MM120 PCB Rev 1.1 Release Notes

Release Notes for PCB Version 1.1
Motor Control Software Version 1.00

Overview

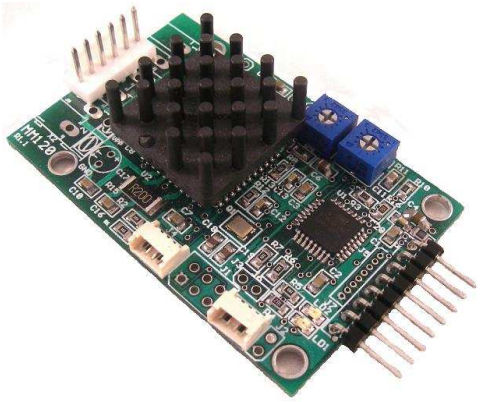
Thank you for purchasing the MM120 2.5A Bipolar Microstepping Driver PCB Revision 1.1. The MM120 is a sophisticated bipolar stepper motor controller with onboard processor with up to a 35VDC motor drive voltage. The MM120 is capable of full, half, quarter and 1/8 microstepping. A potentiometer sets nominal operating current and reference voltage.

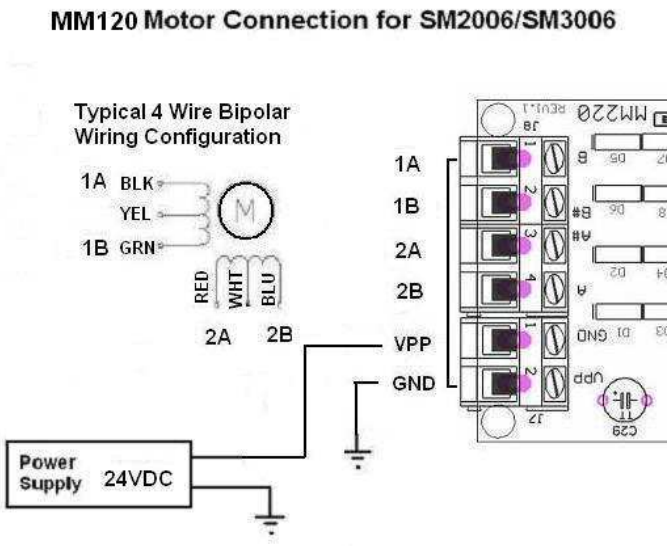
CAUTION: BEFORE POWERING THE MM120 YOU SHOULD INSTALL A FUSE BETWEEN THE POSITIVE MOTOR POWER TERMINAL AND THE MM120. DEPENDING ON HOW YOU ADJUST THE CURRENT POTENTIOMETER IT IS POSSIBLE TO DELIVER MORE CURRENT TO THE STEPPERS THAN THEY ARE DESIGNED TO HANDLE.

ALSO NEVER APPLY STEPPER MOTOR POWER BEFORE APPLYING LOGIC POWER.

Wiring the Motor

The stepper motor is connected to the MM120 in a bipolar configuration. Stepper motors have four, six or eight wires. Eight wire motors can be wired in a parallel or serial phase configuration. Parallel configurations develop more torque and require a higher drive current. The picture below shows the wiring configuration for SOC Robotics SM2006 and SM3006 motors.



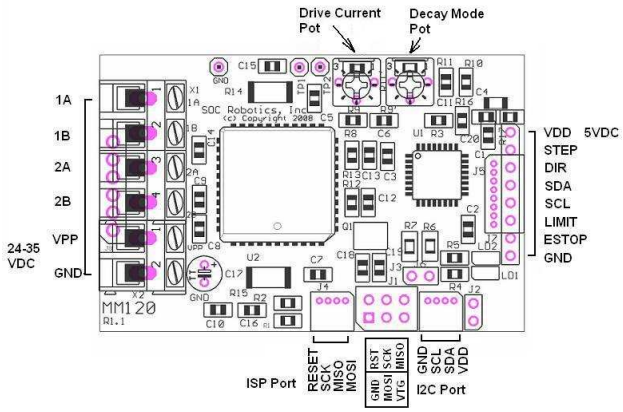


Hardware Setup

The MM120 is preconfigured at the factory to quarter step. The driver must be reprogrammed to run full, half or 1/8th step. Consult the factory for programming instructions. Note that the MM120 not shipped with a short four wire programming cable and must be ordered from the factory.

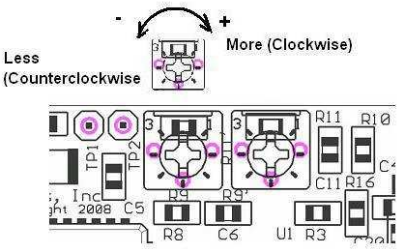
The picture below shows the connector pin assignments for the MM120.

MM120 Connector Pin Assignment



The MM120 drive current is set by a 10K ohm potentiometer. The potentiometer is factory set to deliver 1.25Amps. Turning the potentiometer clockwise increases current while turning the pot counterclockwise decreases current. The decay potentiometer is not installed and is preset to mixed decay mode which is the best for most applications.

MM120 Current Potentiometer



If you intend to operate the board at high motor amperage (>2A) heat sinks and/or forced air cooling may be necessary.

Limited Warranty

The MM120 is warranted against defects in materials and workmanship for a period of 90 days from the date of purchase from SOC Robotics or from an authorized dealer. The MM120 is sensitive to static discharge – please make sure you are grounded when handling the board.

Questions or Concerns

If you have any questions or concerns you can email us at support@soc-robotics.com or call (604) 628-7227.