

LAMPIRAN

KODE PROGRAM

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#include <LiquidCrystal_I2C.h>
LiquidCrystal_I2C lcd(0x27, 16, 2);

float arus0, arus2, arus3, arustotal, vout0, vout2, vout3, K0, K2, K3;
int adc0, adc2, adc3;
int dataMax0, dataMax2, dataMax3;

void setup()
{
  lcd.begin();
  pinMode(A0, INPUT_PULLUP);
  pinMode(A2, INPUT_PULLUP);
  pinMode(A3, INPUT_PULLUP);
  dataMax0 = adc0;
  dataMax2 = adc2;
  dataMax3 = adc3;
  pinMode(9, OUTPUT);
  pinMode(12, OUTPUT);
}

void loop()
{
  for ( int i = 0; i < 1000; i++) {
    adc0 = analogRead(A0);
    adc2 = analogRead(A2);
    adc3 = analogRead(A3);
    if ( adc0 > dataMax0) dataMax0 = adc0;
    if ( adc2 > dataMax2) dataMax2 = adc2;
    if ( adc3 > dataMax3) dataMax3 = adc3;
    delay(1);
  }
  vout0 = dataMax0 * (5.0 / 1023);
  vout2 = dataMax2 * (5.0 / 1023);
  vout3 = dataMax3 * (5.0 / 1023);

  if (dataMax0 < 527) K0 = 0.36;
  else if (dataMax0 < 532) K0 = 0.4;
  else if (dataMax0 < 543) K0 = 0.47;
  else if (dataMax0 < 546) K0 = 0.47;
  else if (dataMax0 < 597) K0 = 0.82;
  else if (dataMax0 < 602) K0 = 0.85;
  else if (dataMax0 < 604) K0 = 1.20;
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else if (dataMax0 < 613) K0 = 0.93;

if (dataMax2 < 528) K2 = 0.38;
else if (dataMax2 < 534) K2 = 0.45;
else if (dataMax2 < 544) K2 = 0.50;
else if (dataMax2 < 549) K2 = 0.55;
else if (dataMax2 < 600) K2 = 0.87;
else if (dataMax2 < 604) K2 = 0.93;
else if (dataMax2 < 607) K2 = 1.28;
else if (dataMax2 < 615) K2 = 0.98;

if (dataMax3 < 524) K3 = 0.51;
else if (dataMax3 < 527) K3 = 0.57;
else if (dataMax3 < 533) K3 = 0.64;
else if (dataMax3 < 535) K3 = 0.66;
else if (dataMax3 < 564) K3 = 1.08;
else if (dataMax3 < 566) K3 = 1.06;
else if (dataMax3 < 568) K3 = 1.47;
else if (dataMax3 < 575) K3 = 1.19;

arus0 = (abs(vout0 - 2.50) / 0.185) - K0;
arus2 = (abs(vout2 - 2.50) / 0.185) - K2;
arus3 = (abs(vout3 - 2.50) / 0.100) - K3;
arustotal = arus0 + arus2 + arus3;
if (arus0 < 0.03) arus0 = 0;
if (arus2 < 0.03) arus2 = 0;
if (arus3 < 0.03) arus3 = 0;

lcd.clear();
lcd.setCursor(0, 0);
lcd.print(dataMax0);
lcd.setCursor(0, 1);
lcd.print(arus0);

lcd.setCursor(5, 0);
lcd.print(dataMax2);
lcd.setCursor(5, 1);
lcd.print(arus2);

lcd.setCursor(10, 0);
lcd.print(dataMax3);
lcd.setCursor(10, 1);
lcd.print(arus3);

digitalWrite(9, LOW);
digitalWrite(12, LOW);

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if (arustotal>2.00) digitalWrite(9, HIGH);
if ((arus0>1.65) && (arustotal>2.00)) digitalWrite(12, HIGH);

dataMax0 = 0;
dataMax2 = 0;
dataMax3 = 0;

arus0 = 0;
arus2 = 0;
arus3 = 0;

vout0 = 0;
vout2 = 0;
vout3 = 0;
delay(1000);
}
```