Picard Industries
Specializing in Miniature Smart Motors and Sensors

Serv Designs™

USB Motor Controller

System Features

- Small Low cost stepper motor (USB) control system
  ($245.00 single piece price)
- Draws power from a standard USB port

- Small Motor size of 25mm diameter (1.0″)

- Force of about 1.0 Kg Loads (~2.2 pounds)

- Linear range motion of about 12mm (~0.5″)

- Position resolution of 6.4 microns (0.00025″)

- Power efficient, holds position with no power

- Built-in magnetic (Hall effect) home sensor

- PC Windows interface for easy motion control
  Includes LabView Drivers and DLL files
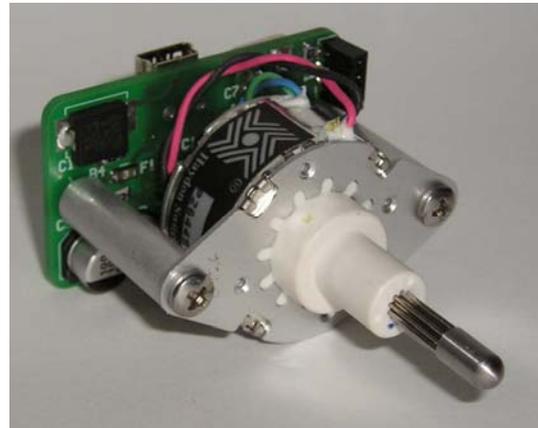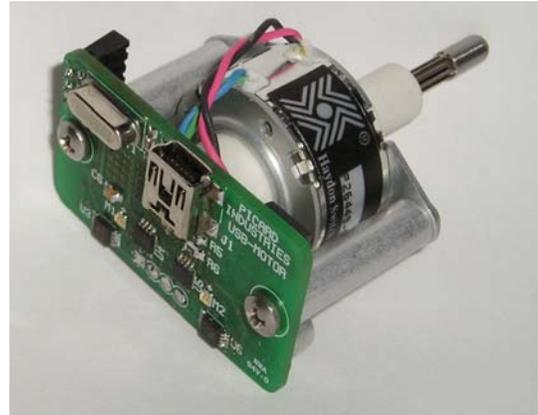
The USB-Motor is a relatively low cost system for precision linear motion. Powered and controlled solely by a standard USB port, this system provides the method of linear motion control unmatched in size, simplicity, and ease of use.

The USB-Motor application software runs on any standard PC with Windows-XP with a USB port. This user interface provides for velocity (step speed), and position (step) control. All position movements are relative to the home (fully retracted) position. A built-in magnetic (Hall) sensor is used to establish this home position. The software provides a homing function to properly use this sensor.

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USB Motor User Interface

Below is a screen shot of the control software that is provided with the USB-Motor device. This software comes on a CD and will auto install upon insertion into any standard PC with a Windows-XP/VISTA operating system. After the software has been successfully loaded, simply insert the motor's serial number and attach the USB-Motor to a standard USB port. The software will auto-detect the connection and allow you to begin controlling the position of the motor.
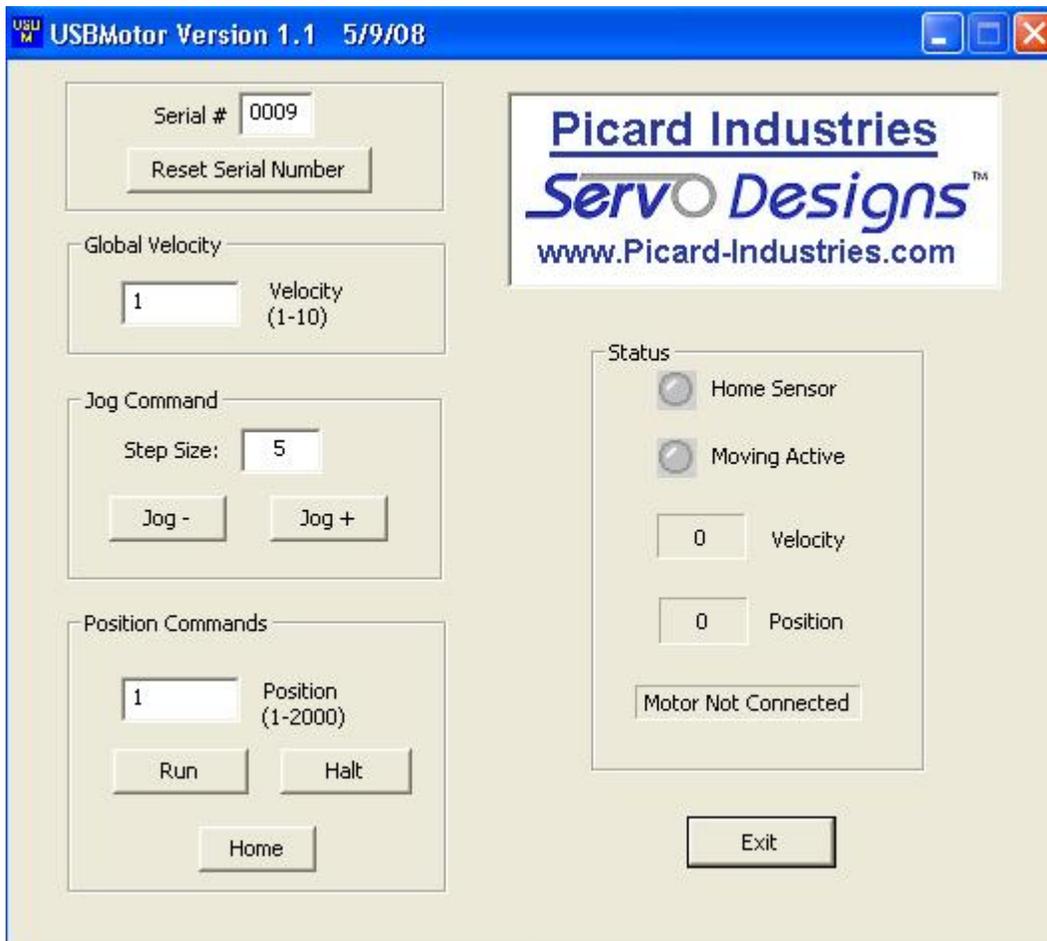
USB Motor PCB

25mm Linear Stepper Motor

USB Cable Connection

Controller Status LED
Green = USB connected
Red = Busy (moving)
Flashing Red = Error
 (Can not find Home)

2-Phase Bi-Polar Driver
with Intergraded USB
Micro-controller

Coil-A (M1) Status LED
Green = Pos Current
Red = Neg current
None = Off

Coil-B (M2) Status LED
Green = Pos Current
Red = Neg current
None = Off