



LAMPIRAN

LAMPIRAN A

Program

```
#include <PZEM004Tv30.h>

#include <Wire.h>

#include <WiFi.h>

#if !defined(PZEM_RX_PIN) && !defined(PZEM_TX_PIN)

#define PZEM_RX_PIN 16

#define PZEM_TX_PIN 17

#endif

#if !defined(PZEM_SERIAL)

#define PZEM_SERIAL Serial2

#endif

#if defined(ESP32)

PZEM004Tv30      pzem(PZEM_SERIAL,      PZEM_RX_PIN,
PZEM_TX_PIN);

#elif defined(ESP8266)

//PZEM004Tv30 pzem(Serial1);
```

```

#else

PZEM004Tv30 pzem(PZEM_SERIAL);

#endif

float voltage, current, power, energy, frequency, pf;

#define BLYNK_PRINT Serial

#define BLYNK_TEMPLATE_ID "TMPL61Th6W2XQ"

#define BLYNK_TEMPLATE_NAME "Monitoring Alat"

#define BLYNK_AUTH_TOKEN
"cdgrz4kR9kJidYZ_5ClBuBilntaenHl7"

#include <WiFi.h>

#include <WiFiClient.h>

#include <BlynkSimpleEsp32.h>

char auth[] = BLYNK_AUTH_TOKEN;

char ssid[] = "POCO X3 Pro";

char pass[] = "gusti123";

const int anemometerPin = 2; // Pin sensor anemo meter

```

```
volatile int windSpeedCounter = 0;

unsigned long lastMillis = 0;

void IRAM_ATTR countWindSpeed() {
    windSpeedCounter++;
}

void setup() {
    Blynk.begin(auth, ssid, pass);
    Serial.begin(9600);
    delay(100);
    pinMode(anemometerPin, INPUT_PULLUP);

    attachInterrupt(digitalPinToInterrupt(anemometerPin),
countWindSpeed, FALLING);
}

void loop() {

    Anemometer();

    // Print the custom address of the PZEM
```

```
Serial.print("Custom Address:");  
  
Serial.println(pzem.readAddress(), HEX);  
  
// Read the data from the sensor  
  
voltage = pzem.voltage();  
  
current = pzem.current();  
  
power = pzem.power();  
  
energy = pzem.energy();  
  
frequency = pzem.frequency();  
  
pf = pzem.pf();  
  
// Check if the data is valid  
  
if (isnan(voltage)) {  
    Serial.println("Error reading voltage");  
} else if (isnan(current)) {  
    Serial.println("Error reading current");  
} else if (isnan(power)) {  
    Serial.println("Error reading power");  
} else if (isnan(energy)) {  
    Serial.println("Error reading energy");  
} else if (isnan(frequency)) {
```

```
    Serial.println("Error reading frequency");
} else if (isnan(pf)) {
    Serial.println("Error reading power factor");
} else {
    // Print the values to the Serial console

    Serial.print("Voltage:                ");
    Serial.print(voltage);      Serial.println("V");

    Serial.print("Current:                ");
    Serial.print(current);      Serial.println("A");

    Serial.print("Power:                  ");
    Serial.print(power);        Serial.println("W");

    Serial.print("Energy:                  ");
    Serial.print(energy, 3);    Serial.println("kWh");

    Serial.print("Frequency:              ");
    Serial.print(frequency, 1); Serial.println("Hz");

    Serial.print("PF: ");          Serial.println(pf);

    Blynk.virtualWrite(V0, voltage);

    Blynk.virtualWrite(V1, current);

    Blynk.virtualWrite(V2, power);
}

Blynk.run();
```

```

    Serial.println();
}

void Anemometer(){

    // rumus anemometer

    if (millis() - lastMillis >= 1000) {

        lastMillis = millis();

        float windSpeed = (windSpeedCounter / 2.0) * 2.4;
// hasil km/h

        float hasil = windSpeed / 3.6; // pembagian km/h
menjadi m/s

        Serial.print("Wind Speed: ");

        Serial.print(hasil); // serial print

        Serial.println(" m/s");

        // Reset the counter for the next second

        windSpeedCounter = 0;

        Blynk.virtualWrite(V3, hasil); // tampilan pada
Blynk

    }

}

```

LAMPIRAN B


Gambar Dokumentasi Hasil Pengukuran Arus dan Tegangan



Pengukuran Arus lampu 5 Watt dengan alat ukur multimeter



Pengukuran tegangan lampu 5 Watt dengan alat ukur multimeter

	<p>Pengukuran RPM Generator</p>



Wiring Panel



BIODATA PENULIS

BIODATA PENULIS



Nama : Andika Gusti Pamungkas
Tempat/Tanggal lahir : Cilacap, 24 Agustus 2003
Alamat : Jl. Bromo No. 66
Email : andikapamungkas72@gmail.com
Hobi : Travelling
Motto : *“Every could has a silver lining”*

Riwayat Pendidikan

TK Pertiwi Ranting Cilacap	Tahun 2008 - 2009
SD Negeri Sidanegara 01 Cilacap	Tahun 2009 - 2015
SMP Negeri 01 Cilacap	Tahun 2015 - 2018
SMK Negeri 02 Cilacap	Tahun 2018 - 2021
Politeknik Negeri Cilacap	Tahun 2021 – 2024

Penulis telah mengikuti sidang Tugas Akhir pada tanggal 19 Agustus 2024 sebagai salah satu persyaratan untuk memperoleh gelar Ahli Madya (A.Md.)