ALARM SYSTEM TO HIGH TEMPERATURE

ASSIGNMENT:2

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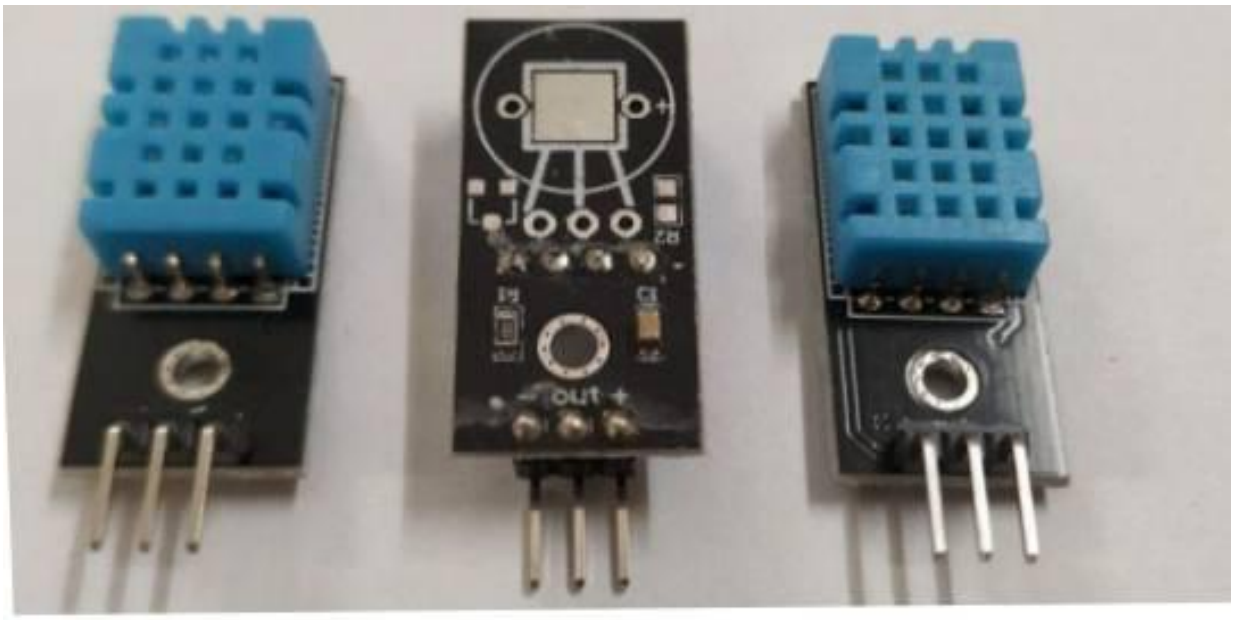
BUILD A PYTHON CODE ,ASSUME U GET TEMPERATURE AND HUMIDITY VALUE AND WRITE A CONDITION TO CONTINUOUSLY DETECT ALARM IN CASE OF HIGH TEMPERATURE:

This article ,we shall discuss interacting DHT11 with Respectlly Pi and see it working using python code .Also ,we shall display real-time data on the 16x2 LCD will be included with its article home page. So lets begin.

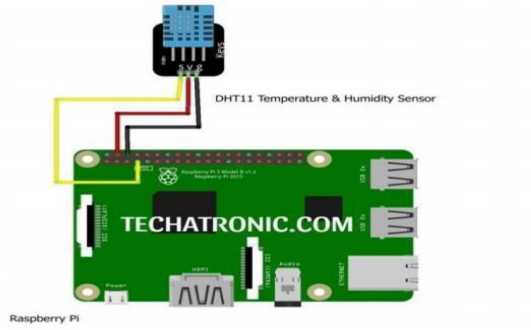


- You may visit its Arduino Tutorial to have a more clear Idea of Its working if you are working so , here we are giving you the tutorial on how to connect dht11 with Raspberry Pi.
- DHT11 is a simple sensor and has a very simple structure for measuring temperature and humidity.Basically,it is an enclosed structure that consists

of two wires which are responsible for checking humidity and temperature.

DHT11 with Raspberry Pi Diagram

DHT11 with Raspberry pi Circuit Diagram



Import Adafruit_DHT

DHT11=Adafruit_DHT.DHT11#Adaf ruit _DHT.DHT22 forDHT22 sensor.
While True:
Try:

Temp,humid=Adafruit _DHT.read_retry(DHT11,4)#4 is the GPIO number you can change this to you required need.

Print("TEMP={0:0.if}C HUMIDITY ={1:0.if}%" format (temp,humid))
Except keyboardInterrupt:
Break

- The first line as we have said we have imported the library for the

DHT11 Sensor to work i.e.,Adafruit_DHT. You can use this library with DHT22 also , but you need to change the DHT11 object line.

- Then we create a DHT object which store the DHT11 sensor configuration details and further in code we use this object name to refer to all working statements.
- Next we create an infinite while loop within Try and expect method to create a keyboard interrupt terminating condition ie.,Ctrl+C
- In next line we read data from the DHT11 Sensor and stores it in two variable values are begin received

,one for temperature and other for humidity.

CODING:

```
!/usr/bin/python
Import struct,array,time,io,fcnt1
I2C_SLAVE=OXO703
```

```
# find with  sudo i2cdetect -y 1
HDC1008_ADDR = 0x40


bus=1
fr = io.open("/dev/i2c-
"+str(bus), "rb", buffering=0)
fw = io.open("/dev/i2c-
"+str(bus), "wb", buffering=0)


# set device address
fcntl.ioctl(fr, I2C_SLAVE,
HDC1008_ADDR)
fcntl.ioctl(fw, I2C_SLAVE,
HDC1008_ADDR)
time.sleep(0.015) #15ms startup
time


s = [0x02,0x02,0x00]
```

```
s2 = bytearray( s )

fw.write( s2 ) #sending config
register bytes

time.sleep(0.015)
# From the data sheet


s = [0x00] # temp

s2 = bytearray( s )

fw.write( s2 )

time.sleep(0.0625)
# From the data sheet


data = fr.read(2) #read 2 byte
temperature data

buf = array.array('B', data)

print ( "Temp: %f" % (
((((buf[0]<<8) +
(buf[1]))/65536.0)*165.0 ) -
40.0  )   )
```

```
time.sleep(0.015)
# From the data sheet


s = [0x01] # hum

s2 = bytearray( s )

fw.write( s2 )

time.sleep(0.0625)
# From the data sheet


data = fr.read(2) #read 2 byte
temperature data

buf = array.array('B', data)

print ( "Humidity: %f" % (
((((buf[0]<<8) +
(buf[1]))/65536.0)*100.0 ) ) )
```