LAMPIRAN

A. Listing Program

1. Program Mikrokontroler Arduino Uno

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

LiquidCrystal_I2C lcd(0x27, 20, 4);

int sensorvoltage = A1;
int nilai_ADC = 0;
float R1 = 30000;
float R2 = 7800;
float Voltage = 0.00;
float Vin = 0.00;

float midPoint = 0.0;
bool midPointSet = false;
const float currentThreshold = 0.08;

void setup() {
  Serial.begin(9600); // Initialize main Serial for communication
with ESP32 and for debugging
  lcd.begin();
  lcd.backlight();

  // Display the first line centered
  lcd.setCursor(0, 0);
  lcd.print("  MESIN PERONTOK   ");

  // Display the second line centered
  lcd.setCursor(7, 1);
  lcd.print("PADI");

  // Display the third line centered
  lcd.setCursor(5, 2);
  lcd.print("MENGGUNAKAN");
```

```
  // Display the fourth line centered
  lcd.setCursor(3, 3);
  lcd.print("   SOLAR CELL   ");

  delay(5000);
  lcd.clear();
}

void loop() {
  nilai_ADC = analogRead(sensorvoltage);
  Vin = (nilai_ADC * 5.0) / 1023.0;
  Voltage = (Vin * (R1 + R2) / R2);

  unsigned int x = 0;
  float AcsValue = 0.0, Samples = 0.0, AvgAcs = 0.0, AcsValueF
= 0.0;

  for (x = 0; x < 150; x++) {
    AcsValue = analogRead(A0);
    Samples += AcsValue;
    delay(3);
  }

  AvgAcs = (Samples / 150.0);
  Serial.print("AvgAcs: ");
  Serial.println(AvgAcs);

  if (!midPointSet) {
    midPoint = AvgAcs;
    midPointSet = true;
  }

  float currentReading = AvgAcs - midPoint;

  if (fabs(currentReading) < currentThreshold) {
    currentReading = 0.0;
  }
```

```
 AcsValueF = (currentReading * (5.0 / 1023.0)) / 0.066;

 if (fabs(currentReading) < currentThreshold) {
  AcsValueF = 0.0;
 }

 Serial.print("V:");
 Serial.print(Voltage);
 Serial.print(",A:");
 Serial.println(AcsValueF);

 lcd.setCursor(0, 0);
 lcd.print("VOLTAGE : ");
 lcd.setCursor(10, 0);
 lcd.print(Voltage);
 lcd.setCursor(14, 0);
 lcd.print(" V");

 lcd.setCursor(0, 1);
 lcd.print("CURRENT : ");
 lcd.setCursor(10, 1);
 lcd.print(AcsValueF);
 lcd.setCursor(14, 1);
 lcd.print(" A");
 delay(1000); // Send data every second
}
```

2. Program Mikrokontroler ESP 32

```
#define BLYNK_TEMPLATE_ID "TMPL66wNqMR-d"
#define BLYNK_TEMPLATE_NAME "monitoring perontok
padi "
#define BLYNK_AUTH_TOKEN
"a7whBKqRvPp0JfLMIF3ngcc8T5eP1uZ2"

#include <WiFi.h>
#include <BlynkSimpleEsp32.h>

#define LED_BUILTIN 2
#define RXD2 16
```

```
#define TXD2 17

char ssid[] = "Elvin";
char pass[] = "helloelvin1";

float voltage = 0.0;
float current = 0.0;

void setup() {
  Serial.begin(9600); // Initialize Serial Monitor
  Serial2.begin(9600, SERIAL_8N1, RXD2, TXD2); // Initialize
Serial2 for communication with Arduino

  // Connecting to WiFi
  Serial.println("Connecting to WiFi...");
  WiFi.begin(ssid, pass);
  while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
    digitalWrite(LED_BUILTIN, LOW);
  }
  Serial.println("\nWiFi connected");
  digitalWrite(LED_BUILTIN, HIGH);
  Serial.print("IP address: ");
  Serial.println(WiFi.localIP());

  // Connecting to Blynk
  Serial.println("Connecting to Blynk...");
  Blynk.begin(BLYNK_AUTH_TOKEN, ssid, pass);

  // Check if connected to Blynk
  while (!Blynk.connected()) {
    delay(500);
    Serial.print(".");
  }
  Serial.println("\nBlynk connected");
}

void loop() {
```

```
  if (Serial2.available()) {
    String data = Serial2.readStringUntil('\n'); // Read from Serial2
    Serial.println(data);  // Print the received data for debugging
    parseData(data);
    Blynk.virtualWrite(V0, voltage); // Send Voltage to Blynk
    Blynk.virtualWrite(V2, current); // Send Current to Blynk
  }
  Blynk.run();
}

void parseData(String data) {
  int voltageIndex = data.indexOf("V:");
  int currentIndex = data.indexOf(",A:");
  if (voltageIndex >= 0 && currentIndex >= 0) {
    voltage = data.substring(voltageIndex + 2,
currentIndex).toFloat();
    current = data.substring(currentIndex + 3).toFloat();
  }
}
```

B. Dokumentasi Pengambilan Data

Keterangan	Dokumentasi
Monitoring Tegangan dan Arus pada LCD dan Blynk	
	
Pengujian Tegangan dan Arus Mesin Perontok Padi	

Percobaan Mesin Perontok	
	
Hasil Perontokan Padi