

LAMPIRAN

Program Perancangan Alat

```
#include <SPI.h>
#include <nRF24L01.h>
#include <RF24.h>
#include "DHT.h"
#include <BH1750.h>
#include <Wire.h>
BH1750 lightMeter;
RF24 radio(7, 8); // CE, CSN
const byte address[6] = "00000";
#define DHTPIN 2
#define DHTTYPE DHT11
DHT dht(DHTPIN, DHTTYPE);
unsigned long d1,d2=0;
int analogPin = A2; // pin arduino yang terhubung dengan pin S modul sensor tegangan
float Vmodul = 0.0;
float hasil = 0.0;
float R1 = 100000.0; //30k
float R2 = 10000.0; //7500 ohm resistor,
int value = 0;
const int pinADC = A3;
int sensitivitas = 185; //tegantung sensor arus yang digunakan, yang ini 5A
int nilaiadc= 00;
int teganganoffset = 2500; //nilai pembacaan offset saat tidak ada arus yang lewat
double tegangan = 00;
```

```
double nilaiarus = 00;

float t;

struct data{

    float tegangan1;

    float arus;

    float suhu;

    float cahaya;

}data;

float i;

float lux;

void setup() {

    Serial.begin(9600);

    pinMode(analogPin, INPUT);

    dht.begin();

    Wire.begin();

    radio.begin();

    lightMeter.begin();

    radio.openWritingPipe(address);

    radio.setPALevel(RF24_PA_MIN);

    radio.stopListening();

}

void loop() {

    d1=millis();

    stegangan();

    data_olah();

    //sensordht();

    sensorcahaya();
```

```

    senddata(1000);
}

void senddata(int d3){
    if(d1-d2>d3){
        d2=d1;

        i++;

        if(i>5){
            i=0;
        }

        data.tegangan1=hasil;
        data.arus=nilaiarus;
        data.suhu=20;
        data.cahaya=lux;
        const char text[] = "Hello World";
        radio.write(&data, sizeof(data));
        Serial.println(data.cahaya);
    }
}

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

void data_olah(){
    nilaiadc = analogRead(pinADC);
    tegangan = (nilaiadc / 1024.0) * 5000;
    nilaiarus = ((tegangan - teganganoffset) / sensitivitas);
}

```

```
}  
void sensordht(){  
    t = dht.readTemperature();  
}  
void sensorcahaya(){  
    lux = lightMeter.readLightLevel();  
}
```

Foto Pengerjaan Skripsi

