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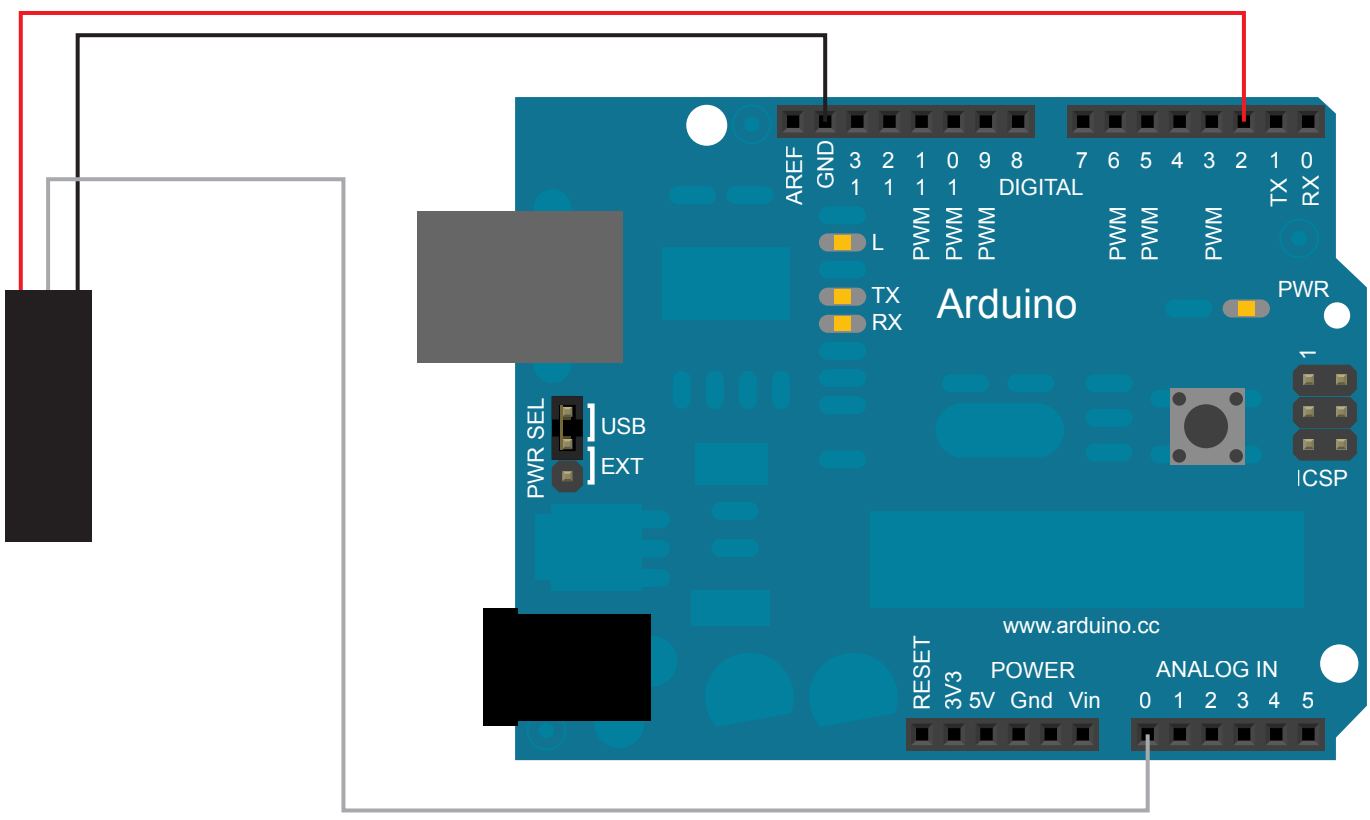
# ENV-TMP Arduino Sample Code

**This software was made to demonstrate how to quickly get your ENV-TMP Temperature Probe running. An Arduino Duemilanove board was used to test this code. Modify the code to fit your system. Code efficacy was not considered, this is a demo only.**

**Data from the ENV-TMP Temperature Probe is received and sent through the Arduinos hardware UART TX line. Open TOOLS > serial monitor, set the serial monitor to the correct serial port and set the baud rate to 38400 The data from ENV-TMP Temperature Probe will come out on the serial monitor.**

**//Connect the BLACK lead to GND**
**//Connect the RED lead to pin 2**
**//Connect the WHITE lead to pin A0**




```
float temp;                     //where the final temperature data is stored

void setup() {
  Serial.begin(38400);          //set up the hardware serial port to run at 38400
  pinMode(2, OUTPUT);           //set pin 2 as an output
}

void loop() {                   //main loop

   temp = read_temp();          //call the function "read_temp" and return the temperature in C°
   Serial.println(temp);        //print the temperature data
   delay(1000);                 //wait 1000ms before we do it again
}


float read_temp(void){                  //the read temperature function
   float v_out;                         //voltage output from temp sensor
   float temp;                          //the final temperature is stored here
                                        //(this is only for code clarity)
   digitalWrite(A0, LOW);               //set pull-up on analog pin

   digitalWrite(2, HIGH);               //set pin 2 high, this will turn on temp sensor
   delay(2);                            //wait 1 ms for temp to stabilize
   v_out = analogRead(0);               //read the input pin
   digitalWrite(2, LOW);                //set pin 2 low, this will turn off temp sensor

   v_out*=.0048;                        //convert ADC points to volts (we are using .0048 because
                                        //this device is running at 5 volts)
   v_out*=1000;                         //convert volts to millivolts
   temp= 0.0512 * v_out -20.5128;       //the equation from millivolts to temperature

return   temp;                          //send back the temp
}
```

**Click here to download the *.ino file**