

DAFTAR PUSTAKA

- Abdillah, M. F. N. (2021). Pengembangan Aplikasi PSPM Berbasis Android berbantuan Android Studio dan Visual Code Studio Dalam Menunjang Sistem Informasi Jurusan Pendidikan Matematika [Undergraduate thesis, UIN Raden Intan Lampung]. UIN Raden Intan Repository. <http://repository.radenintan.ac.id/14467>
- Andriyan, W., Septiawan, S., & Aulya A. (2020). Perancangan Website Sebagai Media Informasi dan Peningkatan Citra pada SMK Dewi Sartika Tangerang. *Jurnal Teknologi Terpadu*, 6(2), 79-88. <https://doi.org/10.54914/jtt.v6i2.289>
- Anggraini, N. (2021). Rancang Bangun Sistem Monitoring Kelembaban Tanah dan Udara Berbasis Internet of Things (IoT) dengan WEMOS D1 Mini [Undergraduate thesis, Universitas Sumatera Utara]. Repositori Institusi Universitas Sumatera Utara (RI-USU). <https://repositori.usu.ac.id/handle/123456789/31005>
- Asvian, F. (2019). Rancang Bangun Alat Pendeteksi Tidur Menggunakan Sensor Heart Rate Pada Security Guard Berbasis IoT (Internet of Things) [Undergraduate thesis, Institut Bisnis dan Informatika Stikom Surabaya]. Repository Universitas Dinamika. <https://repository.dinamika.ac.id/id/eprint/3631/>
- Chaniago, D., Zahara, A., & Ramadhani, I. S. (2020, September 24). Indeks Standar Pencemar Udara (ISPU) Sebagai Informasi Mutu Udara Ambien di Indonesia. Retrieved March 29, 2022, from <https://ditppu.menlhk.go.id/portal/read/indeks-standar-pencemar-udara-ispu-sebagai-informasi-mutu-udara-ambien-di-indonesia>
- Ghazali, A.T. (2018). Pengembangan Aplikasi Pemesanan Layanan Kecantikan Berbasis Progressive Web Apps (PWA). [Undergraduate thesis, Universitas Islam Negeri Syarif Hidayatullah]. Institutional Repository UIN Syarif Hidayatullah Jakarta. <https://repository.uinjkt.ac.id/dspace/handle/123456789/55762>
- Gironi, D. (2017, Maret) I Sensori MQ. *Elettronica In*, 85-92.
- Hanwei Electronics. (n.d.). Technical Data MQ-135 Gas Sensor. https://www.electronicoscaldas.com/datasheet/MQ-135_Hanwei.pdf
- Hanwei Electronics. (n.d.). Technical Data MQ-7 Gas Sensor. <https://www.sparkfun.com/datasheets/Sensors/Biometric/MQ-7.pdf>

- Julsam, Sk, R., Kartika, & Mulyadi. (2019). Penggunaan Modul Multiplexer CD74HC4067 Untuk Menambah Input Analog Pada NodeMCU ESP8266. *Proceeding Seminar Nasional Politeknik Negeri Lhokseumawe*. 3(1), 363-367.
- Kho, D. (n.d.). Pengertian WIFI dan Cara Kerja WIFI. <https://teknikelektronika.com/pengertian-wifi-aplikasi-cara-kerja-wifi-standard-versi-wifi>
- Lahal, A., & Suharyanto, C. E. (2021). Rancang Bangun Alat Monitoring Polusi Udara Berbasis Arduino. *Computer and Science Industrial Engineering (COMASIE) Journal*. 5(1), 54-63.
- Loggerindo.com. (2018, November 26). Pantau Kadar CO₂ dalam Ruangan Untuk Hidup Yang Lebih Sehat. Retrieved April 4, 2022, from <https://loggerindo.com/pantau-kadar-co2-dalam-ruangan-untuk-hidup-yang-lebih-sehat-204>
- Maleakhi, F. W., Ismail, S. J. I., & Handayani, R. (2020). Pengukuran Kadar Gas Emisi Kendaraan Menggunakan Arduino. *E-Proceeding of Applied Science*. 6(2), 3416–3426.
- Manurung, M. B., Darmawan, D., & Iskandar, R. F. (2018). Perancangan Alat Ukur Kadar Karbon Monoksida (CO) Pada Kendaraan Berbasis Sensor MQ7. *eProceedings of Engineering*. 5(2), 2358-2366.
- Muchidin, Z. (2019). Rancang Bangun Alat Identifikasi Penyakit Diabetes Melitus Melalui Urine Menggunakan Sensor Gas dan Jaringan Syaraf Tiruan. [Undergraduate thesis, Universitas Muhammadiyah Gresik]. UMG Repository. <http://eprints.umg.ac.id/2617/>
- Mulyana, R. (2018). Alat Monitoring Emisi Gas Buang Kendaraan Bermotor Berbasis Android. [Undergraduate thesis, Universitas Komputer Indonesia]. Elibrary Unikom. <https://elibrary.unikom.ac.id/id/eprint/386/>
- Nadzir, A. M. (2021). Sistem Monitoring Gas Karbon Dioksida dan Gas Karbon Monoksida Berbasis NODEMCU ESP 8266. [Undergraduate thesis, Institut Teknologi Telkom Purwokerto]. Repository IT Telkom Purwokerto. <https://repository.ittelkom-pwt.ac.id/6752/>
- Nasution, M. H. (2019). Rancangan Sistem Monitoring Terpadu Pada Refrigerator Berbasis Mikrokontroler. [Undergraduate thesis, Universitas Muhammadiyah Sumatera Utara]. UMSU Repository. <https://repository.umsu.ac.id/handle/123456789/7161>

- Putra, H. S. D., Lim, R., & Putro, I. H. (2019). Pemantauan Kualitas Udara Polutan CO dan CO₂ Berbasis IoT. *Jurnal Teknik Elektro*. 12(1), 26–31. <https://doi.org/10.9744/jte.12.1.26-31>
- PP RI. (2021). Peraturan Pemerintah Republik Indonesia No. 22 Tahun 2021 Tentang Penyelenggaraan Perlindungan dan Pengelolaan Lingkungan Hidup. Jakarta.
- Puspitawati, I. W. (2014, December 31). Polusi Udara dan Uji Emisi Gas Buang Kendaraan Bermotor Sebagai Prasyarat Pemberian Perpanjangan STNK. Retrieved March 23, 2022, from <http://bappeda.jogjaprov.go.id/artikel/detail/46-a-polusi-udara-dan-uji-emisi-gas-buang-kendaraan-bermotor-sebagai-prasyarat-pemberian-perpanjgn-stnk>
- Raj, A. (2018, February 9). Measuring PPM from MQ Gas Sensors using Arduino (MQ-137 Ammonia). Retrieved May 20, 2022, from <https://circuitdigest.com/microcontroller-projects/arduino-mq137-ammonia-sensor>
- Rianto, Y. (2020) Mendekteksi Gerakan Kamera Menggunakan Wemos D1 R1 Berbasis IoT. Perpustakaan Gunadarma University. <http://yasmanrianto.staff.gunadarma.ac.id/Downloads/files/74287/Mendekteksi+Gerakan++Kamera+Menggunakan+Wemos+D1+R1+Berbasis+IoT.pdf>
- Rochmania, A., Suchahyo, I., & Yantidewi, M. (2021). Monitoring Kandungan CO₂ di Udara Berbasis IoT Dengan NodeMCU ESP8266 dan Sensor MQ135. *Jurnal Sains dan Pendidikan Fisika*, 17(3), 249–259. <https://doi.org/10.35580/jspf.v17i3.30634>
- Rohatgi, A. (2022, September 16). WebPlotDigitizer. Retrieved January 24, 2023, from <https://automeris.io/WebPlotDigitizer>
- Rosa, A. A., Simon, B. A., & Lieanto, K. S. (2020). Sistem Pendeteksi Pencemaran Udara Portabel Menggunakan Sensor MQ-7 dan MQ-135. *Ultima Computing: Jurnal Sistem Komputer*, 12(1), 23–28. <https://doi.org/10.31937/sk.v12i1.1611>
- Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Penerbit Alfabeta
- Texas Instruments. (2003). High-Speed CMOS Logic 16-Channel Analog Multiplexer/Demultiplexer. <https://www.ti.com/lit/ds/symlink/cd74hc4067.pdf>

- Utari. (2021). Sistem Kontrol Dan Monitoring Lampu Rumah Otomatis Berbasis IoT Menggunakan WEMOS D1 Mini. [Undergraduate thesis, Universitas Sumatera Utara]. Repositori Institusi Universitas Sumatera Utara (RI-USU). <https://repositori.usu.ac.id/handle/123456789/45167>
- Widodo, S., Amin, M., Sutrisman, A., & Putra, A. A. (2017). Rancang Bangun Alat Monitoring Kadar Udara Bersih dan Gas Berbahaya CO, CO₂, dan CH₄ di Dalam Ruangan Berbasis Mikrokontroler. *Jurnal Pseudocode*, 4(2), 105-119.
- Zikri, A. (2020). Rancang Bangun Sistem Penyiraman Tanaman Otomatis Berbasis Raspberry Pi 3 Dengan Memanfaatkan ThingSpeak dan Interface Android Sebagai Kendali [Undergraduate thesis, UIN Syarif Hidayatullah Jakarta]. Institutional Repository UIN Syarif Hidayatullah. <https://repository.uinjkt.ac.id/dspace/bitstream/123456789/50365/1/ANNISA%20ZIKRI-FST.pdf>

LAMPIRAN

Lampiran 1 Kode program untuk mendapatkan nilai R0 sensor MQ-7

Program dibawah ini merupakan program yang di-*upload* ke WEMOS D1 Mini untuk mendapatkan nilai R0 sensor MQ-7.

```
#define RL_CO 10          //Nilai RL sensor = 10K

float adcMQ7=0;
float VRL_CO=0;
float Rs_CO=0;
float R0_CO=0;

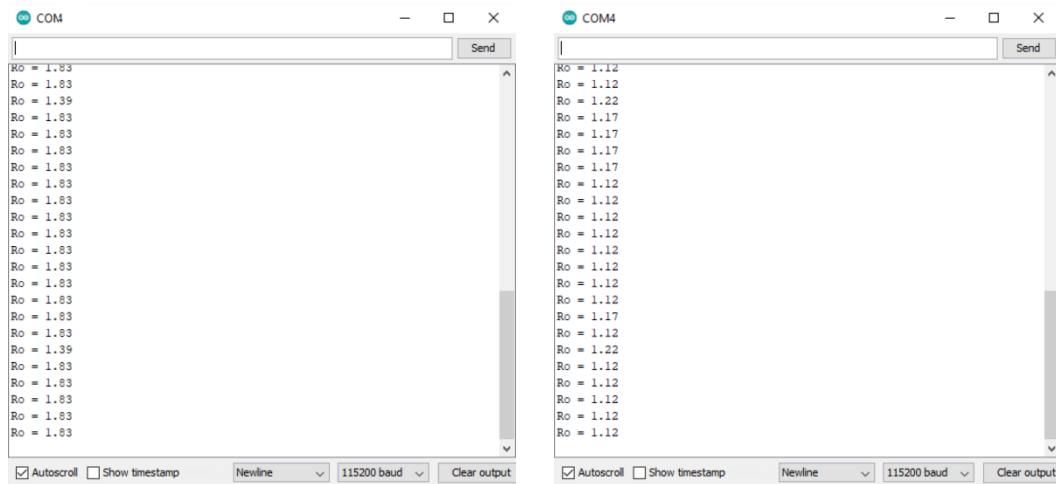
void setup() {
  Serial.begin(115200);
}

void loop() {
  for(int test_cycle = 1 ; test_cycle <= 500 ; test_cycle++)
  {
    adcMQ7 = adcMQ7 + analogRead(A0);
  }
  adcMQ7 = adcMQ7/500.0;
  VRL_CO = adcMQ7*(3.3/1023.0);
  Rs_CO = ((3.3/VRL_CO)-1) * RL_CO;

  R0_CO = Rs_CO/25.63;
  Serial.print("Ro = ");
  Serial.println(R0_CO);

  delay(1000);
}
```

Lampiran 2 Hasil nilai R0 sensor MQ-7



Gambar tampilan serial monitor dari nilai R0 yang diperoleh untuk, (kiri) sensor 1, dan (kanan) sensor 2

Penentuan nilai R_0 atau R_0 adalah dengan melihat nilai yang stabil atau nilai yang paling sering muncul. Pada gambar diatas dapat dilihat bahwa nilai R_0 atau R_0 yang diperoleh masing-masing untuk sensor 1 dan sensor 2 adalah $1,83\text{ K}\Omega$ dan $1,12\text{ K}\Omega$.

Lampiran 3 Kode program untuk mendapatkan nilai R0 sensor MQ-135

Program dibawah ini merupakan program yang di-*upload* ke WEMOS D1 Mini untuk mendapatkan nilai R_0 sensor MQ-135.

```
#include <Wire.h>
#include <AverageValue.h>

int MQ135Pin=A0;
int Rload = 20000;          // Nilai RL sensor = 20K
double ppmMQ135=499.00;   // Nilai CO2 terkalibrasi pada alat referensi
float a_2 = 112.8562882;
float b_2 = -2.870595918;
const long MAX_VALUES_NUM = 10;
AverageValue<long> averageValue(MAX_VALUES_NUM);

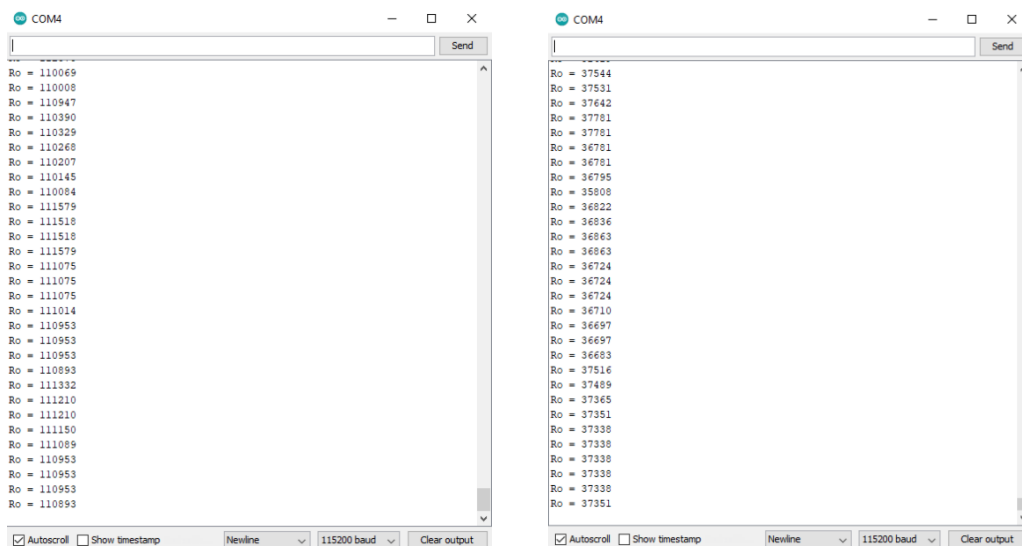
void setup() {
  Serial.begin(115200);
}
```

```

void loop() {
  float adcMQ135 = analogRead(MQ135Pin);
  float rs = ((1023.0 * Rload) / adcMQ135) - Rload;
  float R0_CO2 = rs * exp(log(a_2/ppmMQ135) / b_2 );
  averageValue.push(R0_CO2);
  Serial.print("Ro = ");
  Serial.println(averageValue.average());
  delay(1000);
}

```

Lampiran 4 Hasil nilai R0 sensor MQ-135



Gambar Tampilan Serial Monitor dari nilai R0 yang diperoleh untuk, (a) sensor 1, dan (b) sensor 2

Penentuan nilai Ro atau R0 adalah dengan melihat nilai yang stabil atau nilai yang paling sering muncul. Pada gambar diatas dapat dilihat bahwa nilai Ro atau R0 yang diperoleh masing-masing untuk sensor 1 dan sensor 2 adalah 110000 Ω dan 37000 Ω (dimana tiga angka terakhir dibulatkan).

Lampiran 5 Kode program mikrokontroler WEMOS D1 Mini

```

#include <ESP8266WiFi.h>
#include <FirebaseArduino.h>
#include <ArduinoJson.h>
#include <ThingSpeak.h>
#include <ESP8266HTTPClient.h>
#include <NTPClient.h>
#include <WiFiUdp.h>

```

```

#include <Wire.h>
#include <LiquidCrystal_I2C.h>

/* Inisialisasi Firebase*/
#define FIREBASE_HOST "amonitoring-airquality-default-rtdb.firebaseio.com"
// alamat URL Firebase Realtime Database
#define FIREBASE_AUTH
"ZlhukZZ9FevgQUnMWmeGeFKLdSaLkPb4QA5hMhhA" // secret code
firebase database

/* Inisialisasi Thingspeak */
#define SECRET_CH_ID 1910619 // channel number Thingspeak
#define SECRET_WRITE_APIKEY "DW572B6PN6XKQUUL" // API Write
key Thingspeak

unsigned long myChannelNumber = SECRET_CH_ID;
const char * myWriteAPIKey = SECRET_WRITE_APIKEY;

#define ON_Board_LED 2 // Define On Board LED, sebagai indikator saat
proses koneksi wifi

/* SSID and Password of your WiFi router */
const char* ssid = "Jcwk"; // wifi name or SSID
const char* password = "inipassword"; // wifi password
WiFiClient client;

/* Inisialisasi Multiplexer */
#define S0 D8 // Assign Mux pin S0 connect to pin D0
#define S1 D7 // Assign Mux pin S1 connect to pin D1
#define S2 D6 // Assign Mux pin S2 connect to pin D2
#define S3 D5 // Assign Mux pin S3 connect to pin D3
#define SIG A0 // Assign SIG pin as Analog out for all channels of
Mux to pin A0 */

/* Inisialisasi Sensor MQ-7 */
#define RL_1 10 //Nilai RL 10K
#define m -0.57846 //Nilai Slope dari datasheet
#define b 1.07298 //Nilai intercept dari datasheet
#define r0_1 1.83 //Nilai R0 untuk sensor 1, ganti 1,13 untuk sensor 2
int MQ7Pin=SIG;

/* Inisialisasi Sensor MQ-135 */
int MQ135Pin=SIG;
int RL_2 = 20000; // Nilai RL 20K
float rO_2=110000; //Nilai R0 untuk sensor 1, ganti 37000 untuk sensor 2
double ppmMQ135=498.00; // Nilai CO2 Terkalibrasi

```



```

//MQ135 Coefficient Value
float a_2 = 112.8562882;
float b_2 = -2.870595918;

/* Inisialisasi Program Penampil Waktu - Makassar UTC +08:00 */
// UTC +08:00 -> 8 * 60 * 60 = 28800
const long utcOffsetInSeconds = 28800;

WiFiUDP ntpUDP;
NTPClient timeClient(ntpUDP, "pool.ntp.org", utcOffsetInSeconds);

String weekDays[7]={"Sunday", "Monday", "Tuesday", "Wednesday",
"Thursday", "Friday", "Saturday"};
String months[12]={"January", "February", "March", "April", "May", "June",
"July", "August", "September", "October", "November", "December"};

/* Inisialisasi LCD dan Buzzer */
LiquidCrystal_I2C lcd(0x27,20,4); // set the LCD address to 0x27
#define buzzer D3 //define pin D3 for buzzer

void setup() {
  /* Define digital signal pin as output to the Multiplexer pin*/
  pinMode(S0,OUTPUT);
  pinMode(S1,OUTPUT);
  pinMode(S2,OUTPUT);
  pinMode(S3,OUTPUT);
  /* Define analog signal pin as input or receiver from the Multiplexer pin SIG */
  pinMode(SIG, INPUT);

  pinMode(buzzer, OUTPUT);
  pinMode(MQ135Pin, INPUT);

  Serial.begin(115200);
  delay(500);

  lcd.init(); // inisialisasi lcd
  lcd.backlight(); // mengaktifkan backlight lcd

  WiFi.begin(ssid, password);

  pinMode(ON_Board_LED,OUTPUT); // On Board LED port Direction output
  digitalWrite(ON_Board_LED, HIGH); // Turn off Led On Board

  lcd.setCursor(0,0);
  lcd.print("Connecting");
  while (WiFi.status() != WL_CONNECTED) {

```

```

    lcd.setCursor(10,0);
    lcd.print(".");

    digitalWrite(ON_Board_LED, LOW);
    delay(250);
    digitalWrite(ON_Board_LED, HIGH);
    delay(250);
}

digitalWrite(ON_Board_LED, HIGH);

lcd.setCursor(0,0);
lcd.print("Connected to:");
lcd.setCursor(0,1);
lcd.print(ssid);
lcd.setCursor(0,2);
lcd.print("IP address:");
lcd.setCursor(0,3);
lcd.print(WiFi.localIP());
delay(5000);
lcd.clear();

/* Firebase Realtime Database Configuration */
Firebase.begin(FIREBASE_HOST, FIREBASE_AUTH);

/* Thingspeak Configuration */
ThingSpeak.begin(client);

lcd.setCursor (4,1);
lcd.print("aMonitoring");
lcd.setCursor (6,3);
lcd.print("-----");
delay(5000);
lcd.clear();

lcd.setCursor(5,1);
lcd.print("Memanaskan");
lcd.setCursor (6,2);
lcd.print("Sensor..");
delay(300000); // memanaskan sensor selama 5 menit
lcd.clear();
lcd.setCursor(5,1);
lcd.print("Alat Siap");
digitalWrite(buzzer, HIGH);
delay(750);
lcd.clear();

```

```

digitalWrite(buzzer, LOW);
delay(750);
}

void loop() {
  /* Multiplexer Channel 0 - Kadar CO (Karbon Monoksida) */
  digitalWrite(S0,LOW); digitalWrite(S1,LOW); digitalWrite(S2,LOW);
  digitalWrite(S3,LOW);
  int adcMQ7Pin = analogRead(MQ7Pin);

  float VRL = adcMQ7Pin*(3.3/1023.0); // measure the voltage drop and convert
  to 0-5V
  float rs_1 = ((3.3*RL_1)/VRL)-RL_1; // rumus mencari nilai Rs
  float ratio = rs_1/rO_1; // mencari ratio Rs/Ro

  float ppmMQ7 = pow(10, ((log10(ratio)-b)/m)); // rumus perhitungan dalam
  satuan ppm

  /* Multiplexer Channel 1 Kadar CO2 (Karbon Dioksida) */
  digitalWrite(S0,HIGH); digitalWrite(S1,LOW); digitalWrite(S2,LOW);
  digitalWrite(S3,LOW);
  int adcMQ135 = analogRead(MQ135Pin);
  double rs_2 = ((1023.0 * RL_2) / adcMQ135) - RL_2; // rumus mencari nilai Rs
  float rSrO= rs_2/rO_2; // mencari ratio Rs/Ro

  float ppmMQ135 = a_2 * pow((float)rs_2 / (float)rO_2, b_2);

  /* LCD dan Buzzer */
  lcd.setCursor(0,0);
  lcd.print("CO (ppm):");
  lcd.setCursor(11,0);
  lcd.print(ppmMQ7);
  delay(250);

  // Menampilkan Kategori CO
  if (ppmMQ7 <= 50.99){
    lcd.setCursor(0,1);
    lcd.print("Baik ");
    digitalWrite(buzzer, LOW);
  }

  else if ((ppmMQ7 >= 51) && (ppmMQ7 <= 100.99)){
    lcd.setCursor(0,1);
    lcd.print("Sedang ");
    digitalWrite(buzzer, LOW);
  }
}

```

```

else if ((ppmMQ7 >= 101) && (ppmMQ7 <= 200.99)){
  lcd.setCursor(0,1);
  lcd.print("Tdk Sehat ");
  digitalWrite(buzzer, HIGH);
}

else if ((ppmMQ7 >= 201) && (ppmMQ7 <= 300.99)){
  lcd.setCursor(0,1);
  lcd.print("Sgt Tdk Sehat");
  digitalWrite(buzzer, HIGH);
}
else{
  lcd.clear();
  lcd.setCursor(0,1);
  lcd.print("Berbahaya ");
  digitalWrite(buzzer, HIGH);
}
delay(250);

lcd.setCursor(0,2);
lcd.print("CO2 (ppm):");
lcd.setCursor(11,2);
lcd.print(ppmMQ135);
delay(250);

// Menampilkan Kategori CO2
if (ppmMQ135 <= 350.99) {
  digitalWrite(buzzer, LOW);
  lcd.setCursor(0,3);
  lcd.print("Baik ");
}

else if ((ppmMQ135 >= 351) && (ppmMQ135 <= 1000.99)) {
  digitalWrite(buzzer, LOW);
  lcd.setCursor(0,3);
  lcd.print("Sedang ");
}

else if ((ppmMQ135 >= 101) && (ppmMQ135 <= 2000.99)) {
  digitalWrite(buzzer, HIGH);
  lcd.setCursor(0,3);
  lcd.print("Tdk Sehat ");
}
else {
  digitalWrite(buzzer, HIGH);
}

```

```

    lcd.setCursor(0,3);
    lcd.print("Sgt Tdk Sehat");
}
delay(250);

/* Mengirim data dengan timer */
static uint32_t waktu;
static uint8_t detik;
if ((millis() - waktu) > 1000){
    waktu=millis();
    detik++;
    if(detik>=15){detik=0;}

/* Mengirim data ke Firebase dengan interval tiap 15 detik */
if(( detik%5)==0){
    if (isnan(ppmMQ7) || isnan(ppmMQ135)) {
        Serial.println(" Failed to load sensor !");
        delay(1000);
        return;
    }
    Serial.print(F("CO (ppm)= "));
    Serial.println(ppmMQ7);
    Serial.print(F("CO2 (ppm)= "));
    Serial.println(ppmMQ135);

// Program menampilkan waktu saat data dieksekusi
timeClient.update();
String dy, hr, mn, sc;
dy = String(timeClient.getDay());
if (timeClient.getHours() < 10) {
    hr = "0" + String(timeClient.getHours());
}
else {
    hr = String(timeClient.getHours());
}

if (timeClient.getMinutes() < 10) {
    mn = "0" + String(timeClient.getMinutes());
}
else {
    mn = String(timeClient.getMinutes());
}

if (timeClient.getSeconds() < 10) {
    sc = "0" + String(timeClient.getSeconds());
}
}

```

```

else {
    sc = String(timeClient.getSeconds());
}

time_t epochTime = timeClient.getEpochTime();
struct tm *ptm = gmtime ((time_t *)&epochTime);
int monthDay = ptm->tm_mday;
int currentMonth = ptm->tm_mon+1;
String currentMonthName = months[currentMonth-1];
int currentYear = ptm->tm_year+1900;
String currentDate = String(monthDay) + "-" + String(currentMonth) + "-" +
String(currentYear);

String TimeNow = currentDate + " " + hr + ":" + mn + ":" + sc;
Serial.println(TimeNow);

Firebase.pushString("/Device1/Time", TimeNow);
Firebase.pushFloat("/Device1/CO", ppmMQ7);
Firebase.pushFloat("/Device1/CO2", ppmMQ135);

// Conditions for handling errors.
if (Firebase.failed()) {
    Serial.print("setting Data failed :");
    Serial.println(Firebase.error());
    delay(500);
    return;
}
Serial.println("Setting successful");
Serial.println();
}

/* Mengirim data ke Thingspeak dengan interval tiap 15 detik */
if (detik==0){
    ThingSpeak.setField(1, ppmMQ7);
    ThingSpeak.setField(2, ppmMQ135);
    int x = ThingSpeak.writeFields(myChannelNumber, myWriteAPIKey);
    if(x == 200){
        Serial.println("Berhasil update ke Thingspeak");
        Serial.print("CO(ppm): ");
        Serial.println(ppmMQ7);
        Serial.print("CO2(ppm): ");
        Serial.println(ppmMQ135);
        Serial.println(" ");
    }
}
else{
    Serial.println("Gagal update. HTTP error code " + String(x));
}

```

```

        Serial.println(" ");
    }
}
}
}

```

Lampiran 6 Kode *website*

1. *Source Code* config.js

```

// Firebase Configuration
const firebaseConfig = {
  apiKey: "AIzaSyD4BzGNNhptdu-uCHK1BMoAU25r_iHde7w",
  authDomain: "amonitoring-airquality.firebaseio.com",
  databaseURL: "https://amonitoring-airquality-default-rtdb.firebaseio.com",
  projectId: "amonitoring-airquality",
  storageBucket: "amonitoring-airquality.appspot.com",
  messagingSenderId: "346716786457",
  appId: "1:346716786457:web:59ebd11201af4baedaff88",
  measurementId: "G-JC3Y8X680C"
};

// Initialize Firebase
firebase.initializeApp(firebaseConfig);

```

2. *Source Code* index.html

```

<!DOCTYPE html>
<head>
//full code: https://github.com/dhiell4/aMonitoring-AirQuality/blob/main/index.html
  <meta charset="utf-8">
  ...
  ...
  ...
  ...
  ...
  var year = date.getFullYear();
  document.getElementById("date").innerHTML=" "+day+"
"+months[month]+" "+year;
  </script>
</body>
</html>

```

3. *Source Code* nilai-kadar.html

```

<!DOCTYPE html>
<head>

```

//full code: <https://github.com/dhiell4/aMonitoring-AirQuality/blob/main/nilai-kadar.html>

```
<meta charset="utf-8">
...
...
...
...
...
    var year = date.getFullYear();
    document.getElementById("date").innerHTML=" "+day+"
"+months[month]+" "+year;
</script>
</body>
</html>
```

4. *Source Code* grafik-kadar.html

```
<!DOCTYPE html>
<head>
//full code: https://github.com/dhiell4/aMonitoring-AirQuality/blob/main/grafik-kadar.html
    <meta charset="utf-8">
    ...
    ...
    ...
    ...
    ...
    var year = date.getFullYear();
    document.getElementById("date").innerHTML=" "+day+"
"+months[month]+" "+year;
    </script>
</body>
</html>
```

5. *Source Code* dynamic-progressbar.js

```
// Progress Bar Nilai Kadar CO di Baddoka
var firebaseRef = firebase.database().ref("Device1/CO");
    firebaseRef.on("value" , function(snapshot){
/* full code: https://github.com/dhiell4/aMonitoring-AirQuality/blob/main/dynamic-progressbar.js */
        snapshot.forEach(function(element){
            console.log(element.val());
            progressBar = document.querySelector('.progress-bar-monoksida-baddoka');
```



```

progressBar.forEach(function(classprogress) {
  console.log(classprogress)

  if (element.val() >= '301.0000') {
    classprogress.classList.add('bg-dark');
    classprogress.classList.remove('bg-danger', 'bg-warning', 'bg-info', 'bg-
success');
    classprogress.style.width = '95%';
  }

  else if (element.val() >= '201.0000' && element.val() <= '300.9999') {
    classprogress.classList.add('bg-danger');
    classprogress.classList.remove('bg-dark', 'bg-warning', 'bg-info', 'bg-
success');
    classprogress.style.width = '75%';
  }

  else if (element.val() >= '101.0000' && element.val() <= '200.9999') {
    classprogress.classList.add('bg-warning');
    classprogress.classList.remove('bg-dark', 'bg-danger', 'bg-info', 'bg-
success');
    classprogress.style.width = '55%';
  }

  else if (element.val() >= '51.0000' && element.val() <= '100.9999') {
    classprogress.classList.add('bg-info');
    classprogress.classList.remove('bg-dark', 'bg-danger', 'bg-warning', 'bg-
success');
    classprogress.style.width = '35%';
  }

  else if (element.val() >= '0.0000' && element.val() <= '50.9999') {
    classprogress.classList.add('bg-success');
    classprogress.classList.remove('bg-dark', 'bg-danger', 'bg-warning', 'bg-
info');
    classprogress.style.width= '15%';
  }
})
});
})
// Progress Bar Nilai Kadar CO2 di Baddoka
var firebaseRef = firebase.database().ref("Device1/CO2");
firebaseRef.on("value" , function(snapshot){
  snapshot.forEach(function(element){
    console.log(element.val());
  });
});

```

```

progressBar = document.querySelectorAll('.progress-bar-dioksida-baddoka');
progressBar.forEach(function(classprogress) {
console.log(classprogress)

if (element.val() >= '2001.0000') {
classprogress.classList.add('bg-danger');
classprogress.classList.remove('bg-warning', 'bg-info', 'bg-success');
classprogress.style.width = '90%';
}

else if (element.val() >= '1001.0000' && element.val() <= '2000.9999') {
classprogress.classList.add('bg-warning');
classprogress.classList.remove('bg-danger', 'bg-info', 'bg-success');
classprogress.style.width = '70%';
}

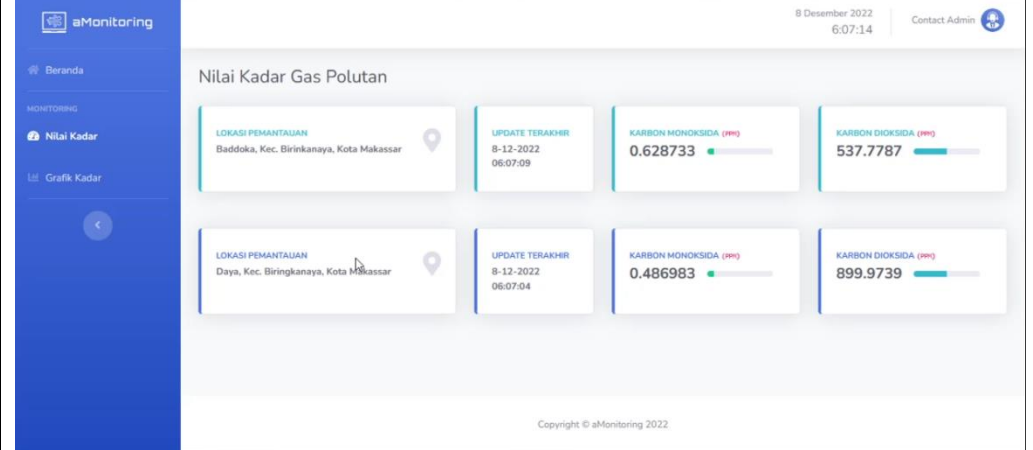
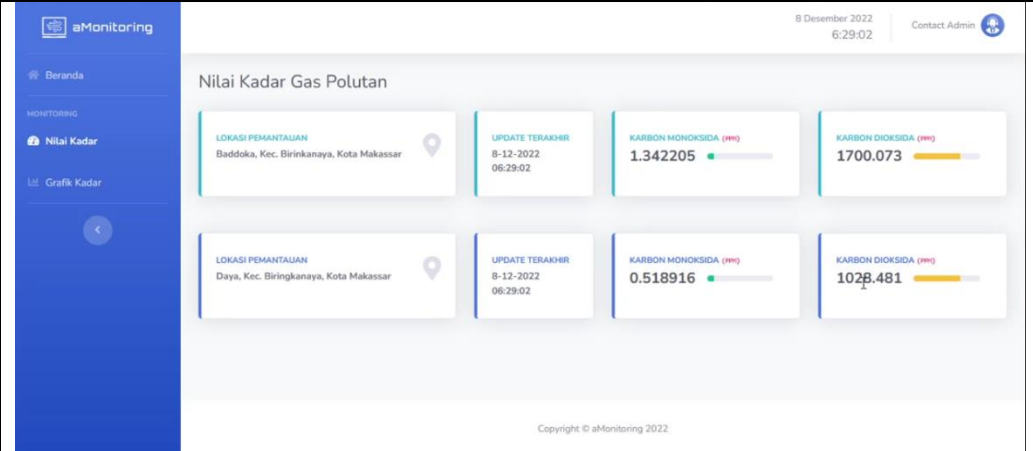
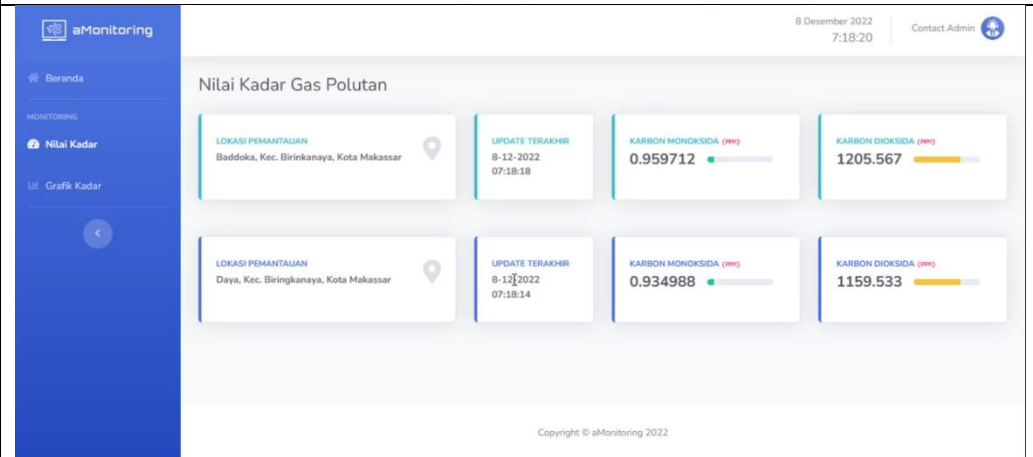
else if (element.val() >= '351.0000' && element.val() <= '1000.9999') {
classprogress.classList.add('bg-info');
classprogress.classList.remove('bg-danger', 'bg-warning', 'bg-success');
classprogress.style.width = '50%';
}

else if (element.val() >= '0.0000' && element.val() <= '350.9999') {
classprogress.classList.add('bg-success');
classprogress.classList.remove('bg-danger', 'bg-warning', 'bg-info');
classprogress.style.width= '20%';
}
})
});
})
// Progress Bar Nilai Kadar CO di Daya
...
...
...
// Progress Bar Nilai Kadar CO2 di Daya
...
...
...
})
});
})

```

Lampiran 7 Data Pengujian Alat Keseluruhan


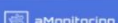
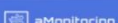
Berikut data pengujian sistem secara keseluruhan saat pengimplimentasian alat di lokasi:

Waktu	Tampilan di <i>website</i>													
8-12-2022/06:07		<p>8 Desember 2022 6:07:14 Contact Admin</p> <h3>Nilai Kadar Gas Polutan</h3> <table border="1"> <thead> <tr> <th>LOKASI PEMANTAUAN</th> <th>UPDATE TERAKHIR</th> <th>KARBON MONOKSIDA (ppm)</th> <th>KARBON DIOKSIDA (ppm)</th> </tr> </thead> <tbody> <tr> <td>Baddoka, Kec. Birrikanaya, Kota Makassar</td> <td>8-12-2022 06:07:09</td> <td>0.628733</td> <td>537.7787</td> </tr> <tr> <td>Daya, Kec. Biringkanaya, Kota Makassar</td> <td>8-12-2022 06:07:04</td> <td>0.486983</td> <td>899.9739</td> </tr> </tbody> </table> <p>Copyright © aMonitoring 2022</p>	LOKASI PEMANTAUAN	UPDATE TERAKHIR	KARBON MONOKSIDA (ppm)	KARBON DIOKSIDA (ppm)	Baddoka, Kec. Birrikanaya, Kota Makassar	8-12-2022 06:07:09	0.628733	537.7787	Daya, Kec. Biringkanaya, Kota Makassar	8-12-2022 06:07:04	0.486983	899.9739
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8-12-2022/06:29		<p>8 Desember 2022 6:29:02 Contact Admin</p> <h3>Nilai Kadar Gas Polutan</h3> <table border="1"> <thead> <tr> <th>LOKASI PEMANTAUAN</th> <th>UPDATE TERAKHIR</th> <th>KARBON MONOKSIDA (ppm)</th> <th>KARBON DIOKSIDA (ppm)</th> </tr> </thead> <tbody> <tr> <td>Baddoka, Kec. Birrikanaya, Kota Makassar</td> <td>8-12-2022 06:29:02</td> <td>1.342205</td> <td>1700.073</td> </tr> <tr> <td>Daya, Kec. Biringkanaya, Kota Makassar</td> <td>8-12-2022 06:29:02</td> <td>0.518916</td> <td>1028.481</td> </tr> </tbody> </table> <p>Copyright © aMonitoring 2022</p>	LOKASI PEMANTAUAN	UPDATE TERAKHIR	KARBON MONOKSIDA (ppm)	KARBON DIOKSIDA (ppm)	Baddoka, Kec. Birrikanaya, Kota Makassar	8-12-2022 06:29:02	1.342205	1700.073	Daya, Kec. Biringkanaya, Kota Makassar	8-12-2022 06:29:02	0.518916	1028.481
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<p>8-12-2022/08:01</p>	<p>aMonitoring</p> <p>8 Desember 2022 8:01:10 Contact Admin</p> <p>Nilai Kadar Gas Polutan</p> <table border="1"> <thead> <tr> <th>LOKASI PEMANTAUAN</th> <th>UPDATE TERAKHIR</th> <th>KARBON MONOKSIDA (ppm)</th> <th>KARBON DIOKSIDA (ppm)</th> </tr> </thead> <tbody> <tr> <td>Baddoka, Kec. Birinkanaya, Kota Makassar</td> <td>8-12-2022 08:01:05</td> <td>1.173157</td> <td>2007.652</td> </tr> <tr> <td>Daya, Kec. Biringkanaya, Kota Makassar</td> <td>8-12-2022 08:01:05</td> <td>1.486983</td> <td>1091.882</td> </tr> </tbody> </table> <p>Copyright © aMonitoring 2022</p>	LOKASI PEMANTAUAN	UPDATE TERAKHIR	KARBON MONOKSIDA (ppm)	KARBON DIOKSIDA (ppm)	Baddoka, Kec. Birinkanaya, Kota Makassar	8-12-2022 08:01:05	1.173157	2007.652	Daya, Kec. Biringkanaya, Kota Makassar	8-12-2022 08:01:05	1.486983	1091.882
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<p>8-12-2022/13:26</p>	<p>aMonitoring</p> <p>8 Desember 2022 13:26:49 Contact Admin</p> <p>Nilai Kadar Gas Polutan</p> <table border="1"> <thead> <tr> <th>LOKASI PEMANTAUAN</th> <th>UPDATE TERAKHIR</th> <th>KARBON MONOKSIDA (ppm)</th> <th>KARBON DIOKSIDA (ppm)</th> </tr> </thead> <tbody> <tr> <td>Baddoka, Kec. Birinkanaya, Kota Makassar</td> <td>8-12-2022 13:26:47</td> <td>6.670966</td> <td>5839.623</td> </tr> <tr> <td>Daya, Kec. Biringkanaya, Kota Makassar</td> <td>8-12-2022 13:26:43</td> <td>0.787231</td> <td>1336.903</td> </tr> </tbody> </table> <p>Copyright © aMonitoring 2022</p>	LOKASI PEMANTAUAN	UPDATE TERAKHIR	KARBON MONOKSIDA (ppm)	KARBON DIOKSIDA (ppm)	Baddoka, Kec. Birinkanaya, Kota Makassar	8-12-2022 13:26:47	6.670966	5839.623	Daya, Kec. Biringkanaya, Kota Makassar	8-12-2022 13:26:43	0.787231	1336.903
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Daya, Kec. Biringkanaya, Kota Makassar	8-12-2022 14:25:09	0.540948	1187.507											
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8-12-2022/16:44	 Beranda MONITORING Nilai Kadar Grafik Kadar	<div style="text-align: right;">8 Desember 2022 16:44:19 Contact Admin</div> <h3>Nilai Kadar Gas Polutan</h3> <table border="1"> <thead> <tr> <th>LOKASI PEMANTAUAN</th> <th>UPDATE TERAKHIR</th> <th>KARBON MONOKSIDA (ppm)</th> <th>KARBON DIOKSIDA (ppm)</th> </tr> </thead> <tbody> <tr> <td>Baddoka, Kec. Birinkanaya, Kota Makassar</td> <td>8-12-2022 16:44:16</td> <td>1.173157</td> <td>1932.95</td> </tr> <tr> <td>Days, Kec. Biringkanaya, Kota Makassar</td> <td>8-12-2022 16:44:15</td> <td>2.556988</td> <td>1845.319</td> </tr> </tbody> </table> <p>Copyright © aMonitoring 2022</p>	LOKASI PEMANTAUAN	UPDATE TERAKHIR	KARBON MONOKSIDA (ppm)	KARBON DIOKSIDA (ppm)	Baddoka, Kec. Birinkanaya, Kota Makassar	8-12-2022 16:44:16	1.173157	1932.95	Days, Kec. Biringkanaya, Kota Makassar	8-12-2022 16:44:15	2.556988	1845.319
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