"Made in U.S.A."

Model *SB100* Brushless Servo Motor *Controller/Amplifier*

Introduction

The *SB100* is a low cost, stand-alone, integrated servo controller / driver controlling position, velocity and torque of DC brush type or DC brushless motors or actuators.

The *SB100* implements a mnemonic type command instruction set via a standard RS-232 serial communications interface. These commands can be executed directly or used to create command macros which are stored in the on-board NVRAM.

The *SB100* interfaces to the real world via a 3-phase PWM switching amplifier, a quadrature type encoder interface and 4 channels each of optoisolated digital inputs and outputs.

features

- **Description** .... Stand-Alone, 1 Axis, Brushless Servo Motor Controller/Amplifier
- **Operating Modes** .... Position, Velocity and Torque
- **Filter Algorithm** .... PID
- **Maximum Servo Loop Rate** .... 5 KHz
- **Trajectory Generator** .... Trapezoidal
- **Servo Position Feedback** .... +5V Quadrature Type Incremental Encoder with Index
- **Max. Encoder Count Rate** ...... 2 Million Quadrature Counts per Second
- **Encoder and Index Inputs** ...... Single-Ended or Differential
- **Output** .... 3-Phase Power PWM, 8 Amps cont. / 16 Amps Peak at 48 VDC
- **PWM Frequency** .... Approximately 19.531 kHz
- **Position Range** .... $\pm$ 2,147,483, 648 Quadrature Counts
- **Velocity Range** .... 0 to 1,073,741,824 Resolution of 1 part in 65,536
- **Acceleration Range** .... 0 to 1,073,741,824 Resolution of 1 part in 65,536
- **General Purpose Digital I/0** .... 4 Optoisolated Inputs, 4 Optoisolated Outputs
- **Expansion I/0** .... Optional Expansion to 60 I/0s
- **Dedicated Digital Inputs** .... Limit +, Limit -, Home and Fault, all Optoisolated
- **Communication Interface** .... RS-232 Serial Interface, Adjustable Baud Rate, 8 data Bits, 1 Stop Bit, No Parity, XON / XOFF Handshake
- **Supply Voltage** .... +18 to +50 VDC
- **Motor Voltage** .... +12 to +48 VDC
- **Analog Inputs** .... 4 Channels with 10-bit Resolution, 3 are User Accessible, 0 to 5V
- **Weight** .... Approximately 25 oz.
- **Dimensions** .... 4.9" L. x 2.7" W. x 4.3" H. (not including mounting tabs)
- Weight .... Approx. 20 oz.
- Enclosure .... Rugged Powder Coated Aluminum Extrusion