIONS**

Command A,  $\pm 10V$ , Single-Ended or Differential  
Command B,  $\pm 0V$ , Single-Ended or Differential  
Limits  $\pm$   
Enable  
Reset  
Hall Sensors A, B, C  
Motor Temperature Switch  
RS232 - Receive  
USB Receive  
AC Line Voltage, Single Phase (115 or 230 VAC)

**COMMUTATION**

External 2-Phase Sinusoidal,  $\pm 10V$  using Command A&B  
Trapezoidal,  $\pm 10V$  using Command A  
Sinusoidal with option plug-in card.

**BANDWIDTH**

10kHz Maximum

**MOTOR BUS VOLTAGE**

$\pm 56VDC$  Nominal, other voltages available upon request.

**INDICATORS**

7-Segment LED for system status

**MECHANICAL**

Dimensions LA-415\*-SA: 12.18" x 6.28" x 7.87"  
LA-525\*-SA: 12.18" x 6.28" x 7.87"  
LA-830\*-SA: 17.70" x 8.75" x 7.93"

Weight LA-415\*-SA: 22 pounds  
LA-525\*-SA: 22 pounds  
LA-830\*-SA: 26 pounds

Mounting 10-32 x 0.5 Inch screws (4)

**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  
 $\pm 15V$  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**

115VAC / 10A or 230VAC / 5A

**OPTIONS**

Breakout modules for I/O connections  
Optically Isolated I/O available  
VMC2 Plug-in motion board

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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.