

LAMPIRAN

PROGRAM

```
#include <SPI.h>
#include <Wire.h>
#include <Adafruit_SSD1306.h>
#include <Adafruit_GFX.h>
#define OLED_RESET 4
Adafruit_SSD1306 display(OLED_RESET);

const int stepPin = 3;
const int dirPin = 4;

int y = 0;
int z = 0;
int derajat = 0;
int stepp = 0;
int arah = 0;
int putarr = 0;
int ganti = 0;

int tombolkiri; // mode otomatis = tombol run (merah)
int tombolkanan; // mode otomatis = tombol arah (kuning)
int tombolderajat; // hijau
int tombolmenu; // hitam

void setup() {
  Serial.begin(9600);

  display.begin(SSD1306_SWITCHCAPVCC, 0x3C);
  display.clearDisplay();

  pinMode(stepPin,OUTPUT);
  pinMode(dirPin,OUTPUT);
  pinMode (6,INPUT_PULLUP);
  pinMode (7,INPUT_PULLUP);
  pinMode (8,INPUT_PULLUP);
  pinMode (9,INPUT_PULLUP);
}

void manual(){
  tombolkiri = digitalRead(6);
  tombolkanan = digitalRead(7);
  if ( ganti == 0 && tombolkiri == LOW)y=1;
  if ( ganti == 0 && tombolkanan == LOW)z=1;
```

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digitalWrite(dirPin,HIGH); // panning kanan
for(int x = 0; x < y; x++) {
  digitalWrite(stepPin,HIGH);
  delayMicroseconds(500);
  digitalWrite(stepPin,LOW);
  delayMicroseconds(500);
  y=0;
}
delay(6);
}
digitalWrite(dirPin,LOW); // panning kiri
for(int x = 0; x < z; x++) {
  digitalWrite(stepPin,HIGH);
  delayMicroseconds(500);
  digitalWrite(stepPin,LOW);
  delayMicroseconds(500);
  z=0;
}
delay(6);
}
void putar(){
  if (arah == 1){ // panning kiri
    digitalWrite(dirPin,HIGH);
    for(int x = 0; x < stepp; x++) {
      digitalWrite(stepPin,HIGH);
      delayMicroseconds(16000);
      digitalWrite(stepPin,LOW);
      delayMicroseconds(16000);
    }
    delay(50);
  }
  if (arah == 0){ // panning kanan
    digitalWrite(dirPin,LOW);
    for(int x = 0; x < stepp; x++) {
      digitalWrite(stepPin,HIGH);
      delayMicroseconds(16000);
      digitalWrite(stepPin,LOW);
      delayMicroseconds(16000);
    }
    delay(50);
  }
}
void otomatis(){
  tombolkiri = digitalRead(6);
  tombolkanan = digitalRead(7);
  tombolderajat = digitalRead(8);
}

```

```

if (ganti == 1 && tombolkanan == LOW){
    arah = arah+1;
    if (arah >=2 ) arah=0;
    delay(200);
}
if (ganti == 1 && tombolderajat == LOW){
    derajat=derajat+90;
    if(derajat > 360)derajat = 0;
    delay(200);
}
if (derajat == 90)stepp = 540;
else if (derajat == 180)stepp = 1080;
else if (derajat == 270)stepp = 1620;
else if (derajat == 360)stepp = 2160;
else stepp=0;
}

void gantii(){
    tombolmenu = digitalRead(9);
    if (tombolmenu == LOW){
        ganti = ganti+1;
        if (ganti >= 2)ganti = 0;
        delay(200);
    }
}

void loop() {
    gantii();
    manual();
    otomatis();
    tampilan ();
    if (ganti == 1 && tombolkiri == LOW){
        putarr = 1;
    }
    if (putarr == 1) putar();
    Serial.print(ganti);
    Serial.print("-");
    Serial.print(arah);
    Serial.print("-");
    Serial.print(stepp);
    Serial.print("-");
    Serial.println(putarr);
    putarr = 0;
}

```

```

void tampilan(){
  if (ganti == 0){
    display.clearDisplay();
    display.setTextSize(1);
    display.setTextColor(WHITE);
    display.setCursor(35,0);
    display.println("MODE MANUAL");

    if (tombolkiri == LOW){
      display.setTextSize(1);
      display.setTextColor(WHITE);
      display.setCursor(43,15);
      display.println("<- KIRI");
    }
    if (tombolkanan == LOW){
      display.setTextSize(1);
      display.setTextColor(WHITE);
      display.setCursor(43,15);
      display.println("KANAN ->");
    }
    display.display();
  }
  if (ganti == 1){
    display.clearDisplay();
    display.setTextSize(1);
    display.setTextColor(WHITE);
    display.setCursor(27,0);
    display.println("MODE OTOMATIS");

    display.setTextSize(1);
    display.setTextColor(WHITE);
    display.setCursor(28,10);
    display.print("ARAH = ");
    if (arah == 1)display.println("<-");
    if (arah == 0)display.println("->");

    display.setTextSize(1);
    display.setTextColor(WHITE);
    display.setCursor(28,20);
    display.print("DERAJAT = ");
    display.println(derajat);
    display.display();
  }
}

```

TAMPILAN ALAT

