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Smoke Detection Alarm using Arduino Nano

Material Required 🧰 :

S No.	Components	Link
1	Arduino Nano	https://amzn.to/3R5IQPT
2	Breadboard Small	https://amzn.to/3QdsROy
3	I2C OLED display	https://amzn.to/3eg9Hdt
4	Buzzer	https://amzn.to/3rpQFos
5	LED	
6	Connecting Wires	https://amzn.to/3cl97EY
7	Arduino Nano Cable	https://amzn.to/3Cw7hRC
8	MQ2 Smoke sensor	https://amzn.to/3yeLlrU

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Circuit Diagram ⚡ :

Smoke detection Alarm

MQ2 Smoke sensor

LED

Buzzer

Arduino NANO

I2C 128 x 64 OLED display

Breadboard
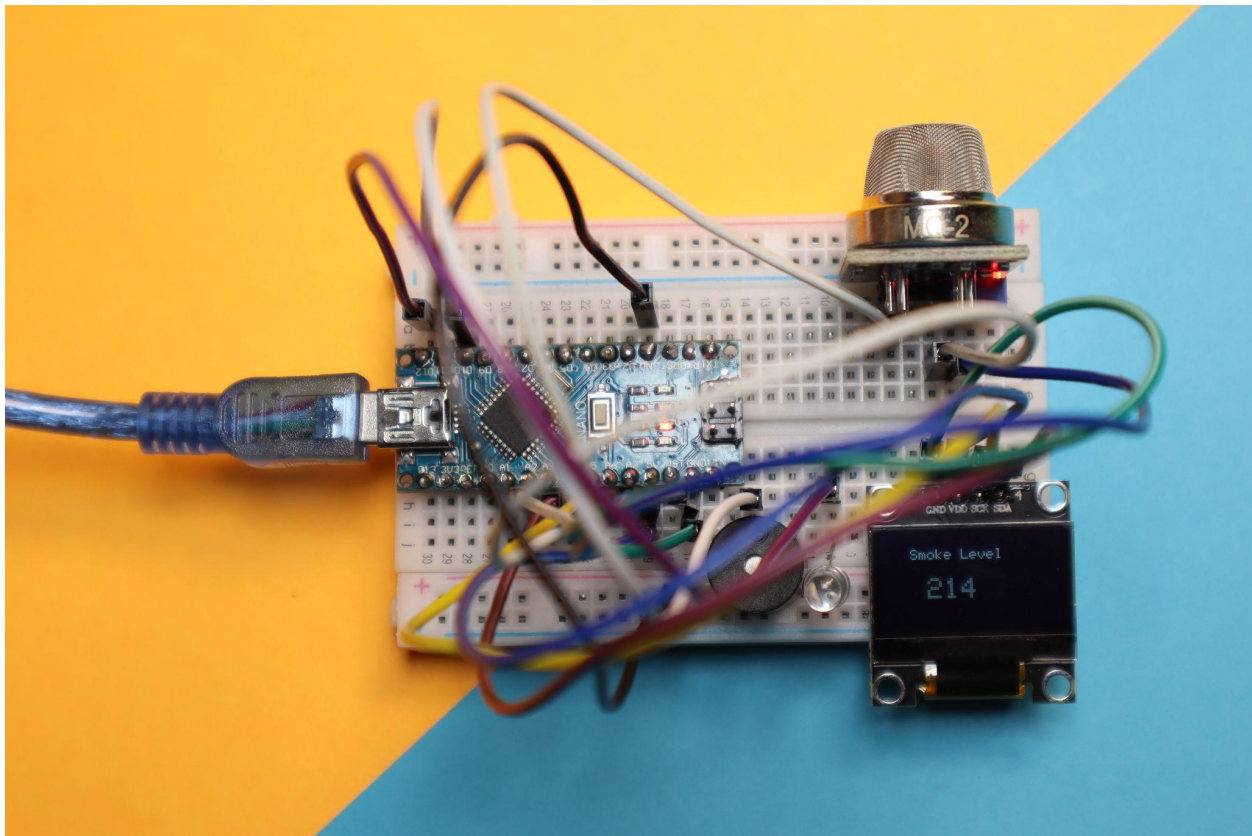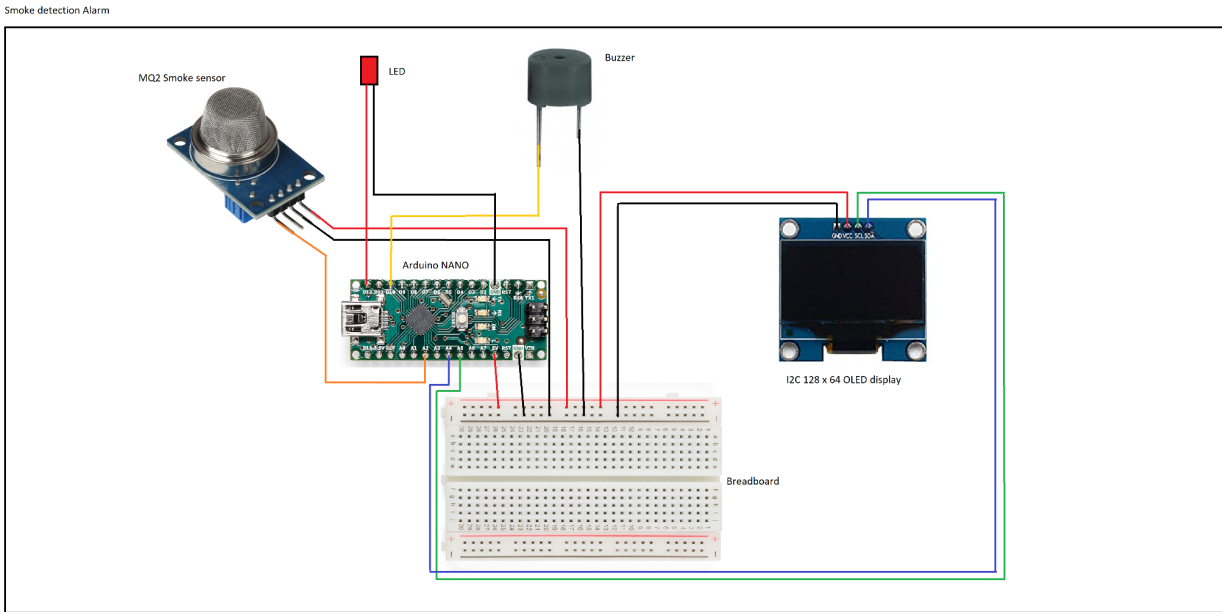
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Code 💻 :

```
#include <Wire.h>
#include <Adafruit_GFX.h>
#include <Adafruit_SSD1306.h>

#define SCREEN_WIDTH 128 // OLED display width, in pixels
#define SCREEN_HEIGHT 64 // OLED display height, in pixels

// Declaration for an SSD1306 display connected to I2C (SDA, SCL pins)
Adafruit_SSD1306 display(SCREEN_WIDTH, SCREEN_HEIGHT, &Wire, -1);




int redLed = 12;
int greenLed = 11;
int buzzer = 10;
int smokeA0 = A2;
// Your threshold value
int sensorThres = 250;
```

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```
void setup() {

if(!display.begin(SSD1306_SWITCHCAPVCC, 0x3C)) { // Address 0x3D for 128x64
    Serial.println(F("SSD1306 allocation failed"));
    for(;;);
  }
  delay(2000);
  display.clearDisplay();

  pinMode(redLed, OUTPUT);
  pinMode(greenLed, OUTPUT);
  pinMode(buzzer, OUTPUT);
  pinMode(smokeA0, INPUT);
  Serial.begin(9600);
}

void loop() {
   display.clearDisplay();
  int analogSensor = analogRead(smokeA0);

  Serial.print("Pin A0: ");
  Serial.println(analogSensor);
  display.setTextSize(1);
  display.setTextColor(WHITE);
  display.setCursor(20, 10);
  // Display static text
  display.println("Smoke Level");
  display.setTextSize(2);
  display.setTextColor(WHITE);
  display.setCursor(32,30);
  display.print(analogSensor);
  display.display();

  // Checks if it has reached the threshold value
  if (analogSensor > sensorThres)
  {
    digitalWrite(redLed, HIGH);
    digitalWrite(greenLed, LOW);
    tone(buzzer, 800, 200);
  }
  else
  {
```

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```
    digitalWrite(redLed, LOW);
    digitalWrite(greenLed, HIGH);
    noTone(buzzer);
  }
  delay(100);
}
```