Using the ENGR201.0 Board

The ratio between R1 and R2 determines the gain of the op-amp. R2 is fixed, therefore adjusting the potentiometer R1 changes the gain of the op-amp.

R2 is a fixed resistor, which (along with R1) determines the gain for the op-amp.

The TS912 contains inputs and outputs for two op-amps. These three pins are for the op-amp unused by this board. For reference, J11 is the non-inverting input, J10 is the inverting input, and J9 is the output.

Solder the TS912 chip here. The small circle on the top of the chip indicates pin 1, which should be soldered into the square hole on the board. Do not solder it backwards.

R5 is a potentiometer that is used to calibrate the non-inverting reference voltage for the op-amp.

GND and V+ from the DataLogger will connect to the G and V+ terminals from port J1.

R3 and R4 form the sensor circuit. One will be a resistive sensor, and the other will be a fixed resistor of approximately the same resistance.

The output from the op-amp connects to the positive terminal (the square hole) at J2. This will be the input to the DataLogger.

For the circuit schematic, see figure 30 in section 5 of the ENGR 201 lab manual.

To maximize the versatility of your board, solder female headers to R3 and R4. This allows you to easily use any resistive sensor.