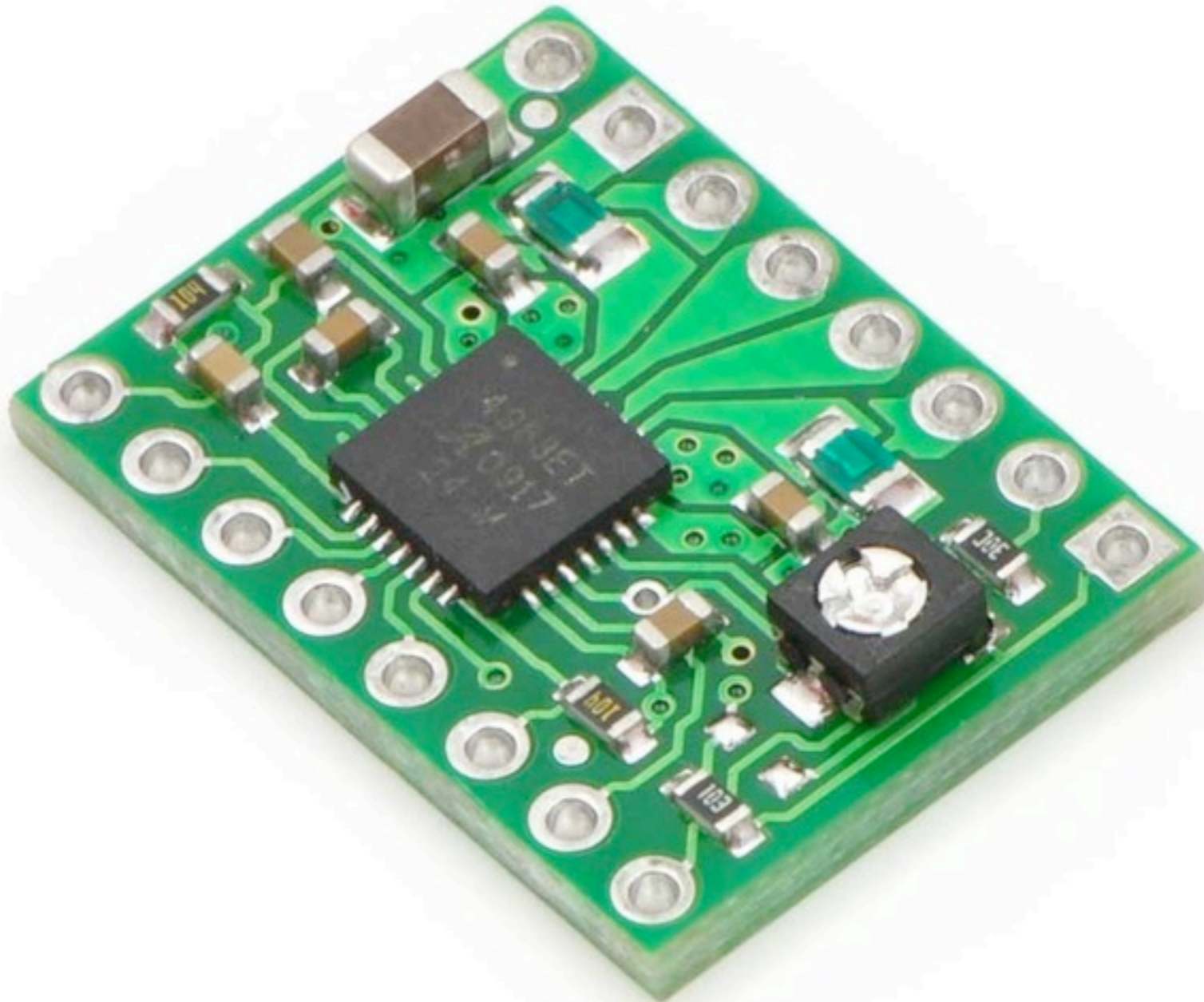


POLULU A4983

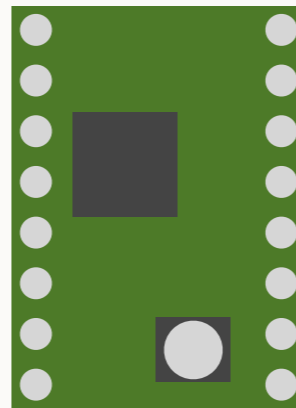
A getting started guide. - DECR



DEFINITION OF TERMS

When held low the motor is allowed to move. - ENABLE
Micro-Step 1-3. These connections should be set as is described on the polulu product page. They allow you to step your motor in smaller increments than single steps.
This pin is for resetting the internal state machine of driver. - RESET
When low the driver's outputs are switched off. - SLEEP
When this transitions from low to high the motor is stepped. - STEP
Defines which direction the motor is spun. - DIR

(Top View)



VMOT - The positive terminal from motor's power supply.
GND - The ground terminal from motor's power supply.
2B - The motor's 2nd coil's B terminal.
2A - The motor's 2nd coil's A terminal.
1A - The motor's 1st coil's A terminal.
1B - The motor's 1st coil's B terminal.
VDD - The positive terminal from the logic power supply.
GND - The ground terminal from the logic power supply.

Gotchas:

1. Look at the motor coil descriptions. 1A and 1B could be listed as A and A(with a bar on top) as is seen on the datasheet here: [Motor No.: 4118M-02-07RO](#) -- Don't let the A/B terminology fool you. In this case A=1A and A(bar)=1B.
2. MS1 is special. It needs a pull-up resistor.

BASIC SETUP

We are going to display a wiring diagram so that you can do an initial test of your board to make sure everything is OK. It should help you get comfortable understanding how it all works.

Supplies:

Arduino (Hardware and Software)

ATX Power Supply (or some sort of power supply)

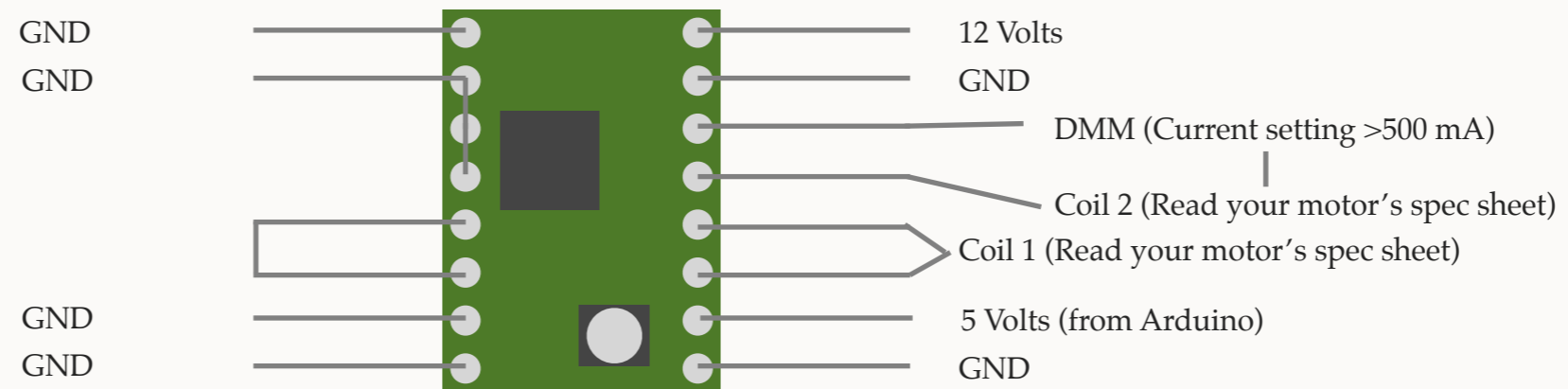
Breadboard

1 100 kOhm resistor

1 47 microFarad Capacitor.

1 10 microfarad Capacitor.

CALIBRATE

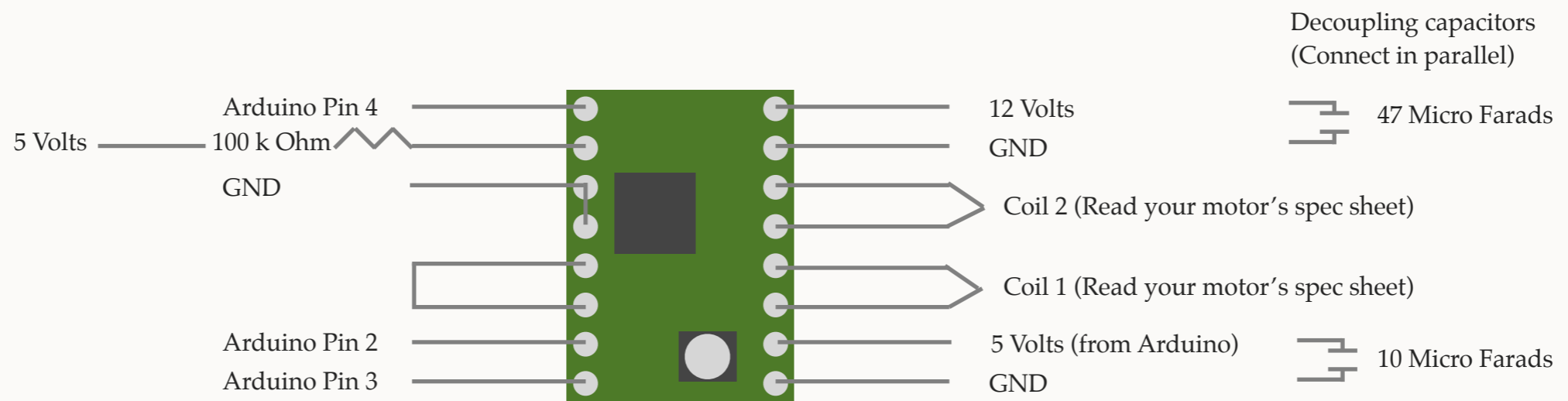


What is the first thing you always do with any system. Calibrate it!

After hooking the board up like this you should plug everything in and there should be a current registering on the DMM (Digital Multi Meter) probably around ~ 0.500 A. You will see this even though the motor will not move. That is because there is a current required to hold the motor in place. If you don't see a current then something is wrong. Check everything. Once you see a current adjust the potentiometer (the only thing that will accept a phillips screw driver) slowly until you see the value that is $0.7 * \text{the rating of your stepper motor coils}$. (or less)

12 Volts is arbitrary but easy to get access to with a ATX power supply.

TESTING STEPPING



Now that we have calibrated the stepper driver for your stepper motor. we need to ensure that we can step it. After wiring everything up run the program that is attached separately with this presentation.

You should be able to run the program and see the stepper motor stepping.

You are now sure your board works. Good luck with your project.