

# In-System Minarik Motor Controller, RG510UA-PCM Calibration

## Materials Required:

- 1 – DVM
- 1 - Small Screwdriver

## Setup and Calibration:

1. Turn the breaker to the motor control off.
2. On the lower circuit board, set the DB Pot (P508) for 60Hz, which is at the 3 o'clock position or to 9 o'clock for 50 Hz. The pot will have only one end of the long slot that turns past the 12 o'clock position. Point this end at the 3 or 9 o'clock position.
3. Set FWD TQ set for 10 o'clock, REV TQ set for 2 o'clock, and IR COMP set for 10 o'clock.
4. Disconnect the wires which run to the motor from terminals A1 and A2. Record positions so that the same wire will be replaced on the correct terminal during re-assembly.
5. On the upper circuit board, remove the Red wire from the OUT1 (pin 1) terminal and the Black wire from the OUT2 (pin 2) terminal.
6. Be sure that all 3 SW501 switches on upper circuit boards are set to the off position.
7. Turn on the Motor Controller breaker.
8. Be sure that you cryo or turbo is in a safe condition and close the TrovatoEvap application. Launch the SimpleMtrTest application. Be sure that there is no error on Labjack 1.
9. Press the Enable button to enable the motor and be sure the Speed dial is set to 0.0v.
10. Using a DVM, measure the voltage at OUT1 (plus leads) and OUT2 (minus leads). Adjust the MIN OUT pot (P503) until the DVM reads 0.0 VDC.
11. Set the Speed dial on the SimpleMtrTest application to 5v.
12. Use the DVM to measure the voltage at TP (pin 10, plus leads) and COM (pin 7, minus leads). Adjust the SIGNAL INPUT ADJ potentiometer (P501) so that the voltage on the DVM is 5.0VDC
13. Using a DVM, measure the voltage at OUT1 (plus leads) and OUT2 (minus leads). Adjust the MAX OUT potentiometer (P502) so that the voltage output being read on the DVM is 10VDC.
14. Confirm the above values by repeating steps 9 to 13 until you are satisfied the the results are repeatable.
15. On the SimpleMtrTest application turn the Speed dial to 0v and press the Enable button to disable the motor.
16. Turn off the Motor Controller breaker.
17. Reconnect the wires from the motor to terminals A1 and A2 as recorded earlier. Connect the Red wire to OUT1 and Black wire to OUT2.
18. Double check wiring, then turn on the breaker and launch the TrovatoEvap application and test motor function.