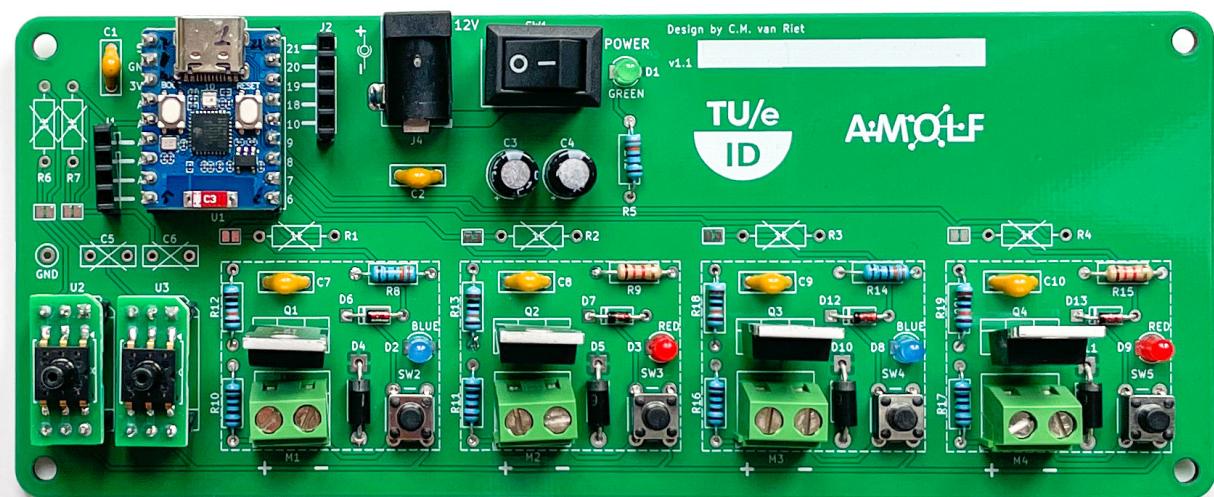


AIR CONTROL SYSTEM

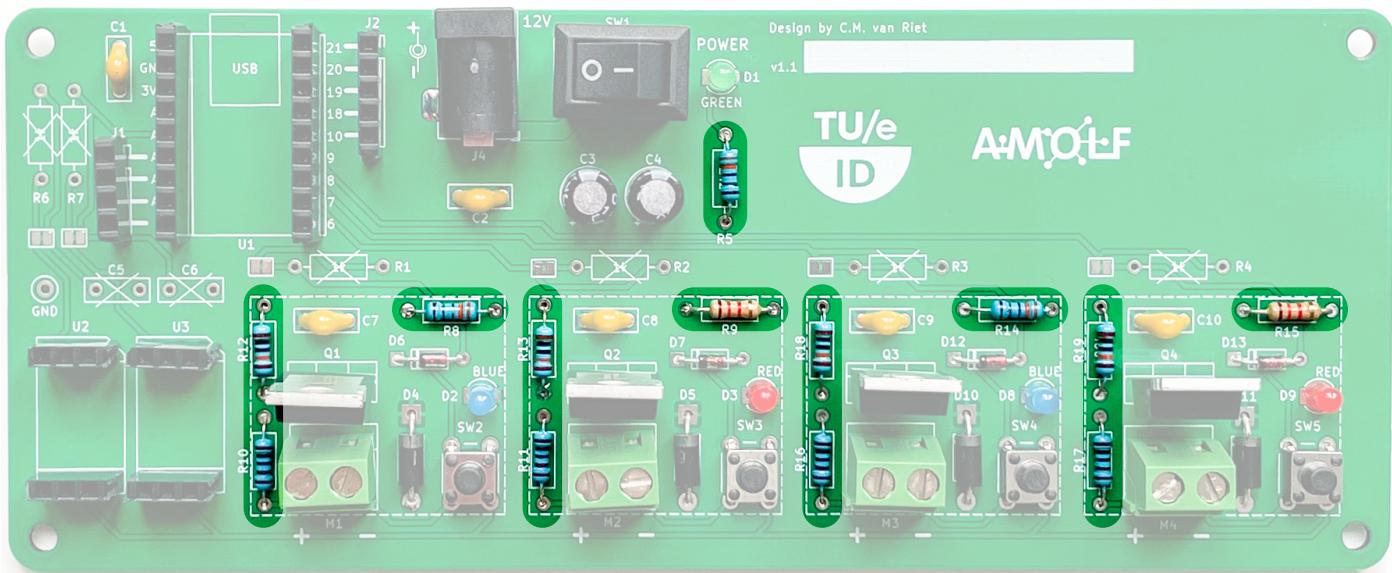
SOLDERING MANUAL



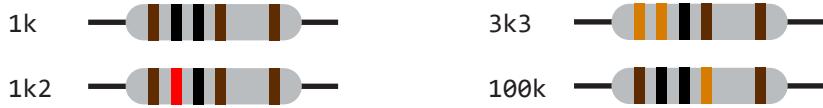
COMPONENTS

1. Resistors: 1k, 1k2, 3k3, 100k
2. Diodes: 1N4001, 1N4148
3. Unpolarised capacitors (ceramic): 100nF
4. Push buttons
5. LEDs 3mm
6. Headers
7. Polarised capacitors (electrolytic): 100uF
8. DC jack
9. Power switch
10. Terminals
11. Mosfets: IRLB8743

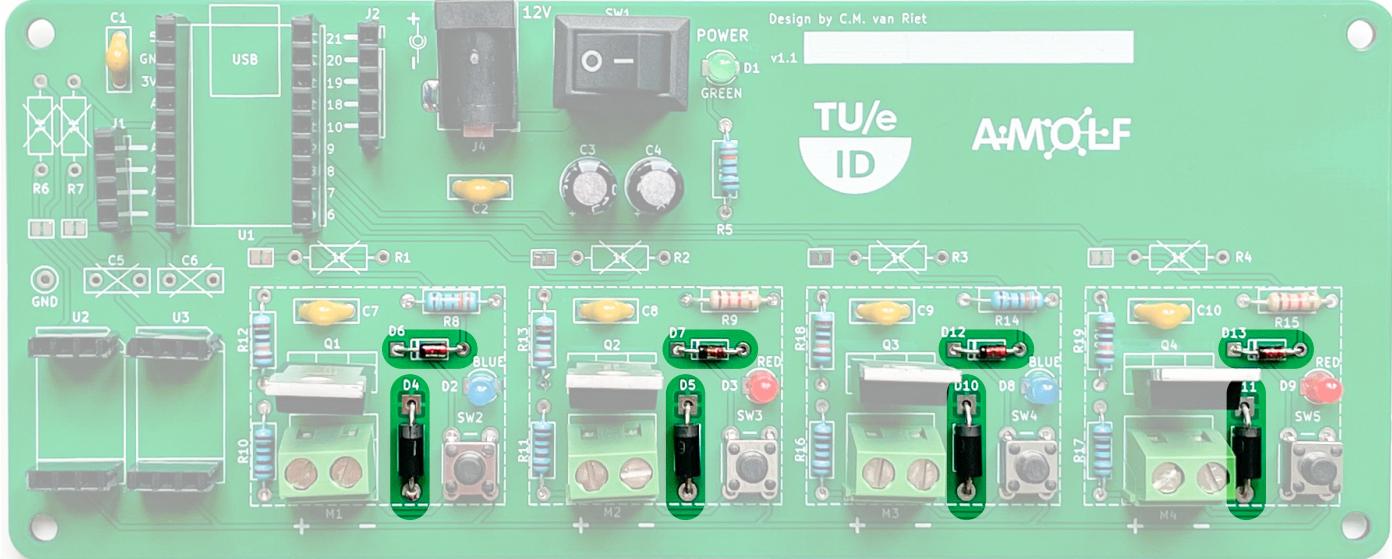
STEP 1: RESISTORS



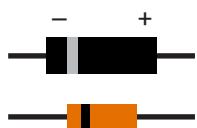
First solder the resistors. They have no polarity, so the orientation doesn't matter. The resistor values are indicated on the PCB. These are the colour codes on the resistors themselves (for 5-band resistors):



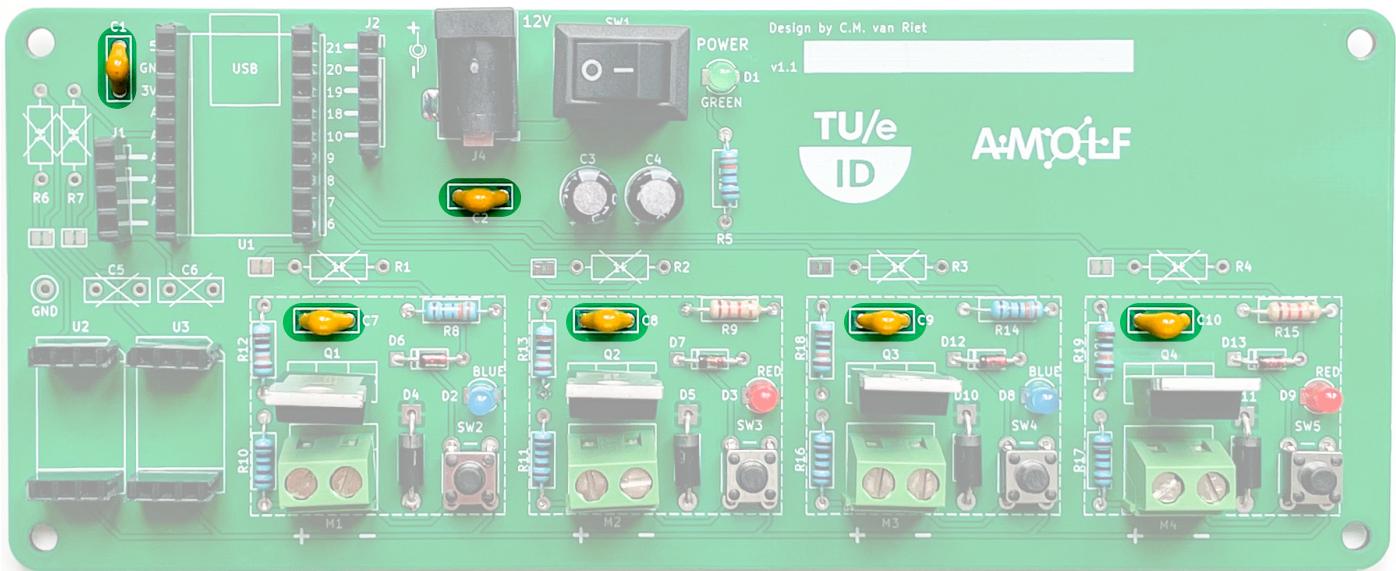
STEP 2: DIODES



Solder the diodes. Align the stripe on the diode with the stripe on the PCB. The stripe indicates the cathode (negative side) of the diode.

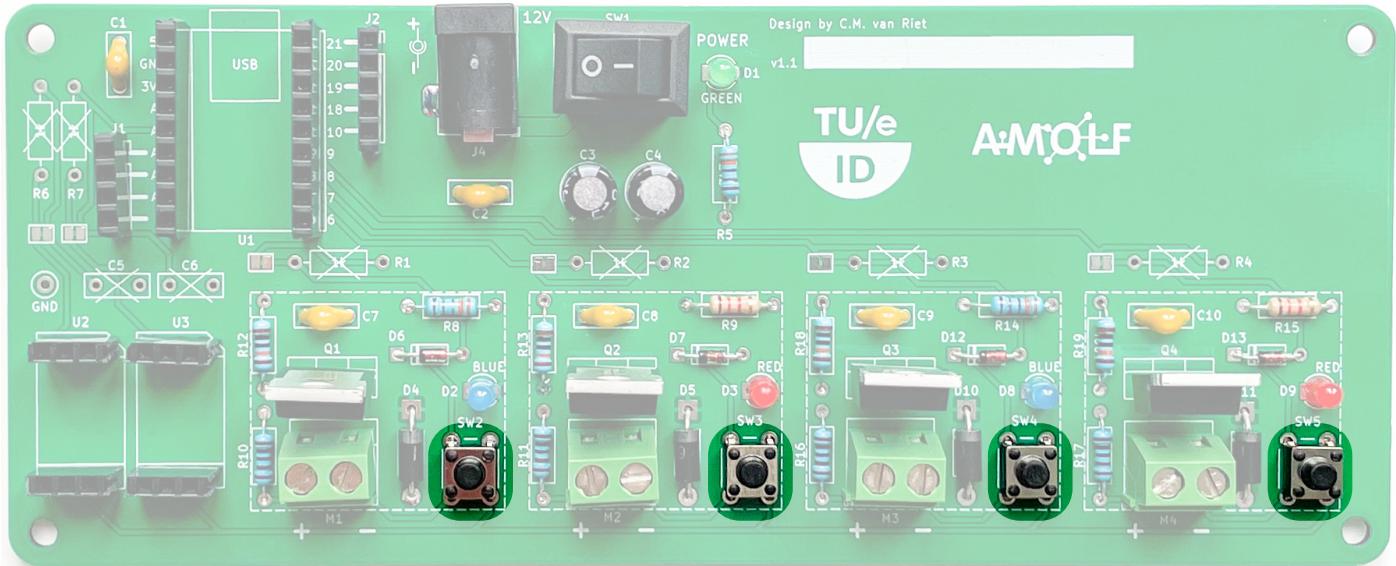


STEP 3: UNPOLARISED CAPACITORS



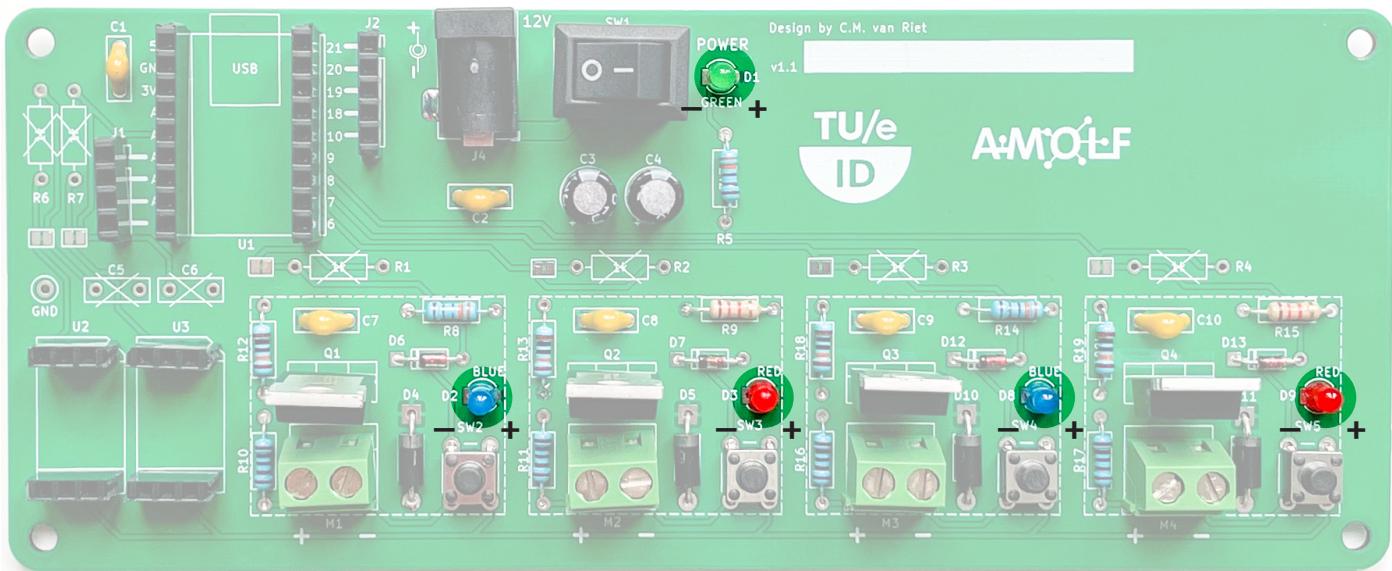
Solder the unpolarised capacitors. They have no polarity, so the orientation doesn't matter.

STEP 4: PUSH BUTTONS



Solder the push buttons.

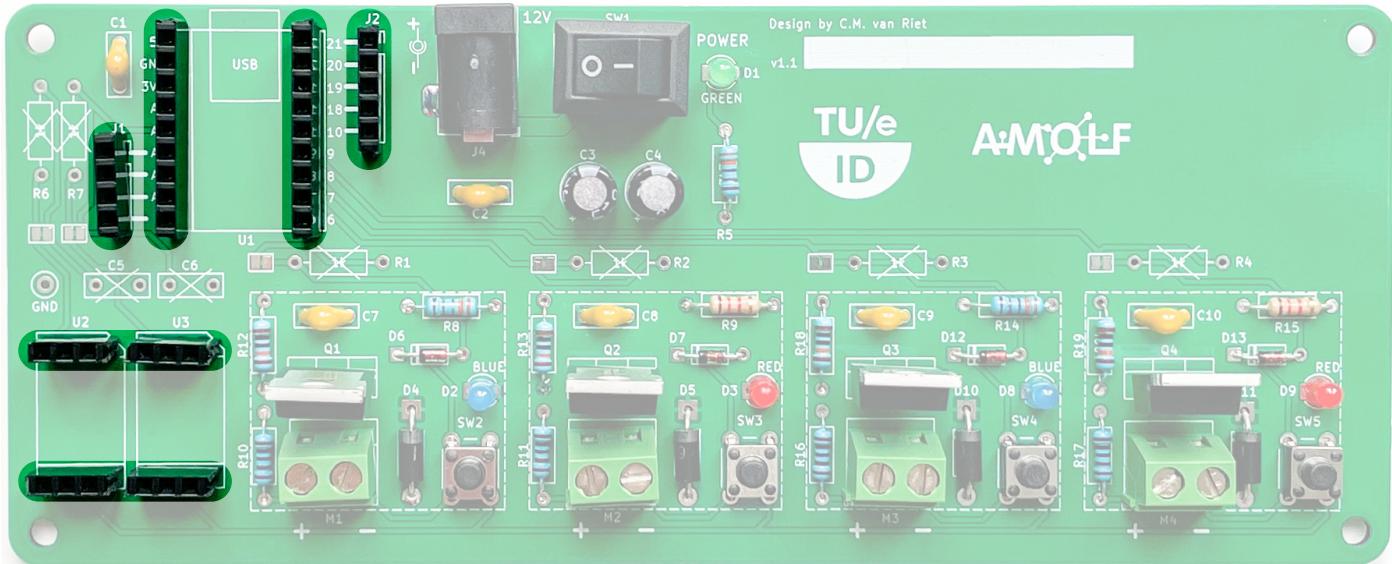
STEP 5: LEDS



Solder the LEDs. The long leg of the LED is the positive terminal; the short leg the negative terminal. You can also see the polarity from the top of the LED. The flat side is the negative side.

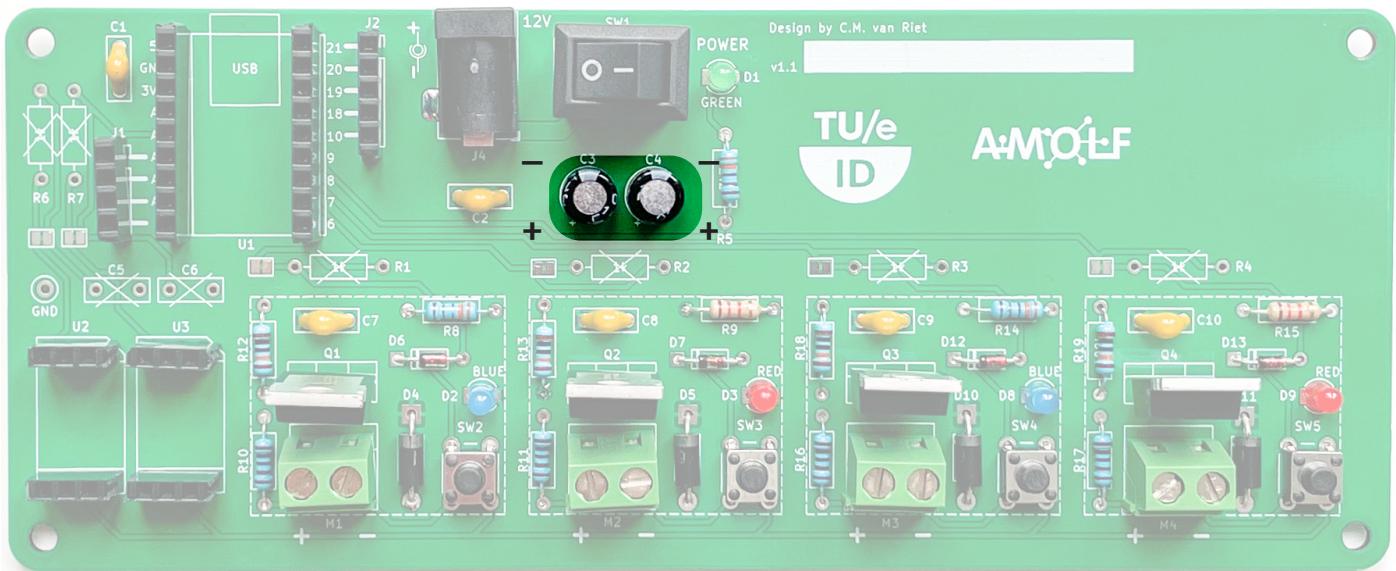


STEP 6: HEADERS



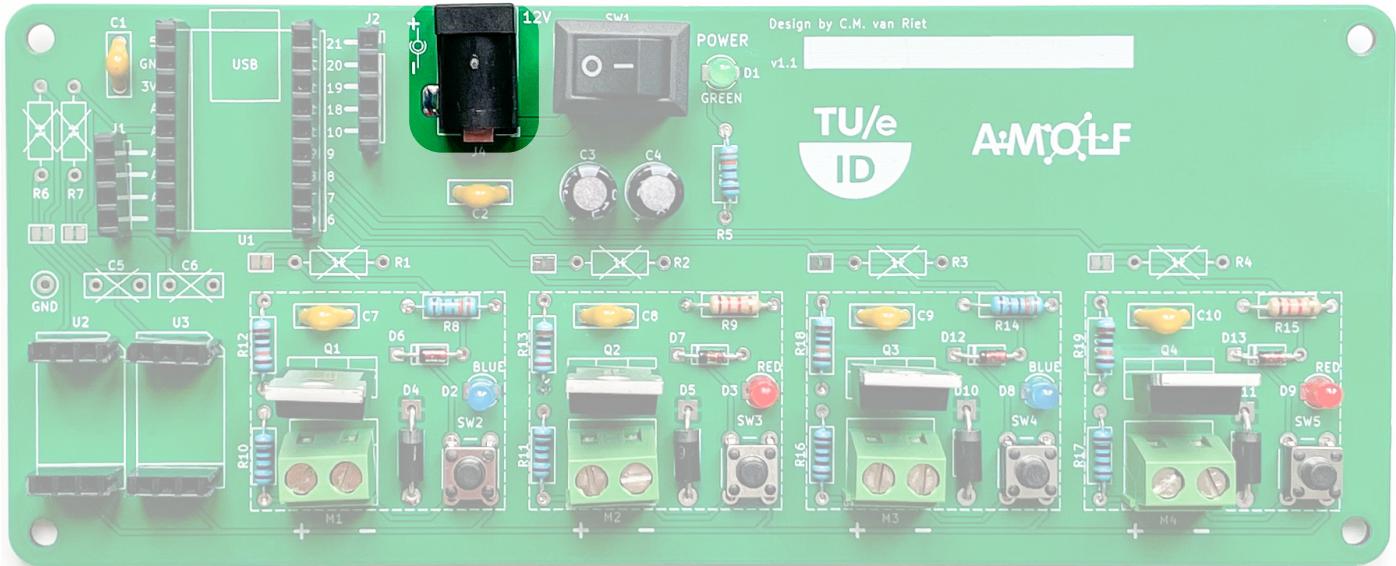
Solder de headers.

STEP 7: POLARISED CAPACITOR



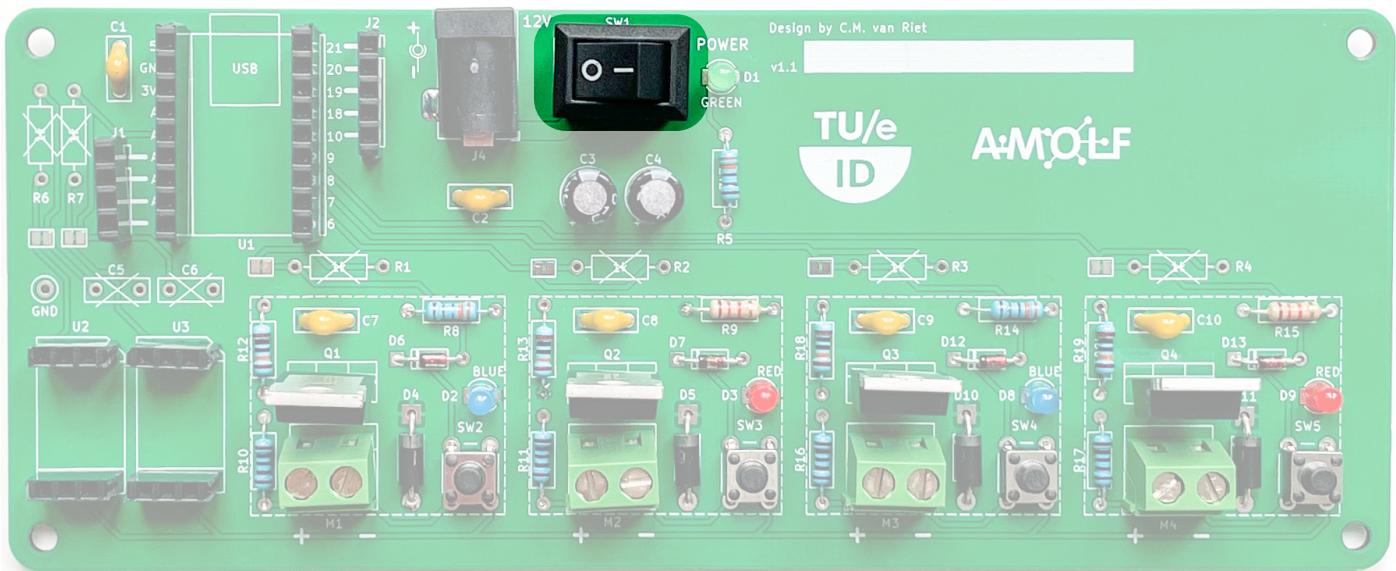
Solder the polarised capacitor. The short leg is the negative terminal; the long leg is the positive terminal. The white stripe also indicates the negative terminal. Align the positive side with the + sign on the PCB.

STEP 8: DC JACK



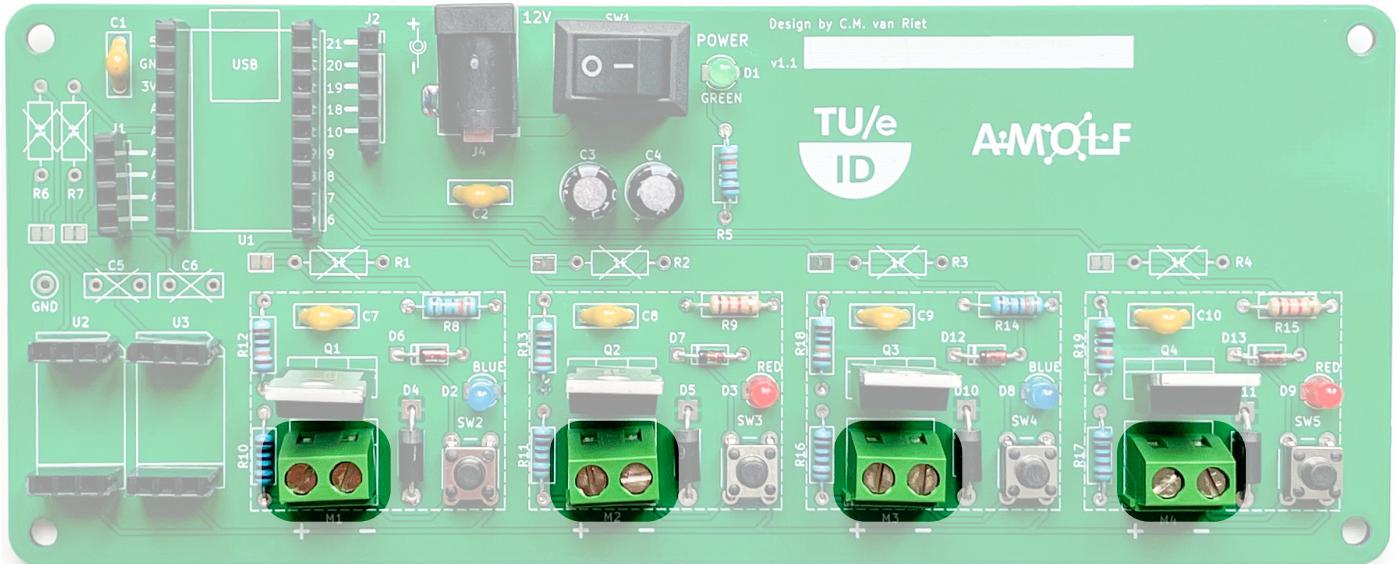
Solder the DC jack. The leads are quite big, so use enough solder and take some time.

STEP 9: POWER SWITCH



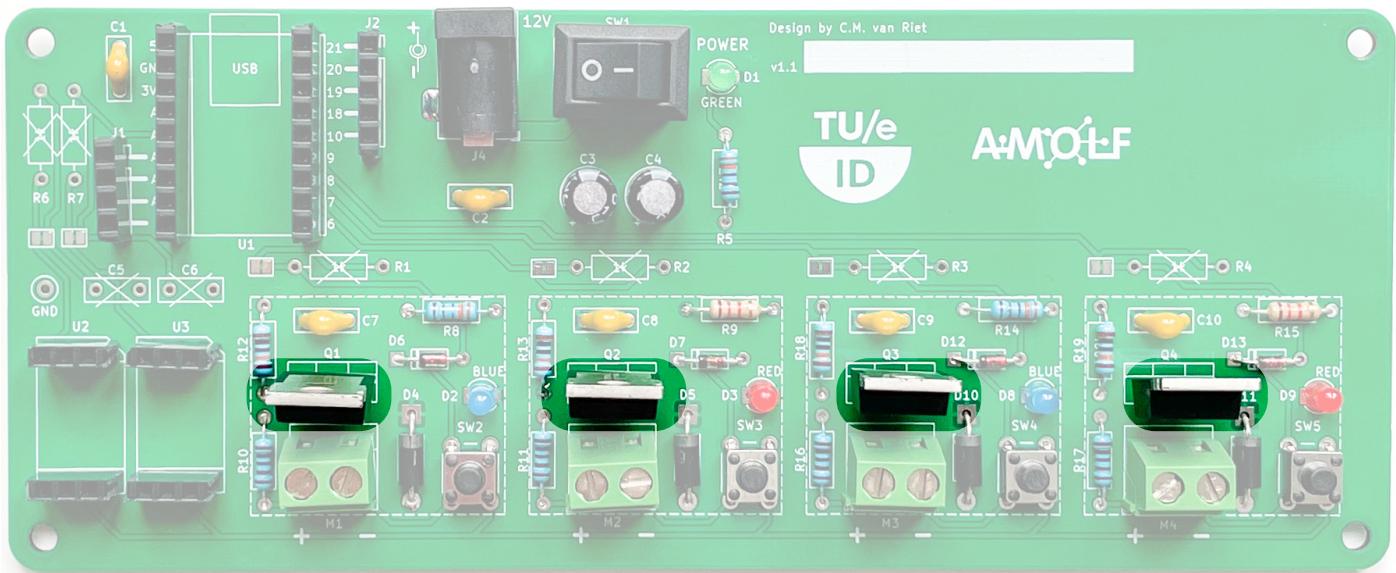
Solder the power switch. The leads are quite big, so use enough solder and take some time.

STEP 10: TERMINALS



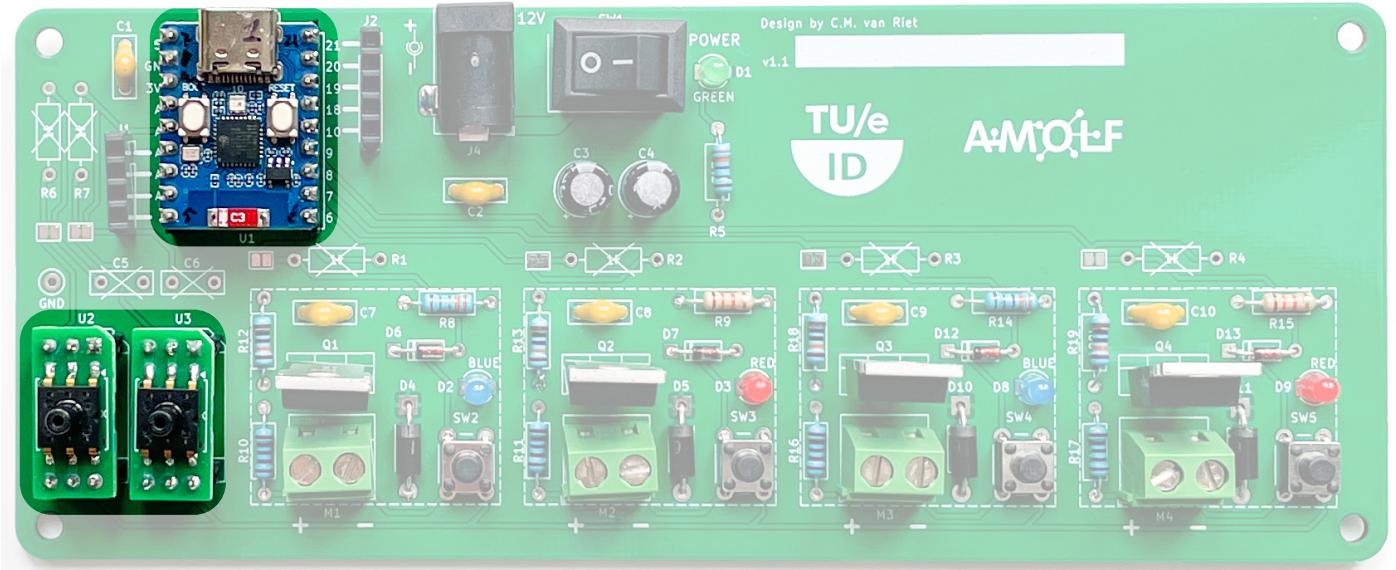
Solder the terminals. The entry holes for the electric wires should face the front (the + and - signs).

STEP 11: MOSFET



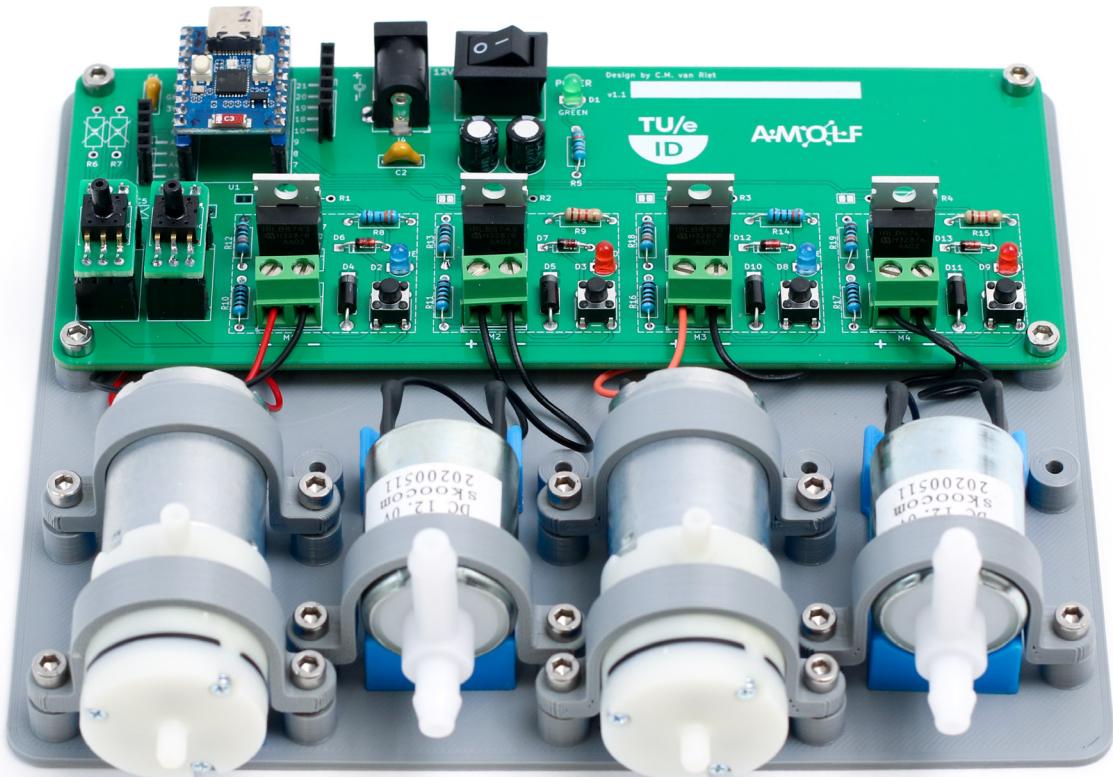
Solder the mosfets. Follow the orientation in the example picture closely.

STEP 12: INSPECTION



Well done! Collect the ESP32 and two pressure sensors.

STEP 13: CASE



Collect the pumps, valves, PCB case, clamps, cushions, and screws.

Assemble the case as seen above.