



AVX-50BL10

Brush/Brushless Power Amplifier with Velocity Loop for Brushless Motors

Applications

- Mixers
- Pumps
- Robotics
- Air Movers
- Centrifuges
- Turn Tables
- Compressors
- Machine Tools
- Conveyor Belts
- Simple Actuators
- Material Handling
- Small Electric Vehicles

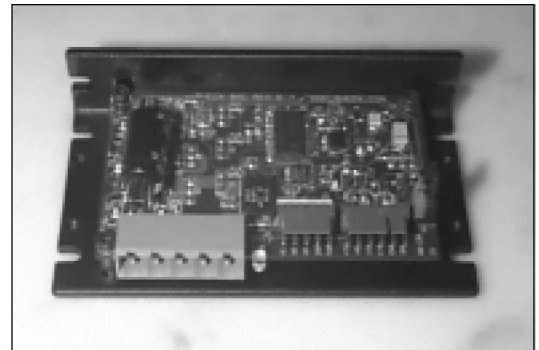
Features

- Direction Select
- LED Status Indicator
- Dual Mount Heat Sink
- 15 KHz PWM Frequency
- 60°/120° HALL Phase
- Speed Control with Single Potentiometer
- Voltage Mode or Constant Speed Operation
- Small Size - 3.75" x 2.325"



Small Size, 500 Watts, Versatile, Cost Effective

The AVX-50BL10 is a small voltage mode amplifier for brush or brushless motors. It is designed to operate at voltages up to 50 volts and can deliver up to 10 amps continuous current. When used with brushless motors, the AVX-50BL10 may be configured to use the HALL commutation sensors as a rotational velocity feedback device; a control voltage applied to the amplifier may be used to set a fixed motor speed which is independent of supply voltage or load variations. A jumper may be used to select 60° or 120° HALL sensor phase angle. The amplifier is protected against over current (cycle-by-cycle limited), over temperature, HALL sensor error and under voltage and includes an LED status indicator.



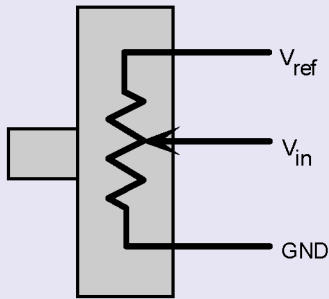
Universal mount allows horizontal or verticle mounting

Specifications

Operating Voltage Range	12 Volts Minimum to 50 Volts Maximum
Maximum Continuous Current	10 Amps
Maximum Heatsink Temperature	80°C
Maximum Power	500 Watts
Control Voltage Input Range	0 Volts Minimum to 6.25 Volts Maximum
HALL Sensor Connector	5 Pin MOLEX
Control Input Connector	6 Pin MOLEX
Power In/Motor Connector	5 Pin Phoenix Screw Terminal
Operating/Error Indicator	Red LED
Heat-Sink Size	3.75" x 2.323" x 0.875" Horizontal or Verticle Mounting 0.125" Black Anodized Aluminum
Amplifier Cover	Optional
Control Mode	Two Quadrant, Voltage Mode 15 KHz PWM Frequency
Constant Velocity Control Range	10 KRPM 4 Pole/5 KRPM 8 Pole Usable down to 200 RPM



Closed Loop Speed Control is Achieved by Adding a Single Potentiometer



Customize the AVX-50BL10 for Special Applications

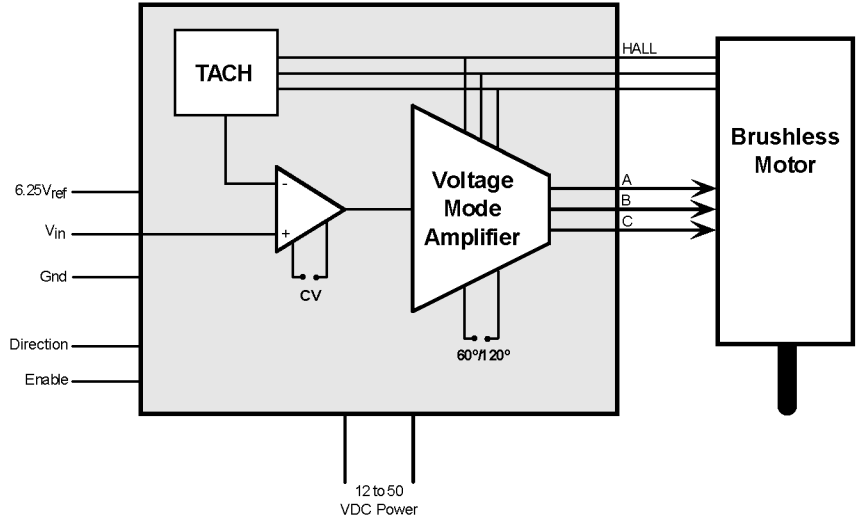
- Higher Current and Voltage Capability
- Preset Fixed Speed
- "Soft-Start"
- High Temperature Operation (to 200°C)
- High Density Encoder for Velocity Control

Please Contact AVEOX for solutions to your specific motion control requirements.

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AVX-50BL10

Easy to Set-up, Simple to Use



A typical constant speed application using a brushless DC servomotor is shown above. The AVX-50BL10 includes a tachometer which generates a voltage proportional to the frequency of the HALL sensor transitions. An error signal is derived from the difference between this speed voltage and the command voltage at V_{in} . The CV jumper may be removed to use the AVX-50BL10 as a simple voltage amplifier.

AVEOX can provide fully custom amplifiers and controllers using our extensive library of field proven designs. Our expertise lies in solving difficult problems while achieving cost-effective solutions. We have done work in the following areas:

- Medical Devices (Fully Autoclavable amplifiers and controllers)
- Remotely Piloted Vehicles
- Geophysical Exploration (Down-Hole Temperature Extremes)
- Electric Bicycles and Scooters
- Camera Positioning Systems