

Digital thermometer 4 channel

Deskripsi :

Arduino UNO membaca temperature dengan 4 sensor suhu dan hasilnya ditampilkan ke LCD 2x16. Tipe sensor yang dipakai adalah LM35 dengan range pembacaan suhu $0^{\circ}\text{C} - 100^{\circ}\text{C}$.

Kebutuhan Hardware :

- 4 Sensor suhu LM35
- Modul LCD 2x16
- Modul Arduino UNO
- Power supply +9Volt

Sensor LM35

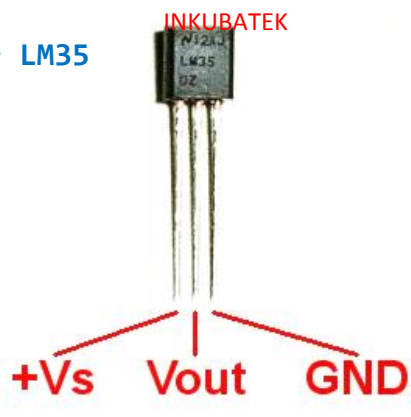
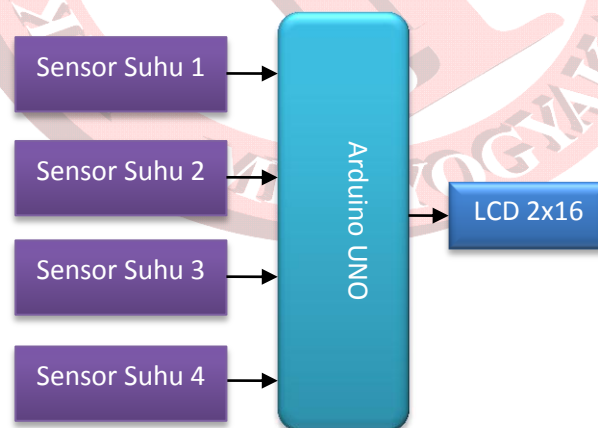
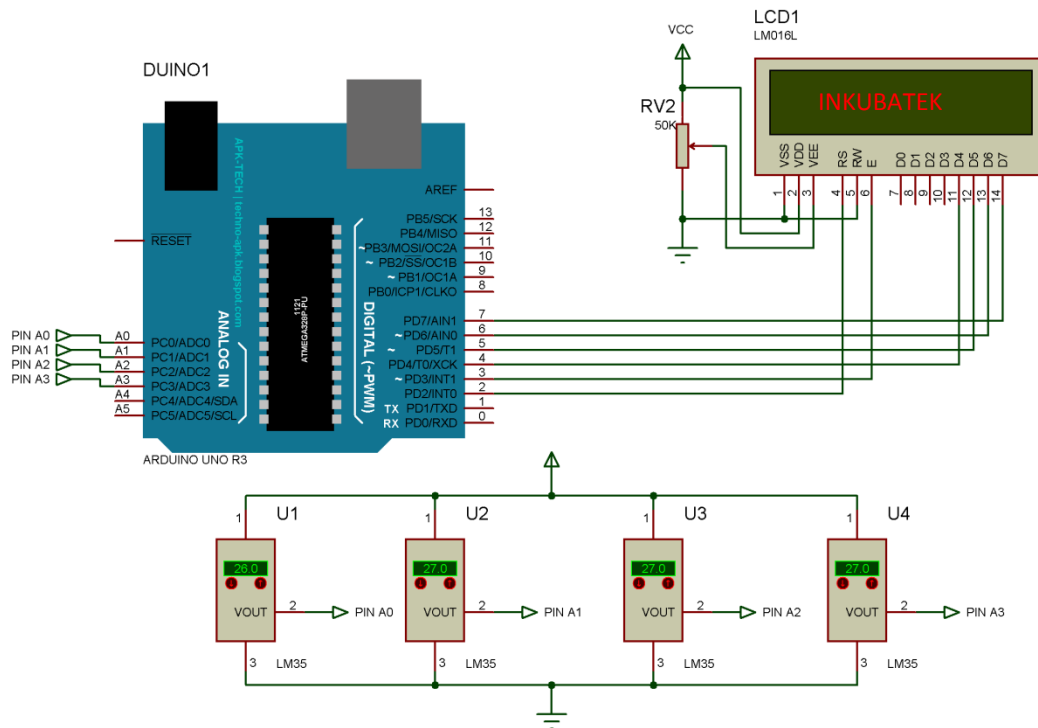


Diagram Blok:



Schematics



Koneksi Arduino UNO dengan LCD:

Pin ARDUINO	LCD
2	RS
3	EN
4	D4
5	D5
6	D6
7	D7

Koneksi Sensor LM35:

Pin Sensor LM35	Pin ARDUINO
VCC	+5V
GND	GND
Output sensor 1	Pin A0
Output sensor 2	Pin A1
Output sensor 3	Pin A2
Output sensor 4	Pin A3

Source Code/Sketch :

```

/*****
* Program : Project 17. Digital thermometer 4 channel
* Input  : Sensor LM35
* Output : LCD 2x16
* 125 Proyek Arduino Inkubatek
* www.tokotronik.com
* *****/

```

```
#include <LiquidCrystal.h>
```

```
LiquidCrystal lcd(2, 3, 4, 5, 6, 7);
```

```
int adc;
```

```
int suhu1, suhu2, suhu3, suhu4;
```

```
void setup(){
```

```
  lcd.begin(16, 2);
```

```
  lcd.print(" Thermometer");
```

```
  lcd.setCursor(0, 1);
```

```
  lcd.print("Digital 4CH LM35");
```

```
  delay(2000);
```

```
  lcd.clear();
```

```
  lcd.print("T1:  T2: ");
```

```
  lcd.setCursor(0, 1);
```

```
  lcd.print("T3:  T4: ");
```

```
}
```

```
void loop(){
```

```
  adc = analogRead(0);
```

```
  suhu1 = (adc*5)/10;
```

```
  delay(200);
```

```
  adc = analogRead(1);
```

```
  suhu2 = (adc*5)/10;
```

```
  delay(200);
```

```
  adc = analogRead(2);
```

```
  suhu3 = (adc*5)/10;
```

```
  delay(200);
```

```
  adc = analogRead(3);
```

```
  suhu4 = (adc*5)/10;
```

```
  delay(200);
```

```
//-----tampilkan ke LCD
```

```
  lcd.setCursor(3,0);
```

```
  lcd.print(suhu1);
```

```
  lcd.print("C ");
```

```
  lcd.setCursor(12,0);
```



```
lcd.print(suhu2);  
lcd.print("C ");  
lcd.setCursor(3,1);  
lcd.print(suhu3);  
lcd.print("C ");  
lcd.setCursor(12,1);  
lcd.print(suhu4);  
lcd.print("C ");  
delay(200);  
}
```

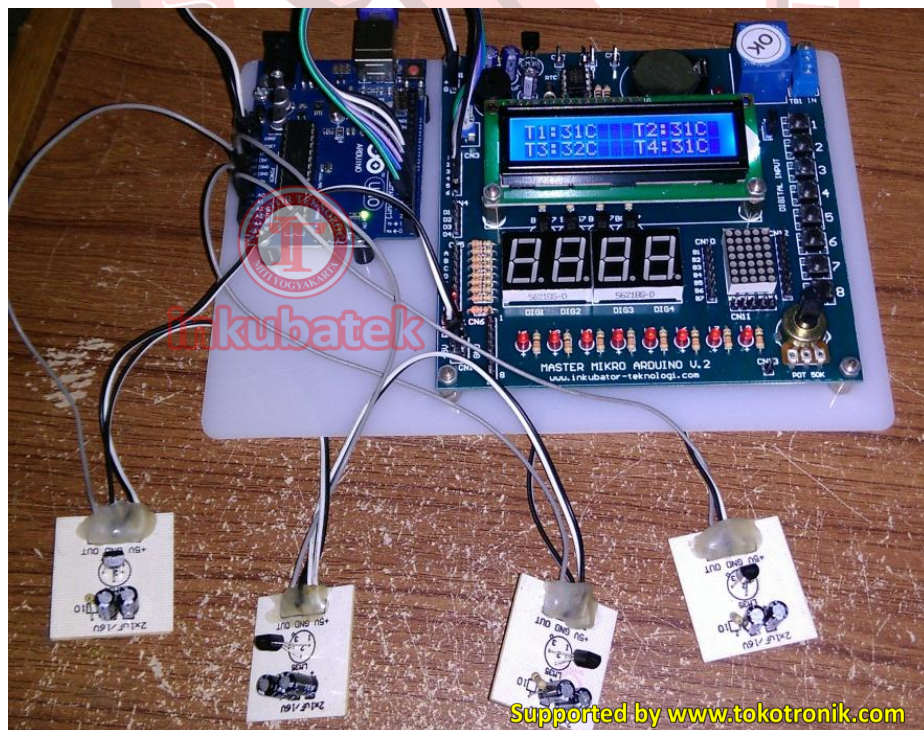
Jalannya Alat :

1. Tampilan pertama pada LCD :

Thermometer Digital 4CH LM35

2. Tampilan normal pada LCD, menampilkan pembacaan suhu pada masing masing sensor:

T1:32C T2:29C
T3:31C T4:31C



[Uji coba memakai hardware “Master Mikro ARDUINO V2” :

<http://tokotronik.com/master-mikro-arduino-v2/>]