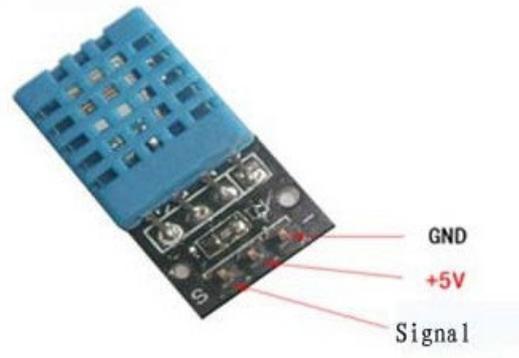


# Temperature and humidity sensor KY-015



- It Can detect ambient humidity and temperature
- Humidity measuring range:20% -90 %RH, Humidity measurement tolerance:+ /-5%
- Temperature measurement range:0 Degree-50 Degree temperature measurement tolerance:+/ -2 Degree
- Resolution: humidity(1%RH),temperature(1 degree)
- Stability: <math>\pm 1\%RH/year</math>
- Storage temperature:10-40 degree,humidity:below 60%RH
- Operating Voltage:3.3V-5V
- Output Type: Digital Output
- With fixed bolt hole for easy installation
- Small size, PCB Size:3.2cm\*1.4cm
- Power indicator ( red )
- Weight is about 8g

## Two Module Interface Description (3Wire )

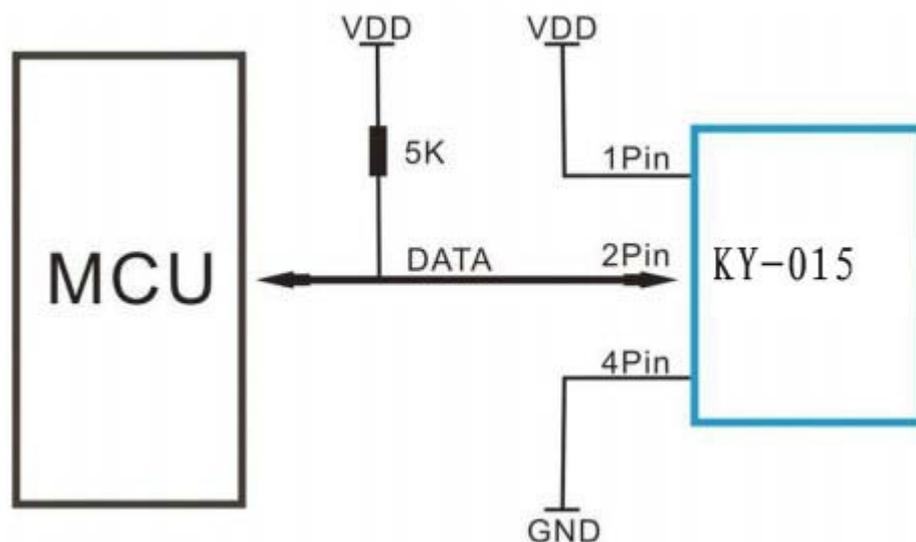
1: VCC External: 3.3V-5V

2: GND External :GND

3: DO Small plate switch digital output interface  
connected microcontroller IO port

### Connection

This is the typical connection with CPU.

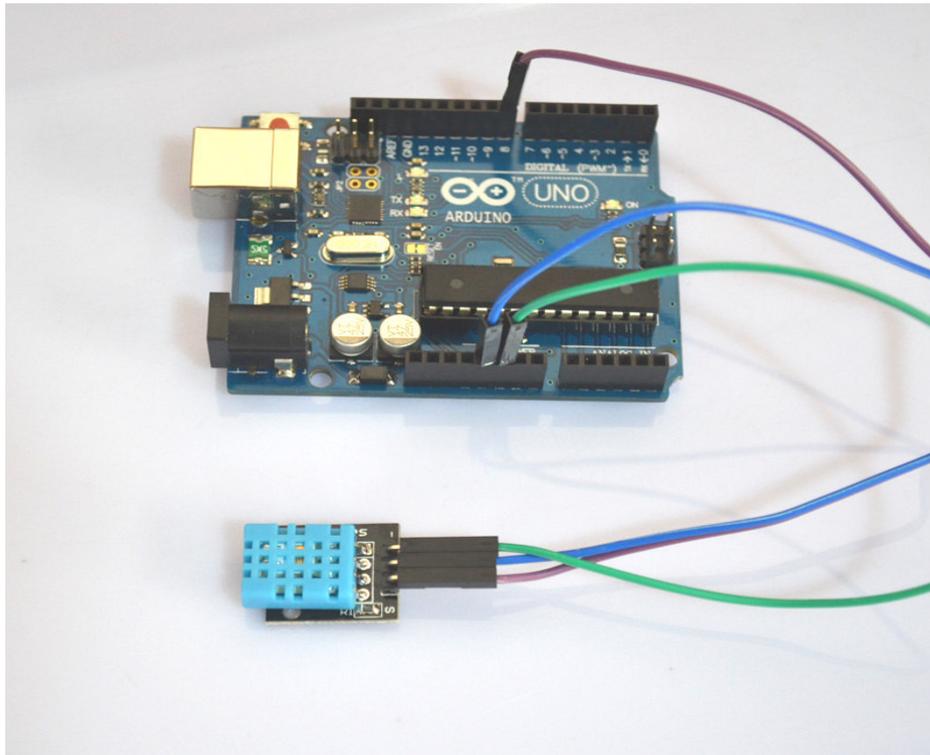


The following drawing is a specific connection with  
Arduino board for your reference:

1: '+' is connected to +5V,

2: '-' is connected to 'GND'

3: 'S' port is connected to digital port 8 port



**After connection, we can start to test now. In order to be convenient for all, we have written some codes for your reference:**

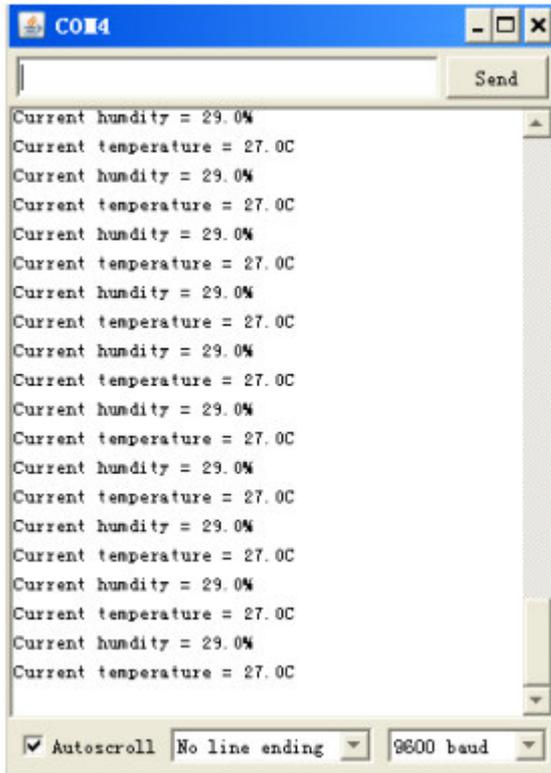
```
int DHpin = 8;
byte dat[5];
byte read_data()
{
  byte data;
  for(int i=0; i<8; i++)
  {
    if(digitalRead(DHpin) == LOW)
    {
      while(digitalRead(DHpin) == LOW);
      delayMicroseconds(30);
      if(digitalRead(DHpin) == HIGH)
      data |= (1<<(7-i));
      while(digitalRead(DHpin) == HIGH);
    }
  }
  return data;
}
void start_test()
```

```

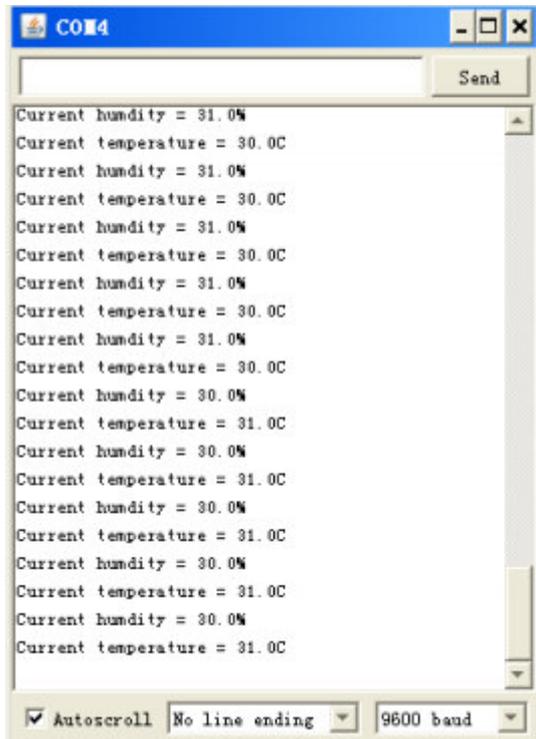
{
digitalWrite(DHpin,LOW);
delay(30); ;
digitalWrite(DHpin,HIGH);
delayMicroseconds(40); ;
pinMode(DHpin,INPUT);
while(digitalRead(DHpin) == HIGH);
delayMicroseconds(80); //
if(digitalRead(DHpin) == LOW);
delayMicroseconds(80);
for(int i=0;i<4;i++)
dat[i] = read_data();
pinMode(DHpin,OUTPUT);
digitalWrite(DHpin,HIGH);
}
void setup()
{
Serial.begin(9600);
pinMode(DHpin,OUTPUT);
}
void loop()
{
start_test();
Serial.print("Current humidity = ");
Serial.print(dat[0], DEC);
Serial.print('.');
Serial.print(dat[1],DEC);
Serial.println('%');
Serial.print("Current temperature = ");
Serial.print(dat[2], DEC);
Serial.print('.');
Serial.print(dat[3],DEC);
Serial.println('C');
delay(700);
}

```

Now we can see the result of temperature and humidity. And then we burn program in Arduino board and open Serial monitor, you will see the following: \*\*



Hold for a few minutes, we will see the change of the display.



WOO, temperature increases, next time we can test the temperature of our hands. Now breathe toward the module, you will see humidity increases.

