

LAMPIRAN A (Alat)





LAMPIRAN B

(program)

```
#include <PZEM004Tv30.h>
#include <Wire.h>
#include <WiFi.h>
#include <BH1750.h>
#include <LiquidCrystal_I2C.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)
#else
PZEM004Tv30 pzem(PZEM_SERIAL);
#endif
float voltage, current, power, energy, frequency, pf;

#define BLYNK_PRINT Serial
#define BLYNK_TEMPLATE_ID "TMPL6jzCwNKNC"
#define BLYNK_TEMPLATE_NAME "control daya"
#define BLYNK_AUTH_TOKEN
"BXMoYeFnC8aa5S2VGulSVP4IHmGLsqk7"
#define BLYNK_PRINT Serial
#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>

char auth[] = BLYNK_AUTH_TOKEN;
char ssid[] = "12345";
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char pass[] = "1234567890";

int value1;
BH1750 lightMeter;
BLYNK_WRITE(V4){ //relay 1
if (param.asInt()== HIGH){
digitalWrite(13, LOW);
}
else {
digitalWrite(13, HIGH);
}
Serial.print("HELLOW = ");
Serial.println(value1);
delay(100);

}

void setup() {
Blynk.begin(auth, ssid, pass);
Serial.begin(9600);
Wire.begin();
lightMeter.begin();
Serial.println(F("BH1750 Test begin"));
pinMode(13, OUTPUT);
digitalWrite(13, HIGH);

}

void loop() {
BLYNK_WRITE(V4);
Blynk.run();

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");
} if (isnan(current)) {
  Serial.println("Error reading current");
} if (isnan(power)) {
  Serial.println("Error reading power");
} if (isnan(energy)) {
  Serial.println("Error reading energy");
} if (isnan(frequency)) {
  Serial.println("Error reading frequency");
} if (isnan(pf)) {
  Serial.println("Error reading power factor");
} else {
  // Print the values to the Serial console
Serial.print("Voltage: ");
Serial.println("V");
Serial.print("Current: ");
Serial.println("A");
Serial.print("Power: ");
Serial.println("W");
Serial.print("Energy: ");
Serial.println("kWh");
Serial.print("Frequency: ");
Serial.println("Hz");
Serial.print("PF: ");
Serial.print(voltage);
Serial.print(current);
Serial.print(power);
Serial.print(energy, 3);
Serial.print(frequency, 1);
Serial.println(pf);
delay(2000);
}
Serial.println();
float lux = lightMeter.readLightLevel();
Serial.print("luxxxx: ");
Serial.print(lux);
Serial.println(" lx");

```

```
    delay(1000);  
  
    Blynk.virtualWrite(V1,current);  
    Blynk.virtualWrite(V2,voltage);  
    Blynk.virtualWrite(V3,power);  
    Blynk.virtualWrite(V0,lux);  
  
}
```

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