

LAMPIRAN

Lampiran 1. Kode program mikrokontroller

```
include <LiquidCrystal_I2C.h>

#include <HX711.h>

#include <Servo.h>

#define DOUT    4

#define SCK      3

#define echo    9

#define trig     8

#define buzz    5

#define pinServo1 11

#define pinServo2 10

Servo servoPenimbang;

Servo servoPemotong;

HX711 scale;

LiquidCrystal_I2C lcd(0x27, 16, 2);

float calibration_factor = 217600;

long distance;

float beratBuah = 0;

void setup()

{

    lcd.init();

    scale.begin(DOUT, SCK);

    scale.set_scale();

    scale.tare();

    scale.set_scale(calibration_factor);

    servoPenimbang.attach(pinServo1);

    servoPemotong.attach(pinServo2);

    pinMode(buzz, OUTPUT);

    pinMode(echo, INPUT);

    pinMode(trig, OUTPUT);
```

```
servoPemotong.write(0);  
servoPenimbang.write(0);  
lcd.setCursor(0, 0);  
lcd.print("Inisialisasi");  
delay(2000);  
lcd.clear();  
buzzerOn(2);  
void readDistance()  
{  
    long duration = pulseIn(echo, HIGH);  
    distance = duration / 24 / 2;  
}
```



2. Sensor Ultrasonik HC-SR04

HC-SR04

2.3. Module pin definitions

Types	Pin Symbol	Pin Function Description
HC-SR04	VCC	5V power supply
	Trig	Trigger pin
	Echo	Receive pin
	GND	Power ground

2.4. Electrical parameters

Electrical Parameters	HC-SR04 Ultrasonic Module
Operating Voltage	DC-5V
Operating Current	15mA
Operating Frequency	40KHz
Farthest Range	4m
Nearest Range	2cm
Measuring Angle	15 Degree
Input Trigger Signal	10us TTL pulse
Output Echo Signal	Output TTL level signal, proportional with range
Dimensions	45*20*15mm

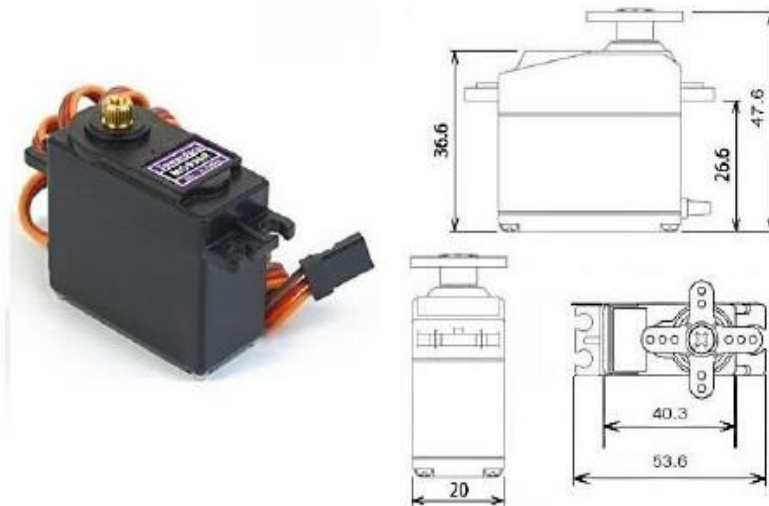


3. Sensor Load Cell

Product Specifications	
Mechanical	
Housing Material	Aluminum Alloy
Load Cell Type	Strain Gauge
Capacity	20kg
Dimensions	55.25x12.7x12.7mm
Mounting Holes	M5 (Screw Size)
Cable Length	550mm
Cable Size	30 AWG (0.2mm)
Cable - no. of leads	4
Electrical	
Precision	0.05%
Rated Output	1.0±0.15 mv/V
Non-Linearity	0.05% FS
Hysteresis	0.05% FS
Non-Repeatability	0.05% FS
Creep (per 30 minutes)	0.1% FS
Temperature Effect on Zero (per 10°C)	0.05% FS
Temperature Effect on Span (per 10°C)	0.05% FS
Zero Balance	±1.5% FS
Input Impedance	1130±10 Ohm
Output Impedance	1000±10 Ohm
Insulation Resistance (Under 50VDC)	≥5000 MOhm
Excitation Voltage	5 VDC
Compensated Temperature Range	-10 to ~+40°C
Operating Temperature Range	-20 to ~+55°C
Safe Overload	120% Capacity
Ultimate Overload	150% Capacity

4. Motor Servo Mg996R

MG996R High Torque Metal Gear Dual Ball Bearing Servo



This High-Torque MG996R Digital Servo features metal gearing resulting in extra high 10kg stalling torque in a tiny package. The MG996R is essentially an upgraded version of the famous MG995 servo, and features upgraded shock-proofing and a redesigned PCB and IC control system that make it much more accurate than its predecessor. The gearing and motor have also been upgraded to improve dead bandwith and centering. The unit comes complete with 30cm wire and 3 pin 'S' type female header connector that fits most receivers, including Futaba, JR, GWS, Cirrus, Blue Bird, Blue Arrow, Corona, Berg, Spektrum and Hitec.

This high-torque standard servo can rotate approximately 120 degrees (60 in each direction). You can use any servo code, hardware or library to control these servos, so it's great for beginners who want to make stuff move without building a motor controller with feedback & gear box, especially since it will fit in small places. The MG996R Metal Gear Servo also comes with a selection of arms and hardware to get you set up nice and fast!

Specifications

- Weight: 55 g
- Dimension: 40.7 x 19.7 x 42.9 mm approx.
- Stall torque: 9.4 kgf·cm (4.8 V), 11 kgf·cm (6 V)
- Operating speed: 0.17 s/60° (4.8 V), 0.14 s/60° (6 V)