

```

1 // Sensor pins pin D6 LED output, pin A0 analog Input
2
3 #include <DHT.h>;
4 #include <LiquidCrystal_I2C.h>
5
6 LiquidCrystal_I2C lcd(0x27,16,2); // set the LCD address to 0x3F for a 16 chars and
7 2 line display
8
9 #define DHTPIN 2 //what pin we're connected to
10 #define DHTTYPE DHT21 //DHT 21 (AM2301)
11 DHT dht(DHTPIN, DHTTYPE); //Initialize DHT sensor for normal 16mhz Arduino
12
13 #define sensorPin A0
14
15 #define WS_POWER_PIN 5
16 #define WS_SIGNAL_PIN A1
17
18 const int RELAY_PIN = 3; // the Arduino pin, which connects to the IN pin of relay
19
20 int hum; //Stores humidity value
21 float temp; //Stores temperature value
22 int gasval;
23
24 void setup() {
25     pinMode(WS_POWER_PIN, OUTPUT); // configure D7 pin as an OUTPUT
26     digitalWrite(WS_POWER_PIN, LOW); // turn the sensor OFF
27     pinMode(RELAY_PIN, OUTPUT);
28
29     lcd.init();
30     lcd.clear();
31     lcd.backlight(); // Make sure backlight is on
32     Serial.begin(9600);
33     dht.begin();
34
35     delay(5000);
36 }
37
38 void loop() {
39     delay(1000);
40
41     hum = dht.readHumidity();
42     temp= dht.readTemperature();
43
44     lcd.setCursor(0,0); //Set cursor to character 2 on line 0
45     lcd.print(" ");
46     lcd.setCursor(0,0); //Set cursor to character 2 on line 0
47     lcd.print("H: ");
48     lcd.print(hum);
49     lcd.print(" T: ");
50     lcd.print(temp);
51     lcd.print(" C");
52
53     lcd.setCursor(0,1); //Set cursor to character 2 on line 0
54     lcd.print(" ");
55     lcd.setCursor(0,1); //Set cursor to character 2 on line 0
56     gasval=readSensor();
57     lcd.print("Gas:");
58     lcd.print(gasval);
59     Serial.println(gasval);
60     delay(500);
61
62     digitalWrite(WS_POWER_PIN, HIGH); // turn the sensor ON
63     delay(10); // wait 10 milliseconds
64     int value = analogRead(WS_SIGNAL_PIN); // read the analog value from sensor
65     digitalWrite(WS_POWER_PIN, LOW); // turn the sensor OFF
66
67     lcd.setCursor(9,1); //Set cursor to character 2 on line 1
68     lcd.print("WL: ");
69     lcd.print(value);
70     Serial.print("wl: ");
71     Serial.println(value);
72

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```
73     if (gasval>65 && value>390)
74     {
75         digitalWrite(RELAY_PIN, HIGH);
76         delay(1500);
77         digitalWrite(RELAY_PIN, LOW);
78         delay(3500);
79     }
80 }
81
82 // This function returns the analog data to calling function
83
84 int readSensor() {
85
86     unsigned int sensorValue = analogRead(sensorPin); // Read the analog value from
87     sensor
88
89     unsigned int outputValue = map(sensorValue, 0, 1023, 0, 255); // map the 10-bit
90     data to 8-bit data
91
92     if (outputValue > 65)
93         Serial.println("Alarm!!!");
94
95     else
96         Serial.println("Normal!!!");
97
98     return outputValue; // Return analog moisture value
99
100 }
101
102
```