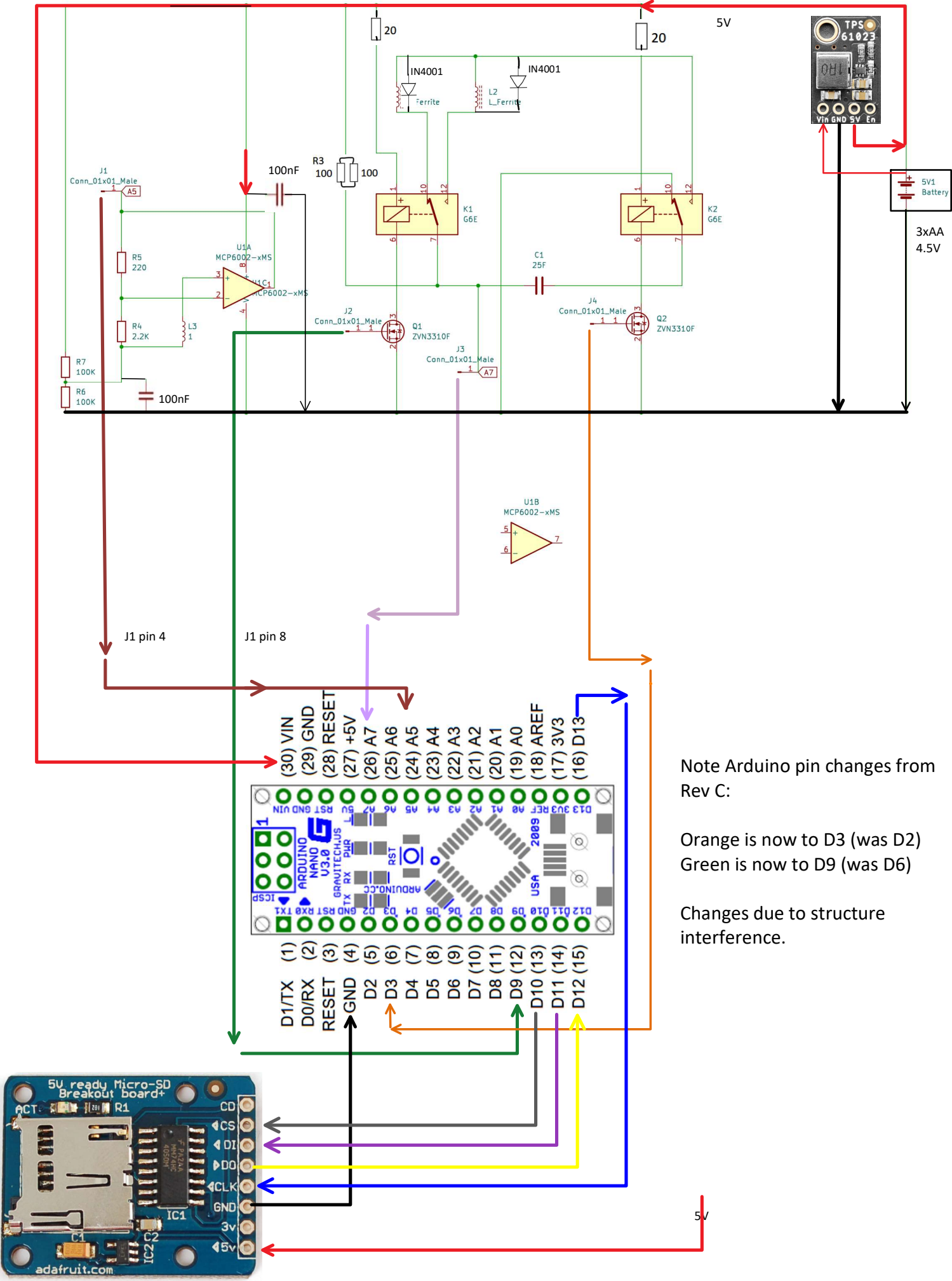
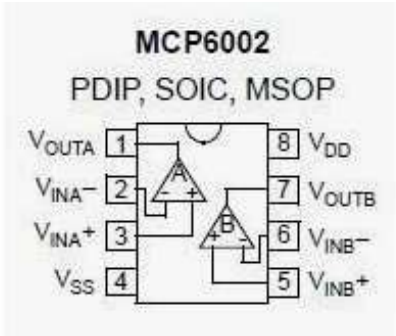


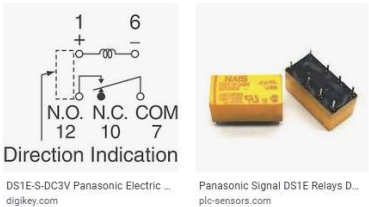
Ferrofluid Dan C Circuit - Rev D



Thursday, October 6, 2022 10:05 AM





You can find the new SW at <https://github.com/dcervenkov/ferrofluid> It should be easier to understand and modify, and the messages that it prints to the serial interface should be clearer. It operates the two relays, charging for 10s, measuring the cap voltage (while discharging for 10 ms). When it reaches the target voltage (3V) it discharges for 1s taking 30 measurements of the sensing coil voltage with the delay and intervals from Mike. There is a provision to skip the charging (for testing). Every 10s pin 9 is read and if it is HIGH, the charging is aborted and measuring starts. To NOT use it, just connect it to ground. To use it connect it to a switch (I left some in the lab). Use a 10k Ω pull-down resistor. It doesn't write anything to SD. I'll add that...



+420 736 422 505 ~Dan  

Hi all, I had a meeting with an electronics engineer. It seems the design isn't too bad, but he did give me a few tips. Some are related to PCB design, but four of them are actionable now and it would be great if you could test them.

- 1) Add a 100nF decoupling capacitor to the VSS of the OpAmp (see OpAmp pic that follows; this should help power the chip during power consumption spikes)
- 2) Short out OpAmp pins 6 to 7 (when the pins are floating, they could amplify noise and cause undue drain (and interference)
- 3) Short out OpAmp pin 5 to GND (same as above)
- 4) Add a 100nF capacitor to the voltage divider to ensure the offset stays constant (see voltage divider pic)

1:34 PM

