LAMPIRAN

A.Program Alat

```
#include <Wire.h>

     #include <LiquidCrystal_I2C.h>
     LiquidCrystal_I2C lcd(0x27,16,2);  // set the LCD
     address to 0x27 for a 16 chars and 2 line display

     #define flowTeh 2
     #define flowGula 3
     #define IR 4
     #define motorPutar 10
     #define pumpTeh 8
     #define pumpGula 9
     #define up 25
     #define ok 27
     #define down 29
     #define buzzer 31

     volatile int counterTeh=0;
     volatile int counterGula=0;
     float volumeTeh = 0;                        //
     Variabel untuk menyimpan debit air
     float volumeGula = 0;
     float setVolumeTeh = 50;
     float setVolumeGula = 50;

     unsigned long previousMillis = 0;      // Waktu
     sebelumnya untuk perhitungan interval
     const unsigned long interval = 1000;  // Interval
     pembacaan dalam ms (1 detik)

     void pulseTehCounter() {
       counterTeh++;
     }
     void pulseGulaCounter() {
       counterGula++;
     }
```

```
void setup(){
  Serial.begin(9600);
  lcd.init();
  lcd.backlight();
  pinMode(flowTeh, INPUT_PULLUP);
  pinMode(flowGula, INPUT_PULLUP);
  pinMode(IR, INPUT);                  //aktif LOW
  pinMode (ok,INPUT_PULLUP);
  pinMode (up,INPUT_PULLUP);
  pinMode (down,INPUT_PULLUP);
  pinMode (motorPutar,OUTPUT);
  pinMode (pumpTeh,OUTPUT);
  pinMode (pumpGula,OUTPUT);
  pinMode(buzzer,OUTPUT);

  lcd.setCursor(0,0);lcd.print("   MESIN
TEH    ");
  lcd.setCursor(0,1);lcd.print("   OTOMATIS     ")
;
  delay(2000);
  alarm();
  lcd.clear();



}

void loop(){

 menuStandby:
 counterTeh=0;
 counterGula=0;
 lcd.setCursor(0,0);lcd.print("Teh = ");
lcd.setCursor(6,0);lcd.print(setVolumeTeh,0);lcd.s
etCursor(14,0);lcd.print("mL");
 lcd.setCursor(0,1);lcd.print("Air = ");
lcd.setCursor(6,1);lcd.print(setVolumeGula,0);
lcd.setCursor(14,1);lcd.print("mL");
 if(digitalRead(up)==0){bip();lcd.clear();goto
menuSetTeh;}
 if(digitalRead(ok)==0){alarm();goto menuStart;}
 goto menuStandby;
```

```
 menuSetTeh:
 lcd.setCursor(0,0);lcd.print("Atur Volume Teh");
lcd.setCursor(14,1);lcd.print("mL");
 lcd.setCursor(6,1);lcd.print(setVolumeTeh,0);
 if(digitalRead(up)==0){bip();setVolumeTeh+=10;}
 if(digitalRead(down)==0){bip();setVolumeTeh-=10;}

if(setVolumeTeh<100){lcd.setCursor(8,1);lcd.print(
"   ");}

if(setVolumeTeh>=100&&setVolumeTeh<1000){lcd.setCu
rsor(9,1);lcd.print("  ");}
 if(setVolumeTeh<0)setVolumeTeh=0;
 if(digitalRead(ok)==0){bip();lcd.clear();goto
menuSetGula;}
 goto menuSetTeh;

 menuSetGula:
 lcd.setCursor(0,0);lcd.print("Atur Volume Air ");
lcd.setCursor(14,1);lcd.print("mL");
 lcd.setCursor(6,1);lcd.print(setVolumeGula,0);
 if(digitalRead(up)==0){bip();setVolumeGula+=10;}
 if(digitalRead(down)==0){bip();setVolumeGula-
=10;}

if(setVolumeGula<100){lcd.setCursor(8,1);lcd.print
("   ");}

if(setVolumeGula>=100&&setVolumeGula<1000){lcd.set
Cursor(9,1);lcd.print("  ");}
 if(setVolumeGula<0)setVolumeGula=0;
 if(digitalRead(ok)==0){bip();lcd.clear();goto
menuStandby;}
 goto menuSetGula;

 menuStart:

while(digitalRead(IR)!=0){digitalWrite(motorPutar,
HIGH);}
 digitalWrite(motorPutar,LOW);
 lcd.clear();
 lcd.setCursor(0,0);lcd.print("MENGISI TEH ");
 lcd.setCursor(0,1);lcd.print("MOHON DITUNGU");
```

```
 goto menuIsiTeh;
 goto menuStart;

 menuIsiTeh:
 attachInterrupt(digitalPinToInterrupt(flowTeh),
pulseTehCounter, FALLING);
 digitalWrite(pumpGula,LOW);
 volumeTeh = counterTeh*0.034;
 //Serial.print("volume teh=");
Serial.print(volumeTeh,0); Serial.println();
delay(100);

if(volumeTeh<setVolumeTeh){digitalWrite(pumpTeh,HI
GH);}

if(volumeTeh>=setVolumeTeh){digitalWrite(pumpTeh,L
OW); counterGula=0; delay(1000);
    lcd.clear();
    lcd.setCursor(0,0);lcd.print("MENGISI AIR ");
    lcd.setCursor(0,1);lcd.print("MOHON DITUNGU");
    goto menuIsiGula;}
 goto menuIsiTeh;

 menuIsiGula:
 attachInterrupt(digitalPinToInterrupt(flowGula),
pulseGulaCounter, FALLING);
 digitalWrite(pumpTeh,LOW);
 volumeGula = counterGula*0.134;
 //Serial.print("volume gula=");
Serial.print(volumeGula); Serial.println();
delay(50);

if(volumeGula<setVolumeGula){digitalWrite(pumpGula
,HIGH);}

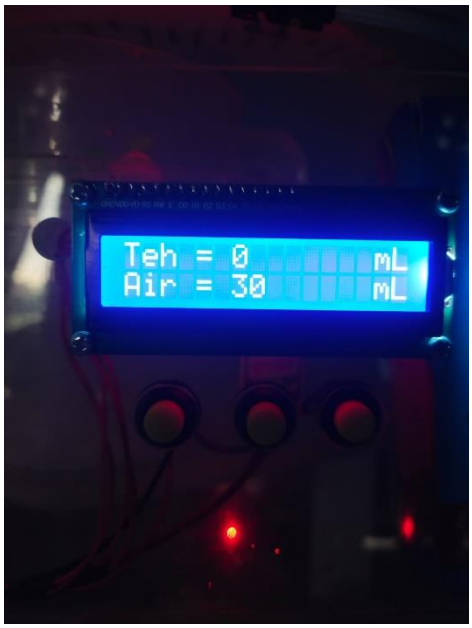
if(volumeGula>=setVolumeGula){digitalWrite(pumpGul
a,LOW);
    delay(1000);
    digitalWrite(motorPutar,HIGH);
    delay(2000);
    digitalWrite(motorPutar,LOW);
    alarm();lcd.clear(); goto menuStandby;}
 goto menuIsiGula;
```

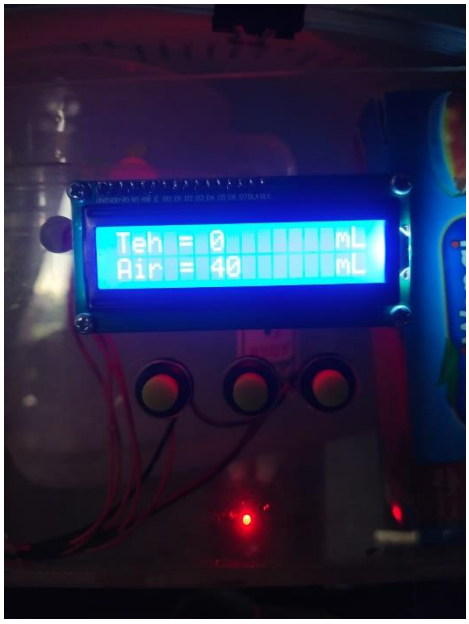
```
}


void alarm(){ digitalWrite(buzzer,1); delay(50);
              digitalWrite(buzzer,0); delay(50);
              digitalWrite(buzzer,1); delay(50);
              digitalWrite(buzzer,0); delay(50);;}
void bip(){digitalWrite(buzzer,1); delay(50);
              digitalWrite(buzzer,0);
delay(50);;}
```

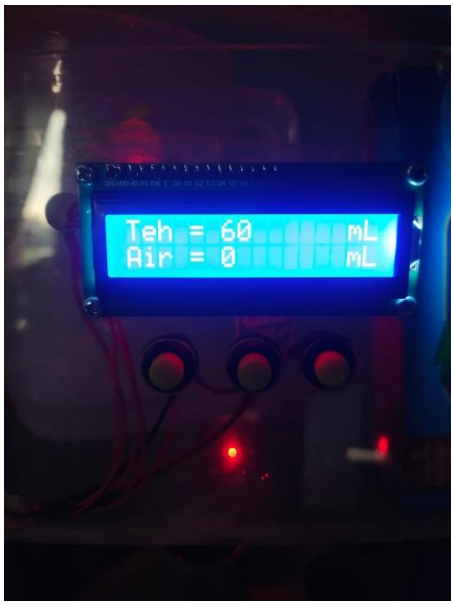
B. Dokumentasi Alat

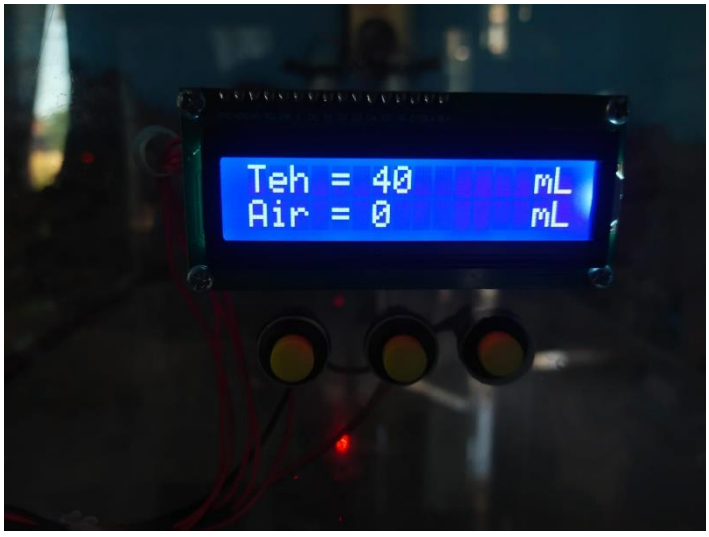







Teh = 50 mL
Air = 0 mL


Teh = 60 mL
Air = 0 mL


Teh = 40 mL
Air = 0 mL

KARTU MONITORING BIMBINGAN

MAHASISWA PROGRAM STUDI TEKNIK ELEKTRO
FAKULTAS TEKNIK
UNIVERSITAS MUHAMMADIYAH PAREPARE

SKRIPSI

Siswa : Ashar	Pembimbing I : Ashadi Amir, ST., MT.
: 218180063	Pembimbing II : Asrul, ST., MT.
Skripsi : Rancang Bangun Alat Pengemasan Minuman Gelas Otomatis berbasis Arduino	

ARAHAN PEMBIMBING I	HARI/TGL & PARAF PEMBIMBING	ARAHAN PEMBIMBING II	HARI/TGL & PARAF PEMBIMBING
tasi 1		Konsultasi 1 Kata Pengantar, Jenis Huruf & Script Program & Jarak Spasi	
itasi 2		Konsultasi 2 Uji Akurasi Takaran Airnya.	
ltasi 3		Konsultasi 3 Acc Ujian Tertutup.	
ultasi 4 ACC Seminar Hasil		Konsultasi 4	
ultasi 5		Konsultasi 5	

Lanjut ke halaman sebelah...

tian :

ahasiswa wajib konsultasi minimal 5 kali
artu ini wajib dibawa oleh mahasiswa disetiap konsultasi dan diisi oleh Pembimbing
artu ini wajib dilampirkan pada laporan skripsi dan menjadi salah satu persyaratan untuk ikut seminar proposal/ujian skripsi
artu ini dicetak di atas kertas karton A4 berwarna merah muda dan dicetak timbal balik