

Micro Maestro 6-channel USB Servo Controller

ROB-09664



© images are CC BY-NC-SA 3.0

Description: The Micro Maestro is the first of Pololu's second-generation USB servo controllers. The board supports three control methods — USB for direct connection to a PC, TTL serial for use with embedded systems, and internal scripting for self-contained, host controller-free applications — and channels that can be configured as servo outputs for use with radio control (RC) servos or electronic speed controls (ESCs), digital outputs, or analog inputs. The Micro Maestro is a highly versatile six-channel servo controller and general I/O board in a highly compact (0.85 x 1.20") package.

The extremely accurate, high-resolution servo pulses have a jitter of less than 200 ns, making this servo controller well suited for high-precision animatronics, and built-in speed and acceleration control make it easy to achieve smooth, seamless movements without requiring the control source to constantly compute and stream intermediate position updates to the Micro Maestro.

This kit includes the headers as shown in the first picture, the headers do not come populated.

Features:

- Three control methods: USB, TTL (5V) serial, and internal scripting
- 0.25 μ s output pulse width resolution (corresponds to approximately 0.025° for a typical servo, which is beyond what the servo could resolve)
- Pulse rate configurable from 33 to 100 Hz
- Wide pulse range of 64 to 3280 μ s when using all six servos with a pulse rate of 50 Hz
- Individual speed and acceleration control for each channel
- Channels can also be used as general-purpose digital outputs or analog inputs

- A simple scripting language lets you program the controller to perform complex actions even after its USB and serial connections are removed
- Free configuration and control application for Windows makes it easy to:
 - Configure and test your controller
 - Create, run, and save sequences of servo movements for animatronics and walking robots
 - Write, step through, and run scripts stored in the servo controller
- Virtual COM port makes it easy to create custom applications to send serial commands via USB to the controller
- TTL serial features:
 - Supports 300 – 250000 kbps in fixed-baud mode
 - Supports 300 – 115200 kbps in autodetect-baud mode
 - Simultaneously supports the Pololu protocol, which gives access to advanced functionality, and the simpler Scott Edwards MiniSSC II protocol (there is no need to configure the device for a particular protocol mode)
 - Can be daisy-chained with other Pololu servo and motor controllers using a single serial transmit line
- Board can be powered off of USB or a 5 – 16 V battery, and it makes the regulated 5V available to the user
- Compact size of 0.85" × 1.20" (2.16 × 3.05 cm) and light weight of 0.17 oz (4.8 g)
- Upgradable firmware