.LAMPIRAN

Listing program pengujian sensor :

a. Mencari nilai RO

```
void setup() {
Serial.begin(9600);
}
void loop() {
  // deklarasi variabel
  float tegangan_sensor;
  float RS;
  float RO;
  float nilaisensor;
  //perulangan 100 kali untuk mencari rata-rata
  for(int x=0; x <100; x++)
  {
    nilaisensor = nilaisensor + analogRead(A0); //analogread = nilai analog sensor
   }
  nilaisensor = nilaisensor/100.0;
  //Serial.println(nilaisensor);
  tegangan_sensor = nilaisensor/1024*5.0; // 1024 = ADC , 5.0 = tegangan sumber
  RS= (5.0-tegangan_sensor)/tegangan_sensor;
  Serial.print("tegangan_sensor = ");
  Serial.print(tegangan_sensor);
  Serial.println("V");
  RO = RS;
```

```
  Serial.print("RO = ");
  Serial.println (3.96);
  delay(5000);
}
```

b. Pengambilan data sensor

```
void setup() {
 Serial.begin(9600);
}
void loop() {
 //deklarasi variabel
 float co;
 float o2;
 float tegangan_sensor;
 float RS;
 float ratio;
 int nilaisensor = analogRead(A0); //nilai output analog dari sensor
 tegangan_sensor = (float)nilaisensor/1024*5.0;
 RS = (5.0 - tegangan_sensor)/tegangan_sensor;
 ratio = RS/3.96; //3.96 =  RO yag di dapat dari kalibrasi sensor pengukuran pada kondisi gas netral/bersih
 const float p = -1.239;
 float z = pow(ratio,p);
 co=96.311*z; //mencari ppm karbon monoksida
 o2=1980.0-co; //mencari ppm oksigen
}
```

Lampiran foto pengujian sistem