

# Temperature & distance monitoring system

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## circuit design

## circuit digram

```
#include <LiquidCrystal.h>
LiquidCrystal lcd(7,6, 5, 4, 3, 2);
#define echoPin 8
#define trigPin 9

long duration;
int distance;

void setup()
{
  pinMode(10,OUTPUT);
  lcd.begin(16, 2);
  lcd.setCursor(0,0);
  lcd.print("CHINNAN");
  lcd.setCursor(0,1);
  lcd.print("PROJECT 1");
  delay(1000);
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("START DEVICE ");
  lcd.setCursor(0,1);
  lcd.print("MONITORING");
  delay(1000);
  lcd.clear();
  pinMode(echoPin,INPUT);
  pinMode(trigPin,OUTPUT);
  pinMode(10,OUTPUT);
  pinMode(11,OUTPUT);
  pinMode(12,OUTPUT);
  Serial.begin(9600);
}

void loop()
{
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  // Sets the trigPin HIGH (ACTIVE) for 10 microseconds
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);
  // Reads the echoPin, returns the sound wave travel time in microseconds
  duration = pulseIn(echoPin, HIGH);
  // Calculating the distance
  distance = duration * 0.034 / 2;
```

```
int signal=analogRead(A3);  
float voltage=(signal*5.0)/1024;  
float temC=(voltage-0.5)*100;  
lcd.setCursor(0,0);  
lcd.print("Temperature:");  
lcd.print(temC);//temperature moniter
```

```
Serial.print("Distance: ");  
Serial.print(distance);  
Serial.println(" cm");  
lcd.setCursor(0,1);  
lcd.print("0-distance:");  
lcd.print(distance);
```

```
if (temC>100){  
  digitalWrite(12,HIGH);  
  digitalWrite(10,HIGH);  
}  
else{  
  digitalWrite(12,LOW);  
  digitalWrite(10,LOW);  
  digitalWrite(11,HIGH);  
}  
  if (distance<100){  
    digitalWrite(12,HIGH);  
    digitalWrite(10,HIGH);  
  }  
  else{  
    digitalWrite(12,LOW);  
    digitalWrite(10,LOW);  
    digitalWrite(11,HIGH);  
  }  
}
```

```
}
```