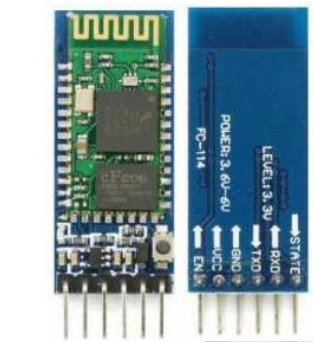
Baca ultrasonic display Android

Deskripsi :

Mengukur jarak menggunakan ultrasonik dengan sensor ultrasonic SR04. Data hasil pengukuran ditampilkan pada HP Android. Data dikirim via bluetooth melalui modul bluetooth HC05 secara serial.

Kebutuhan Hardware :

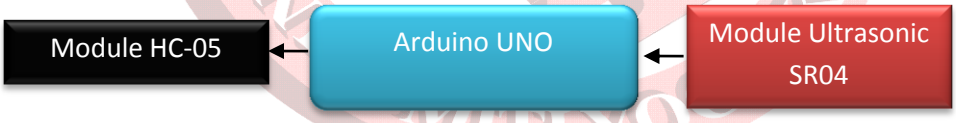
- Modul Arduino UNO
- Modul Bluetooth HC-05
- Modul Ultrasonic SR04
- Power supply +9Volt



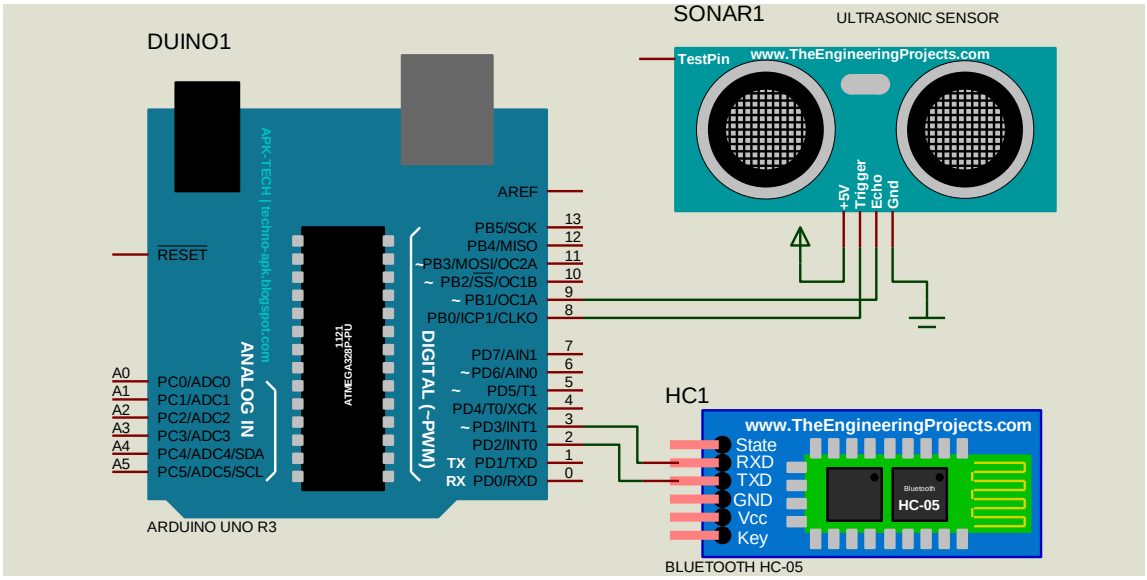
Modul Bluetooth HC-05

Sensor Ultrasonik HC-SR04

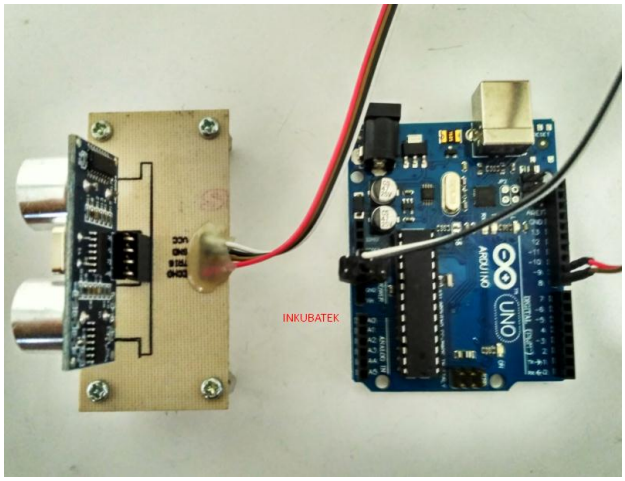
Diagram Blok:

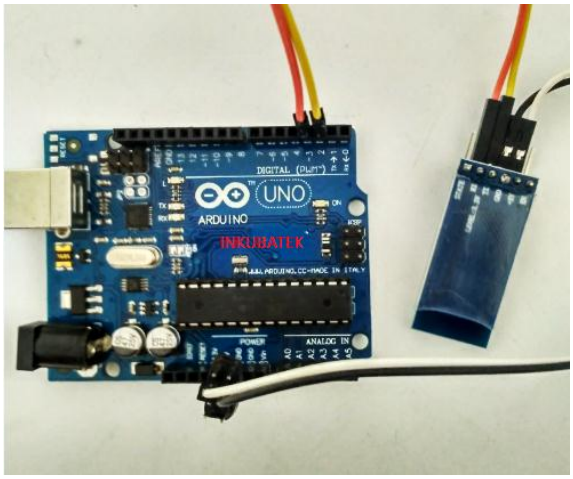


Schematics



Koneksi:





Koneksi LED:

Sensor Ultrasonic	Pin ARDUINO
TRIG	8
ECHO	9
VCC	+5V
GND	GND

Koneksi Modul Bluetooth HC-05:

Pin Modul DHT11	Pin ARDUINO
RX	3
TX	2
VCC	+5V
GND	GND

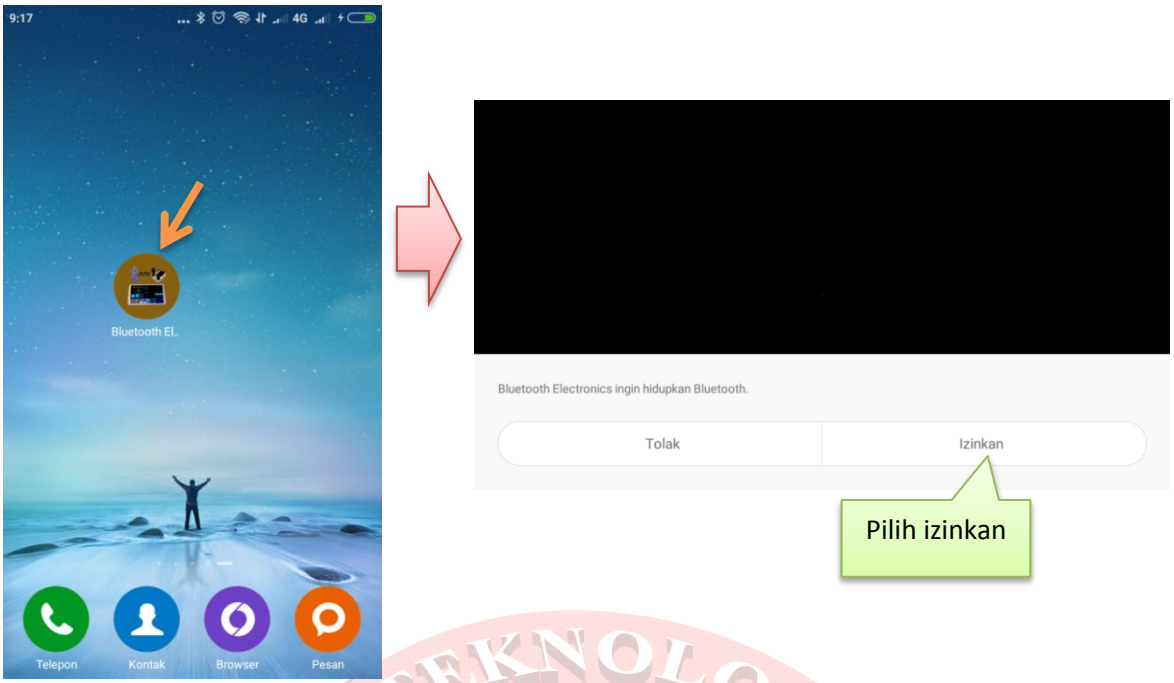
Source Code/Sketch :

```
/************************************
 * Program : Project 14. Baca ultrasonic display Android
 * Input   : Sensor Ultrasonic HC-SR04
 * Output  : Module Bluetooth HC05
 * 125 Proyek Arduino Inkubatek
 * www.tokotronik.com
 * ***********************************/
#include <SoftwareSerial.h>
const int rxpin = 2;
```

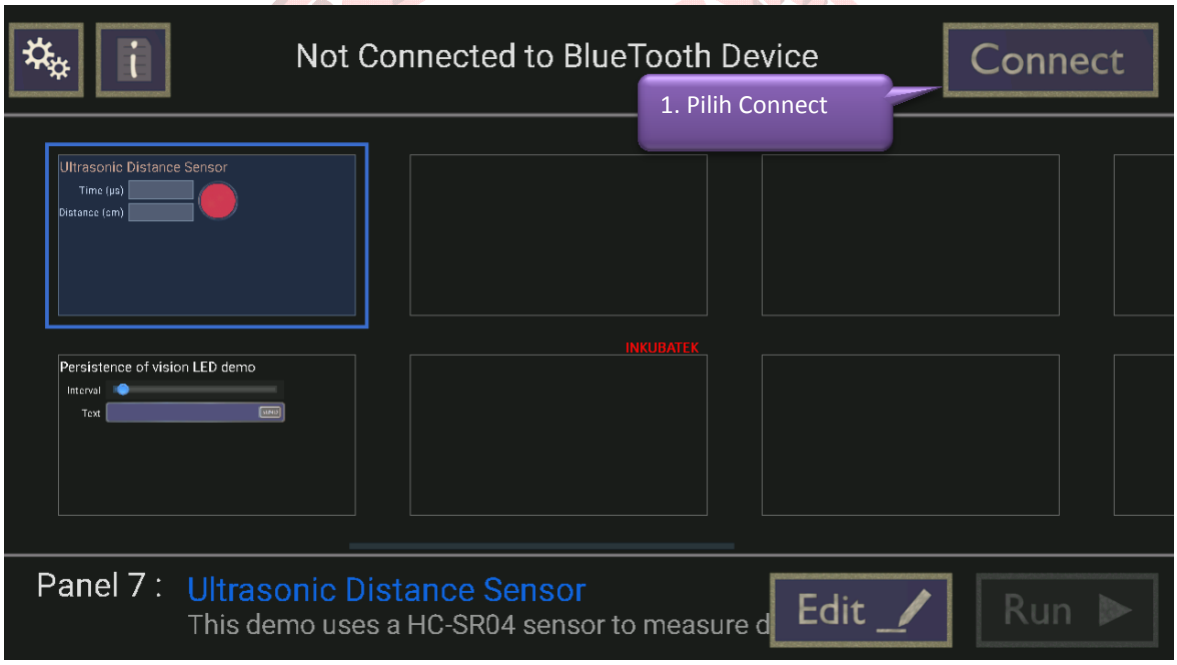
```
const int txpin = 3;
SoftwareSerial hc05(rxpin, txpin);

int trig_pin = 8;
int echo_pin = 9;
long echotime;
float distance;

void setup() {
  hc05.begin (9600);
  pinMode(trig_pin, OUTPUT);
  pinMode(echo_pin, INPUT);
  digitalWrite(trig_pin, LOW);
}

void loop() {
  digitalWrite(trig_pin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trig_pin, LOW);
  echotime= pulseIn(echo_pin, HIGH);
  distance= 0.0001*((float)echotime*340.0)/2.0;

  hc05.print("*T"+String(echotime)+"*");
  hc05.print("*D"+String(distance,1)+"*");
  if (distance<20) hc05.print("*LR255G0B0*"); //Red
  if (distance>=20&&distance<=50) hc05.print("*LR255G200B0*"); //Orange
  if (distance>50) hc05.print("*LR0G255B0*"); //Green

  delay(100);
}
```

Jalannya Alat :

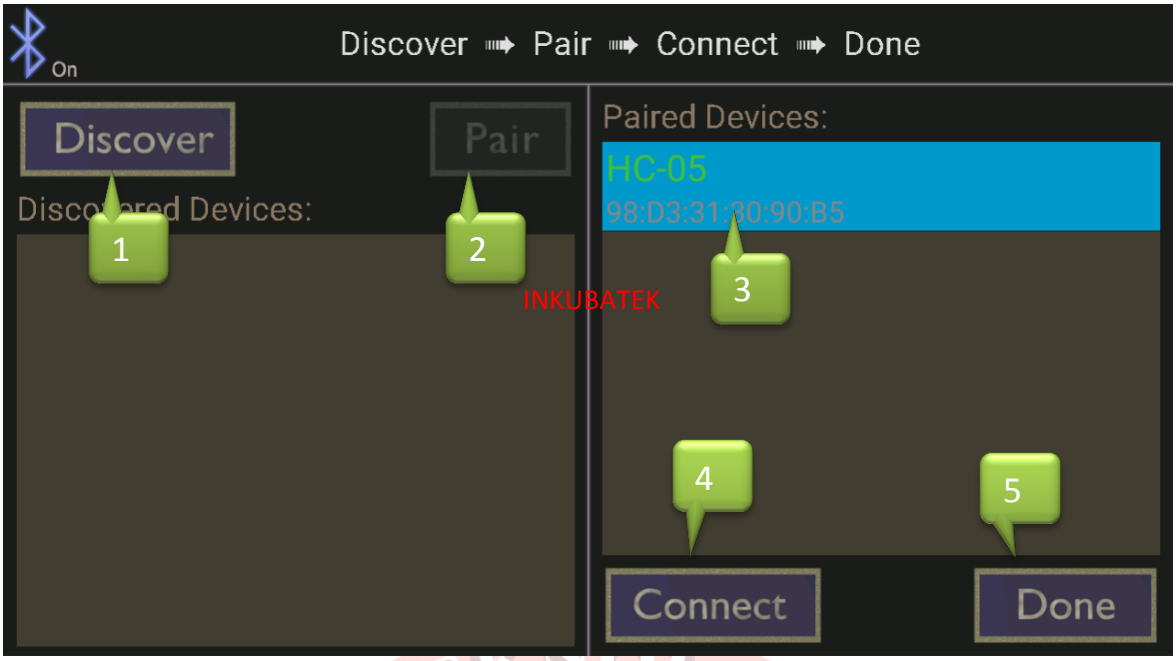
1. Jalankan aplikasi Android *Bluetooth Electronics* (Aplikasi sudah ada di DVD):



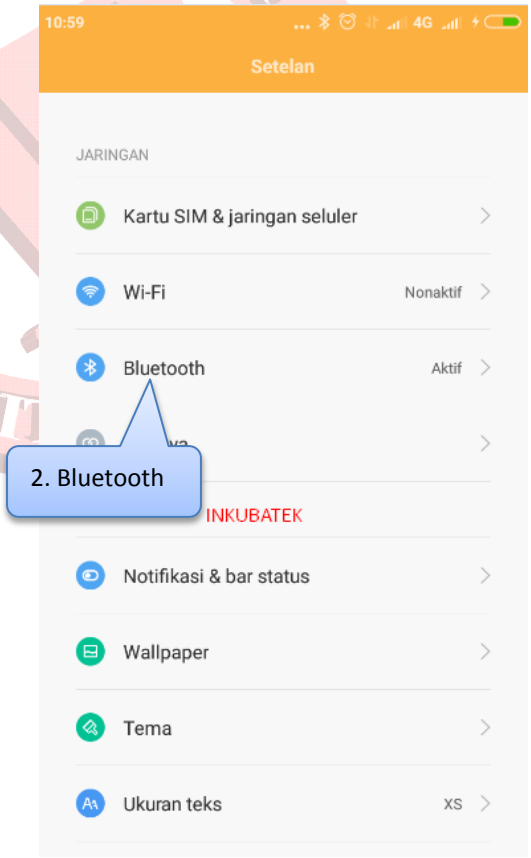
2. Selanjutnya koneksikan bluetooth pilih Connect:

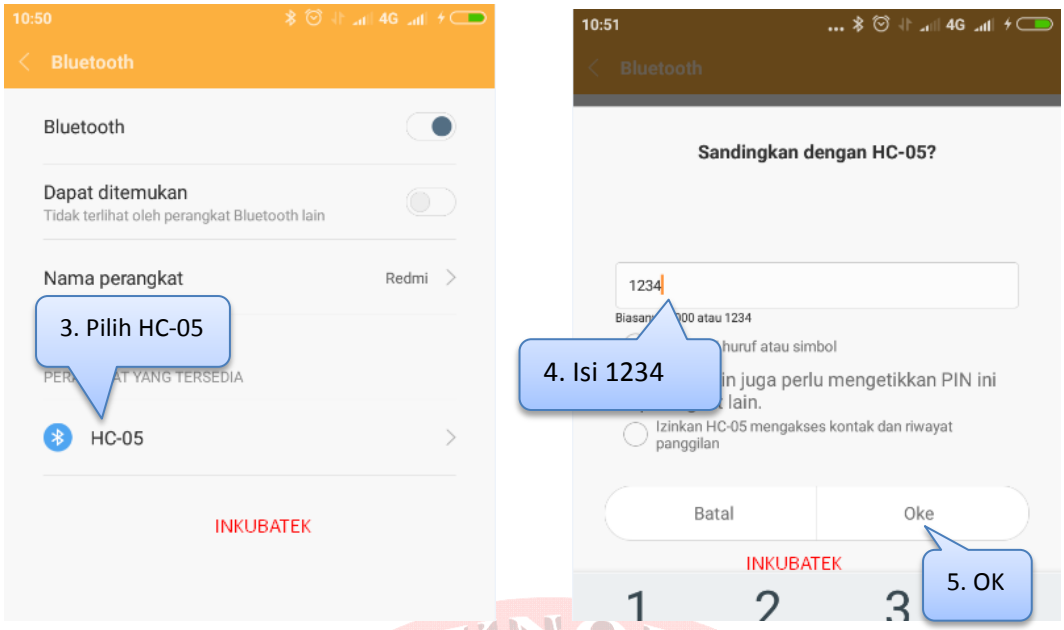


3. Selanjutnya pilih Discover → Pair → pilih HC-05 → Connect → Done.

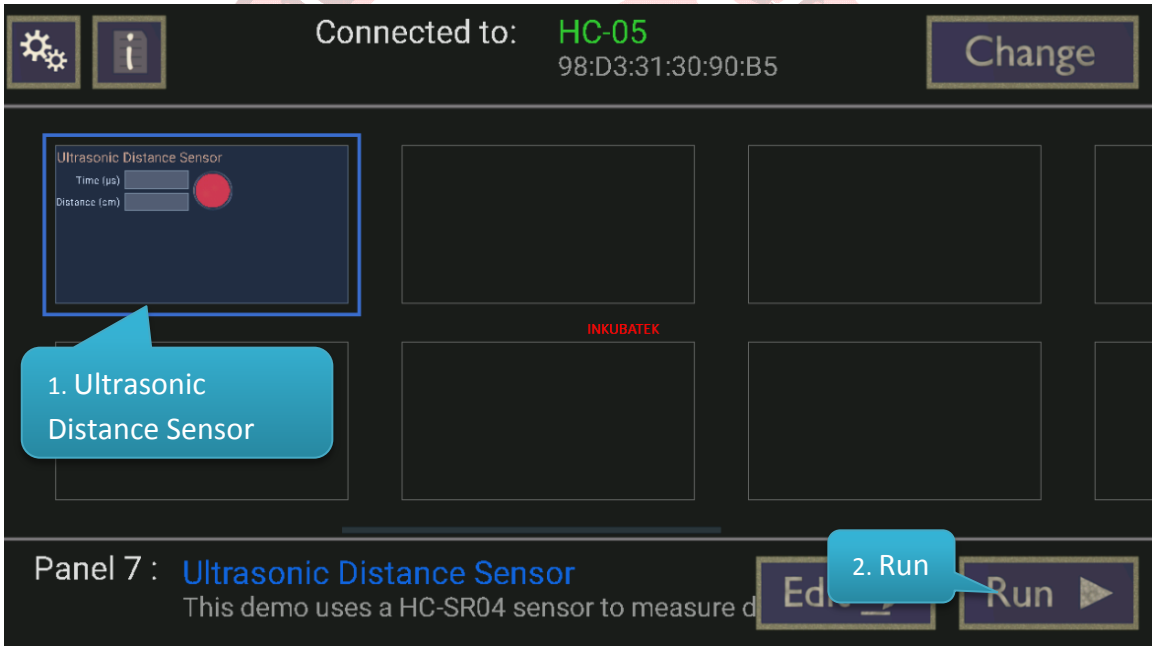


Tapi jika module bluetooth tidak bisa terbaca/dipasang, coba anda koneksikan dengan koneksi bluetooth biasa (melalalui setelan di Android).

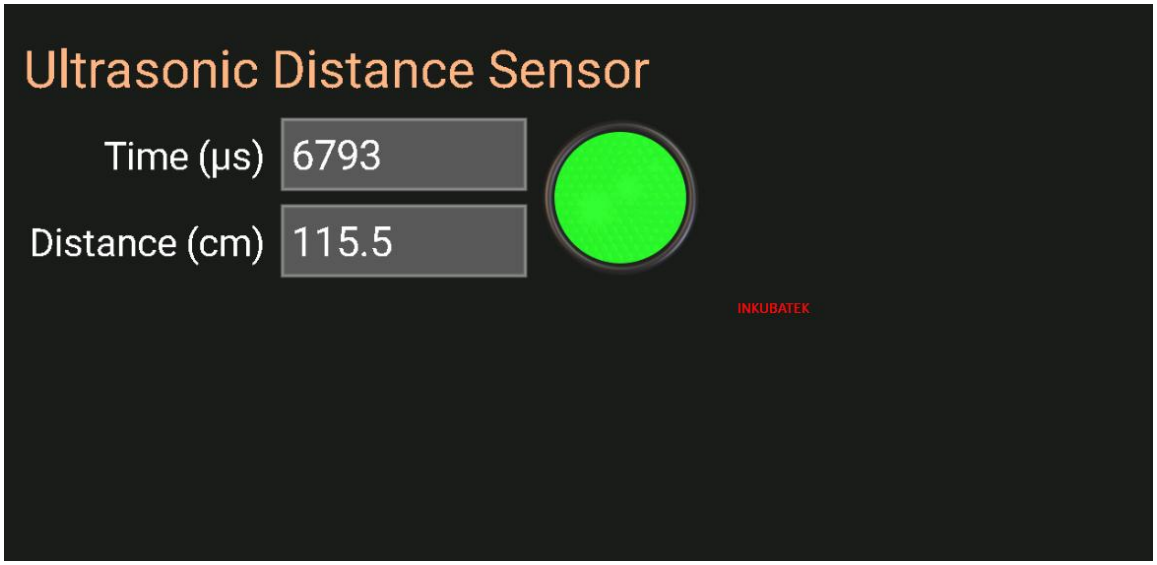


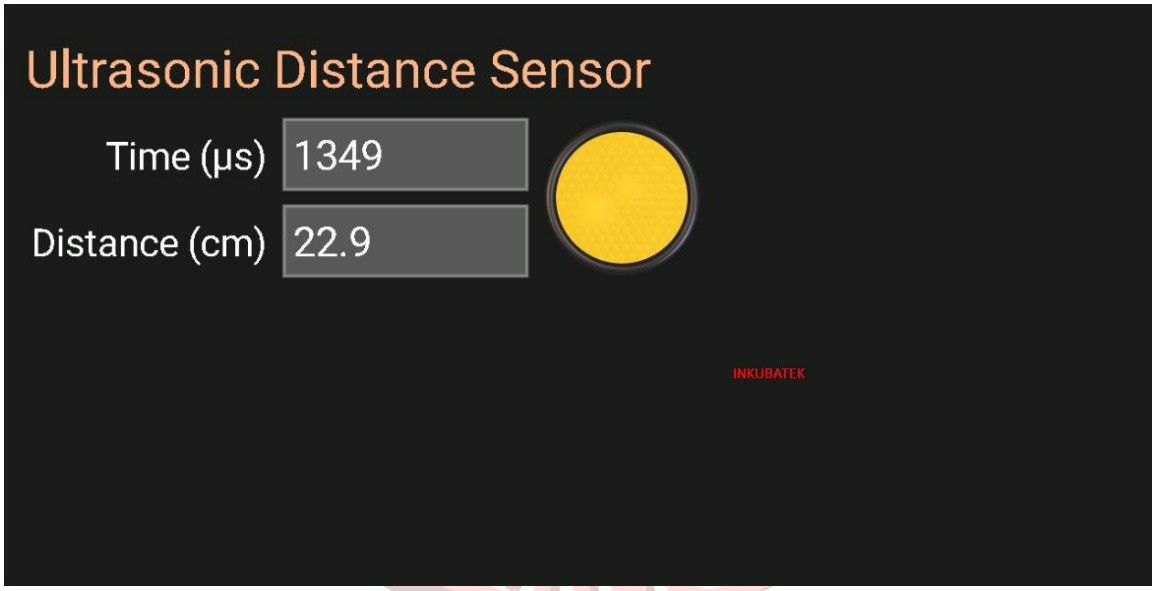


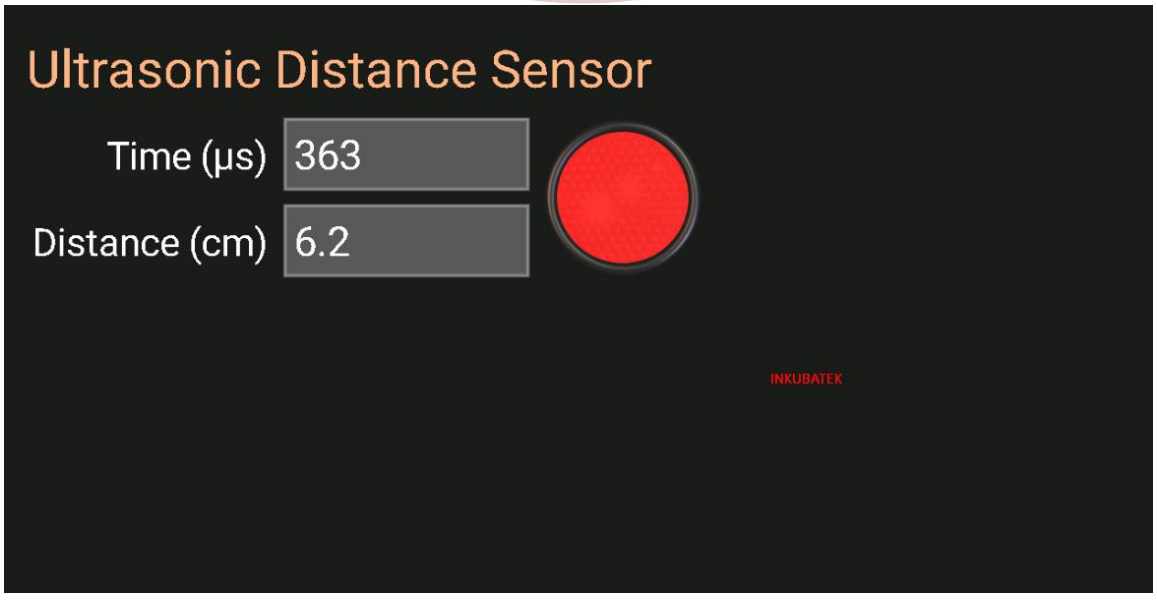
4. Selanjutnya pilih panel *Ultrasonic Distance Sensor* kemudian pilih Run:

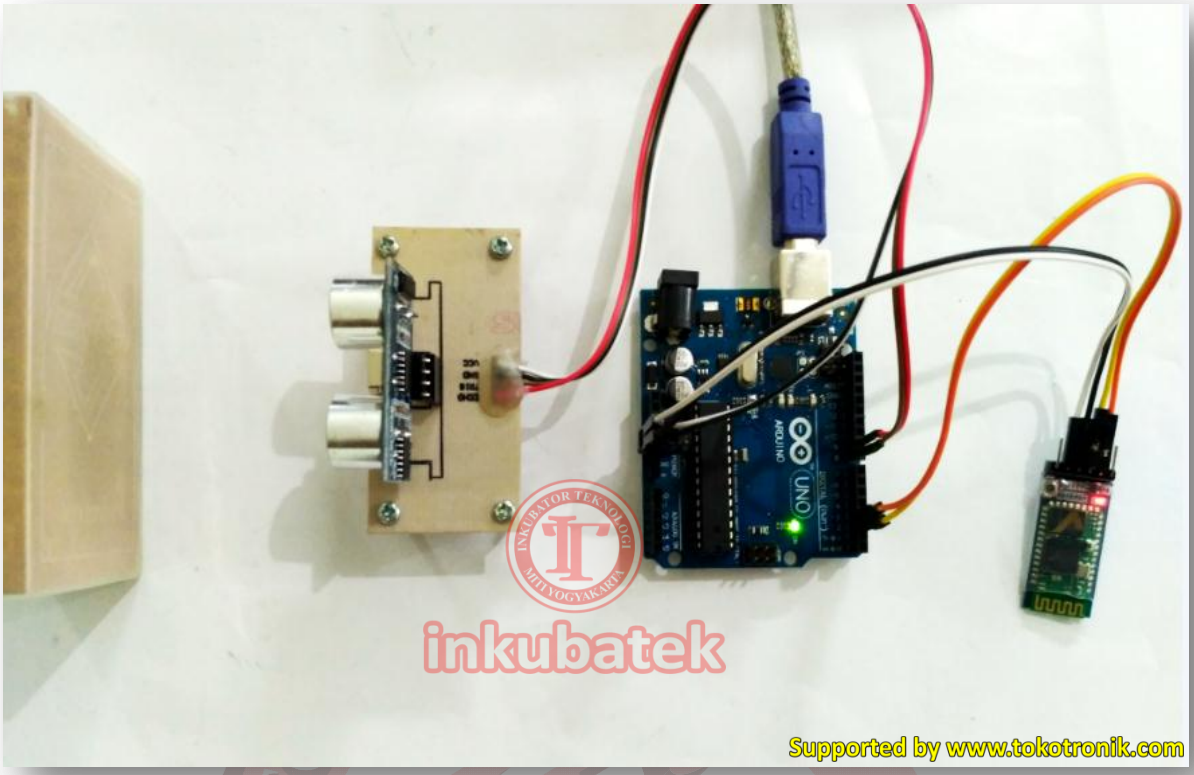


5. Hasil pembacaan sensor ditampilkan dalam bentuk waktu pemancaran dan jarak ultrasonic dengan benda didepannya:


Ultrasonic Distance Sensor
Time (µs)
6793
Distance (cm)
115.5
INKUBATEK


Ultrasonic Distance Sensor
Time (µs)
1349
Distance (cm)
22.9
INKUBATEK


Ultrasonic Distance Sensor
Time (µs)
363
Distance (cm)
6.2
INKUBATEK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