MC-50 Precision Motor Speed Control Card

IMPORTANT NOTE:

A 10K speed potentiometer can attached to controller connector for speed control. This instruction sheet his for reference only.

Motor calibration and speed input scaling instruction sheet.

A. Motor Calibration

1. Set speed input to zero volts by placing a shorting jumper between J1-2 and J1-4.
2. Connect +DC power to J1-6 and GND to J1-5. This voltage should be about 25% higher than the required motor voltage.
3. Adjust R3 (motor balance potentiometer) until the start of mechanical motor oscillations, than turn back R3 off of oscillation ¼ turn.
4. If a voltmeter is available measure the voltage across +motor and -motor leads, this voltage should measure approx. +/-35 mV volts at zero speed input voltage, if this level seems to jump or change by about 100 mV, than R3 is set to close to oscillation and should be repeated.
5. If +DC power is significantly changed these steps should be repeated.

B. Motor Speed Input Scaling

1. Apply a desired maximum input voltage to J1-2 (speed control input).
2. Apply typical load to motor.
3. Adjust R9 (gain potentiometer) till motor rated voltage has been reached.

   For Example:

   Using a 12 volt DC motor with typical load:

   If a 0 to 10 volt speed input control voltage range is required, apply 10 volts to J1-2, apply a voltmeter across the motor leads, adjust R9 for a voltmeter reading of 12 volts.