Abstract: -

Proper heating and air conditioning systems are essential in an industrial environment, as maintaining optimal conditions on a manufacturing line can make a serious difference to its profitability and efficiency. It's easy to underestimate just how much of an impact temperature can have on the entire manufacturing process, but without proper temperature control, entire production lines can fall apart. Our project aims to develop a temperature controller device which will be run using an Arduino Uno circuit. We have constructed a circuit using Arduino Uno and DHT22 temperature sensor and other components. We USE LCD to display current temperature and set points. Unlike other sensors , this uses the property of diodes; as a diode changes temperature the voltage changes with it at a known rate and the sensor measures this small change.

Introducttion

In this project, we are using Arduino Uno and DHT22 temperature sensor to create an Arduino powered temperature control circuit.

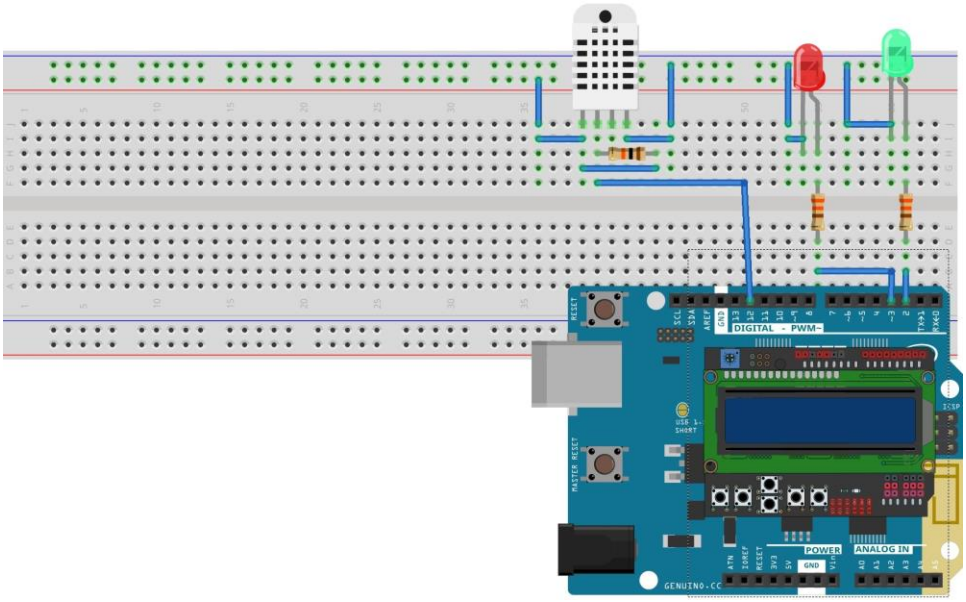
Components required

- Arduino uno
- DHT22 Temperature sensor
- Jump wires
- Led(RED & GREEN)
- 10k ohm resistor
- Register 330 ohm
- BreadBoard

ABOUT DHT22 Temperature sensor

The DHT22 is a basic, low-cost digital temperature and humidity sensor. It uses a capacitive humidity **sensor** and a thermistor to measure the surrounding air, and spits out a digital signal on the data pin (no analog input pins needed).

Schematic



- The components are set according to the schematic diagram.
- The system starts and shows the temperature, if the temperature reaches 25 degrees, then the green led is activated and electrical device turn on until the temperature drops to 23 degrees, the device turns off (red led) until the temperature rises again.

Conclusion

Using this circuit, we can control temperature of many devices like air cooler and other heating or cooling devices.