

LAMPIRAN A

Dokumentasi Pengambilan Data

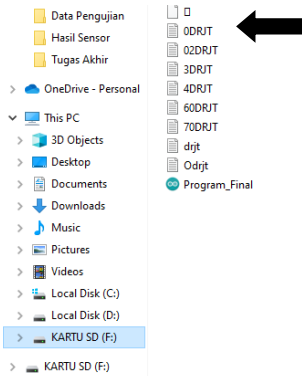
1. Pengambilan Data Reflektor Panel Surya Sudut 0°



Posisi Tampilan Alat 0°



Nilai Sudut Reflektor



Nama dan Lokasi Data Hasil Sensor Refelktor 0°

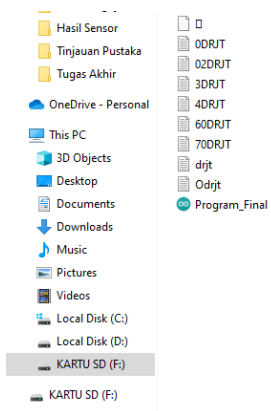
2. Pengambilan Data Reflektor Panel Surya Sudut 60°



Posisi Tampilan Alat 60°



Nilai Sudut Reflektor



Nama dan Lokasi Data Hasil Sensor Refelktor 60°

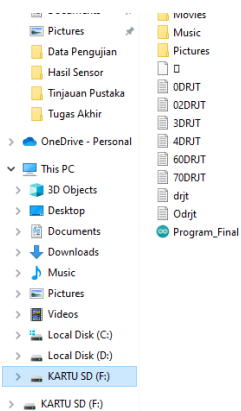
3. Pengambilan Data Reflektor Panel Surya Sudut 70°



Posisi Tampilan Alat 70°



Nilai Sudut Reflektor



Nama dan Lokasi Data Hasil Sensor Refelktor 70°

LAMPIRAN B

Program Arduino

```
#include <BH1750.h>
#include <SD.h>
#include <Wire.h>
#include <DS3231.h>
#include <LiquidCrystal_I2C.h>

int analogPin= A0; //pin sensor tegangan
int value = 0;
int sensitivitas = 66;
int nilaiadc = 00;
int teganganoffset = 2500;
float R1 = 30000.0; // Resistor 30k
float R2 = 7500.0; // Resistor 7500 ohm
const int pinADC = A1; //pin sensor arus
float NilaiTegangan = 00;
double tegangan = 00;
double NilaiArus = 00;
float NilaiDaya = 00;
float Vmodul = 00;
const int CS = 53; //pin SD Card

DS3231 rtc(SDA, SCL);
File dataku;
BH1750 lightMeter;
LiquidCrystal_I2C lcd(0x27,20,4);

void setup()
{
  Serial.begin(115200);
  pinMode (analogPin, INPUT);
  pinMode(pinADC, INPUT);
  Wire.begin();
  lightMeter.begin();
```

```

lcd.init();
lcd.init();
lcd.backlight();

// Initialize the rtc object
rtc.begin();
//Dilakukan saat pertama kali untuk kalibrasi waktu
//The following lines can be uncommented to set the date and time
//rtc.setDOW(FRIDAY); // Set Day-of-Week to SUNDAY
//rtc.setTime(9, 7, 0); // Set the time to 12:00:00 (24hr format)
//rtc.setDate(29, 7, 2022); // Set the date to January 1st, 2014

//Serial.println("Data Sensor");

//Status pembacaan micro sd
//Serial.print("Membaca SD Card...");
if (!SD.begin(CS))
{
//Serial.println("Empty/SD Card Rusak!");
lcd.setCursor(0,1);
lcd.print("Gagal/SD Card Rusak");
//lcd.clear();
while (1);
}
//Serial.println("Berhasil");
lcd.setCursor(5,3);
lcd.print("Berhasil");
//lcd.clear();
}

void data_Tegangan() {
value = analogRead (analogPin);
Vmodul= ((value*5.0)/1024.0);
NilaiTegangan = (Vmodul/ (R2/(R1+R2))); }

```

```

void data_Arus(){
  nilaiadc = analogRead (pinADC);
  tegangan= (nilaiadc/1024.0) * 5000;
  NilaiArus =(abs(tegangan-teganganoffset) / sensitivitas);
}

void data_Daya () {
  NilaiDaya = NilaiTegangan*NilaiArus;
}

void data_Cahaya () {
}

void loop()
{
float lux = lightMeter.readLightLevel();
//Serial.print(rtc.getDOWStr());
//Serial.print(" ");
//Serial.print(rtc.getDateStr());
//Serial.print(" ");
//Serial.print(rtc.getTimeStr());
//Serial.print(" ");
//Serial.print(NilaiTegangan);
//Serial.print(" V ");
//Serial.print(NilaiArus);
//Serial.print(" A ");
//Serial.print(NilaiDaya);
//Serial.print(" W ");
//Serial.print(lux);
//Serial.print(" Lux ");
//delay (1000);

data_Tegangan();
lcd.setCursor(0,0);
lcd.print("V =");
lcd.setCursor(4,0);

```

```
lcd.print(NilaiTegangan);  
lcd.setCursor(10,0);  
lcd.print("Volt");
```

```
data_Arus();  
lcd.setCursor(0,1);  
lcd.print("I =");  
lcd.setCursor(4,1);  
lcd.print(NilaiArus);  
lcd.setCursor(10,1);  
lcd.print("Ampere");
```

```
data_Daya();  
lcd.setCursor(0,2);  
lcd.print("P =");  
lcd.setCursor(4,2 );  
lcd.print(NilaiDaya);  
lcd.setCursor(10,2);  
lcd.print("Watt");
```

```
data_Cahaya();  
lcd.setCursor(0,3);  
lcd.print("J =");  
lcd.setCursor(4,3);  
lcd.print(lux);  
lcd.setCursor(10,3);  
lcd.print(" lux");
```

```
delay (3000);  
lcd.clear();
```

```
dataku = SD.open ("progres.txt", FILE_WRITE);  
if (dataku)  
{  
  dataku.println(" ");  
  dataku.print(rtc.getDOWStr());
```



```

dataku.print(" ");
dataku.print(rtc.getDateStr());
dataku.print(" ");
dataku.print(rtc.getTimeStr());
dataku.print(" ");
dataku.print(NilaiTegangan);
dataku.print(" Volt");
dataku.print(" ");
dataku.print(NilaiArus);
dataku.print(" Ampere");
dataku.print(" ");
dataku.print(NilaiDaya);
dataku.print(" Watt");
dataku.print(" ");
dataku.print(lux);
dataku.print(" Lux");
dataku.print(" ");
dataku.close();

lcd.setCursor(0,1);
lcd.print("Berhasil Tersimpan!");
delay (750);
lcd.clear() ;

//Serial.println("Berhasil Tersimpan! ");
//delay(5000);
}

else
{
//Serial.println("Gagal Tersimpan! ");
lcd.setCursor(0,1);
lcd.print("SD Card Empty");
//lcd.clear();
}
}

```


LAMPIRAN C

Gambar Alat

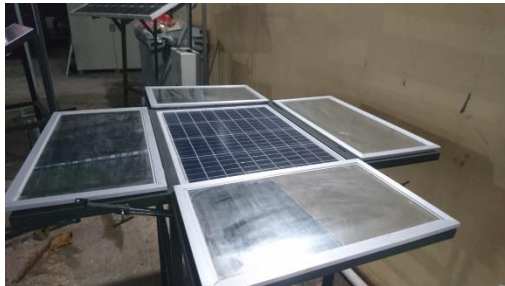
1. Kerangka Mekanik Alat



Gambar A. Tampak Depan

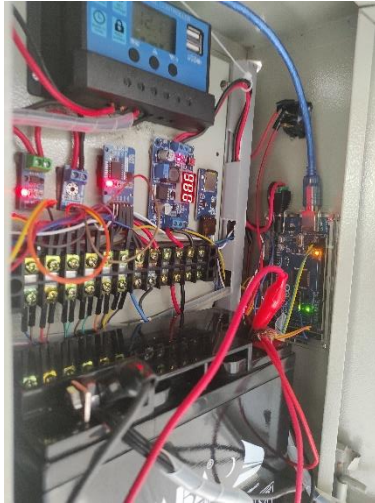


Gambar B. Tampak Samping



Gambar C. Tampak Atas

2. *Wiring Pada Box Panel*



BIODATA PENULIS



Nama : Arief Syaefulloh
Tempat/Tanggal Lahir : Depok, 01 Juni 2001
Alamat : Jl Sabilul Muhtadin No.91, RT03/RW09
Kel. Curug, Kec. Bojongsari, Kota
Depok - 16517
Email : ariefsyf161@gmail.com
Telepon/HP : 08567062702
Hobi : Bulutangkis
Motto : The First Choice is the Best Choice

Riwayat Pendidikan

- MI Masyarikul Anwar Tahun 2007-2013
- SMP Negeri 18 Depok Tahun 2013-2016
- SMA Negeri 10 Depok Tahun 2016-2019
Jurusan IPA
- Politeknik Negeri Cilacap Tahun 2019-2022
Prodi D3 Teknik Listrik

Penulis telah mengikuti seminar proposal pada tanggal 17 Februari 2022 sebagai salah satu persyaratan untuk memperoleh gelar Ahli Madya (A.Md)