

VSB Engineering College, Karur-639111

Department of Electronics and Communication Engineering

IoT Assignment

Topic : Assignment on temperature and humidity sensing and alarm

DOMAIN NAME : Internet Of Things

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Coding:

```
const int TRIG_PIN = 7;  
const int ECHO_PIN = 8;  
const unsigned int MAX_DIST = 23200;
```

```
void setup() {
```

```
    pinMode(TRIG_PIN, OUTPUT);  
    digitalWrite(TRIG_PIN, LOW);
```

```
    pinMode(ECHO_PIN, INPUT);
```

```
    Serial.begin(9600);
```

```
}
```

```
void loop() {
```

```
    unsigned long t1;
```

```
unsigned long t2;

unsigned long pulse_width;

float cm;

float inches;


digitalWrite(TRIG_PIN, HIGH);

delayMicroseconds(10);

digitalWrite(TRIG_PIN, LOW);


while ( digitalRead(ECHO_PIN) == 0 );


t1 = micros();
while ( digitalRead(ECHO_PIN) == 1);
t2 = micros();
pulse_width = t2 - t1;


cm = pulse_width / 58.0;
inches = pulse_width / 148.0;


if ( pulse_width > MAX_DIST ) {
    Serial.println("Out of range");
} else {
    Serial.print(cm);
    Serial.println(" cm ");
}

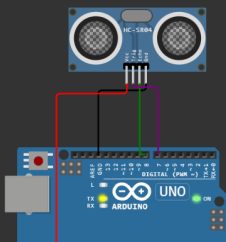

// Wait at least 60ms before next measurement
delay(60);
}
```

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hc-sr04.ino diagram.json Library Manager

```
3 const int ECHO_PIN = 8;
4 const unsigned int MAX_DIST = 23200;
5
6 void setup() {
7
8   pinMode(TRIG_PIN, OUTPUT);
9   digitalWrite(TRIG_PIN, LOW);
10
11   pinMode(ECHO_PIN, INPUT);
12   Serial.begin(9600);
13 }
14
15
16 void loop() {
17
18   unsigned long t1;
19   unsigned long t2;
20   unsigned long pulse_width;
21   float cm;
22   float inches;
23
24   digitalWrite(TRIG_PIN, HIGH);
25   delayMicroseconds(10);
26   digitalWrite(TRIG_PIN, LOW);
27
28   while ( digitalRead(ECHO_PIN) == 0 );
29
30   t1 = micros();
31   while ( digitalRead(ECHO_PIN) == 1);
32   t2 = micros();
33   pulse_width = t2 - t1;
34
35   cm = pulse_width / 58.0;
```

Simulation 00:50.063 99%



88.21 cm
88.21 cm
88.28 cm
88.28 cm
88.28 cm
88.21 cm
88.21 cm

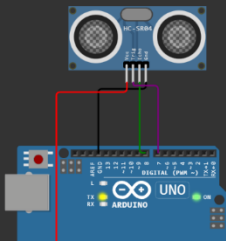
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hc-sr04.ino diagram.json Library Manager

```
3 const int ECHO_PIN = 8;
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11   pinMode(ECHO_PIN, INPUT);
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16 void loop() {
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18   unsigned long t1;
19   unsigned long t2;
20   unsigned long pulse_width;
21   float cm;
22   float inches;
23
24   digitalWrite(TRIG_PIN, HIGH);
25   delayMicroseconds(10);
26   digitalWrite(TRIG_PIN, LOW);
27
28   while ( digitalRead(ECHO_PIN) == 0 );
29
30   t1 = micros();
31   while ( digitalRead(ECHO_PIN) == 1);
32   t2 = micros();
33   pulse_width = t2 - t1;
34
35   cm = pulse_width / 58.0;
```

Simulation 00:36.763 100%



131.79 cm
131.86 cm
131.86 cm
131.79 cm
131.86 cm
131.86 cm
131.93 cm

↶ ⏸ 🗑