SOCCER ROBOT MANUAL BOOK

KOMPONEN :

1. NODEMCU ESP8266

2. Motor driver L298n

3. Body kit

4. Gearbox (sebanyak 2 buah)

5. Roda (sebanyak 2 buah)

6. Spacer (sebanyak 11 buah)

7. Holder baterai 18650

8. Baterai 18650 (sebanyak 2 buah)

9. Kabel jumper female to female (sebanyak 6 buah)

10. Kabel jumper male to male (sebanyak 6 buah)

11. Steel ball universal wheel

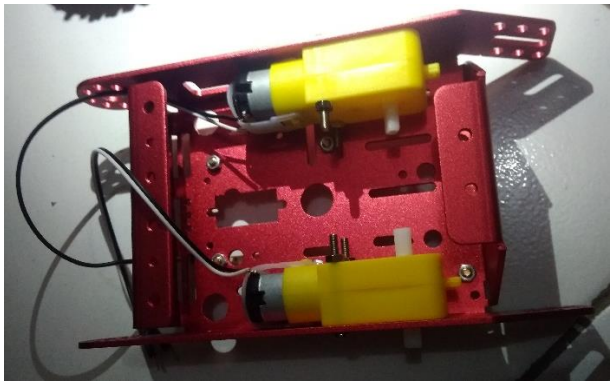
12. Mur dan baut berdiameter 3 mm

LANGKAH – LANGKAH :

1. Pasang spacer ke bodykit pada titik tertentu

2. Sambungkan kabel dengan dinamo pada gearbox

3. Pasang gearbox pada bodykit dengan mur dan baut



4. Tarik kabel pada gearbox ke bagian atas bodykit

5. Pasang spacer pada akrilik pada titik tertentu

8. Pasang akrilik pada body kit dengan menggunakan spacer lalu tarik kabel pada bagian gearbox ke atas akrilik

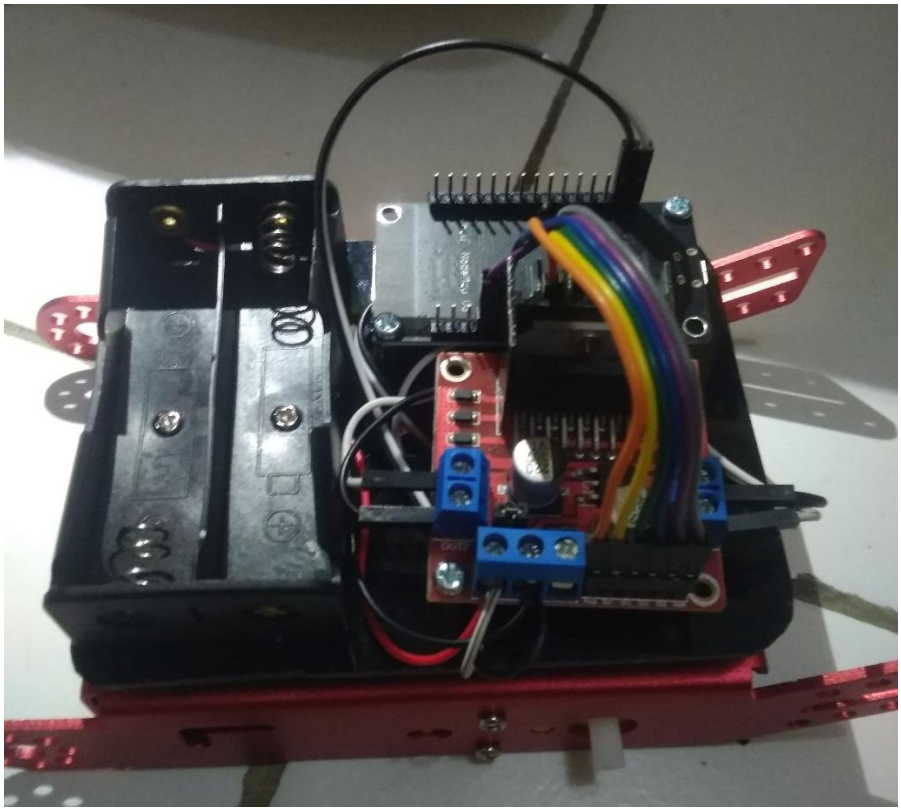
9. Pasang esp8266, dan motor driver L298N pada spacer pada akrilik lalu hubungkan kabel pada gearbox pada gardu OUT1 – OUT4 pada motor driver L298N

10. Pasang holder baterai pada akrilik dengan mur dan baut

11. Hubungkan motor driver dengan esp8266 dengan kabel jumper dengan pasangan pin :

- ENA -> D5
- ENB -> D6
- IN_1 -> D8
- IN_2 -> D7

- IN_3 -> D4
- IN_4 -> D3
- Gardu GND -> Pin GND dan kabel negatif (-) pada holder baterai
- Gardu 12V -> Pin VIN dan kabel positif (+) pada holder baterai



13. Hubungkan esp8266 ke PC / laptop / Smartphone dan upload code berikut :

```
//////////////////////////////////////////////
//             SOCCER ROBOT CODE            //
//////////////////////////////////////////////
#define ENA   14
#define ENB   12
#define IN_1  15
#define IN_2  13
#define IN_3  2
#define IN_4  0
//////////////////////////////////////////////
//        RemoteXY include library           //
//////////////////////////////////////////////
#define REMOTEXY_MODE__WIFI_POINT
#include <ESP8266WiFi.h>
#include <RemoteXY.h>

#define REMOTEXY_WIFI_SSID "SOCCER ROBOT"
#define REMOTEXY_WIFI_PASSWORD "SOCCER ROBOT 1.0"
#define REMOTEXY_SERVER_PORT 6377
#define REMOTEXY_ACCESS_PASSWORD "SYSTEM"

#pragma pack(push, 1)
uint8_t RemoteXY_CONF[] =
```

```
  { 255,4,0,0,0,121,0,17,0,0,0,6,2,106,200,200,100,1,1,5,
  0,1,61,54,48,48,10,21,31,31,10,24,31,70,79,82,87,65,82,68,
  0,1,80,58,16,62,10,59,31,31,10,24,31,66,65,67,75,87,65,82,
  68,0,1,81,62,16,62,121,36,31,31,10,24,31,76,69,70,84,0,1,
  82,66,16,62,159,36,31,31,10,24,31,82,73,71,72,84,0,131,79,4,
  21,28,35,3,162,10,10,24,24,31,83,79,67,67,69,82,32,82,79,66,
  79,84,32,49,46,48,0,0 };

struct {
  uint8_t FORWARD;
  uint8_t BACKWARD;
  uint8_t LEFT;
  uint8_t RIGHT;

  uint8_t connect_flag;
} RemoteXY;
#pragma pack(pop)
/////////////////////////////////////////////
//           END RemoteXY include          //
/////////////////////////////////////////////
void setup() {
  RemoteXY_Init ();
  pinMode(ENA, OUTPUT);
  pinMode(ENB, OUTPUT);
  pinMode(IN_1, OUTPUT);
  pinMode(IN_2,
OUTPUT);


  pinMode(IN_3, OUTPUT);
  pinMode(IN_4, OUTPUT);
  Serial.begin(115200);
}
void loop() {
  RemoteXY_Handler ();
if (RemoteXY.BACKWARD == HIGH){
        digitalWrite(IN_1, HIGH);
        digitalWrite(IN_2, LOW);
        analogWrite (ENA, 1023);

        digitalWrite(IN_3, HIGH);
        digitalWrite(IN_4, LOW);
        analogWrite (ENB, 1023);
             if (RemoteXY.RIGHT == HIGH){
                digitalWrite(IN_1, LOW);
                digitalWrite(IN_2, HIGH);
                analogWrite (ENA, 1023);

                digitalWrite(IN_3, HIGH);
                digitalWrite(IN_4, LOW);
                analogWrite (ENB, 1023);
            }
             if (RemoteXY.LEFT == HIGH){
                digitalWrite(IN_1, HIGH);
                digitalWrite(IN_2, LOW);
                analogWrite(ENA, 1023);

                digitalWrite(IN_3, LOW);
```

```
                digitalWrite(IN_4, HIGH);
                analogWrite(ENB, 1023);
            }
  }
else if (RemoteXY.FORWARD == HIGH){
        digitalWrite(IN_1, LOW);
        digitalWrite(IN_2, HIGH);
        analogWrite (ENA, 1023);

        digitalWrite(IN_3, LOW);
        digitalWrite(IN_4, HIGH);
        analogWrite (ENB, 1023);
             if (RemoteXY.RIGHT == HIGH){
                digitalWrite(IN_1, HIGH);
                digitalWrite(IN_2, LOW);
                analogWrite (ENA, 1023);

                digitalWrite(IN_3, LOW);
                digitalWrite(IN_4, HIGH);
                analogWrite (ENB, 1023);
            }
             if (RemoteXY.LEFT == HIGH){
                digitalWrite(IN_1, LOW);
                digitalWrite(IN_2, HIGH);
                analogWrite(ENA, 1023);

                digitalWrite(IN_3, HIGH);
                digitalWrite(IN_4, LOW);
                analogWrite(ENB, 1023);
            }
  }
else if (RemoteXY.RIGHT == HIGH){
        digitalWrite(IN_1, HIGH);
        digitalWrite(IN_2, LOW);
        analogWrite (ENA, 1023);

        digitalWrite(IN_3, LOW);
        digitalWrite(IN_4, HIGH);
        analogWrite (ENB, 1023);
  }
else if (RemoteXY.LEFT == HIGH){
        digitalWrite(IN_1, LOW);
        digitalWrite(IN_2, HIGH);
        analogWrite(ENA, 1023);

        digitalWrite(IN_3, HIGH);
        digitalWrite(IN_4, LOW);
        analogWrite(ENB, 1023);
  }
else {
        digitalWrite(IN_1, LOW);
        digitalWrite(IN_2, LOW);
        analogWrite(ENA, 0);

        digitalWrite(IN_3, LOW);
        digitalWrite(IN_4, LOW);
        analogWrite(ENB, 0);
  }
```

```
}
//////////////////////////////////////////////
//           END SOCCER ROBOT CODE          //
//////////////////////////////////////////////
```

14. Pasang akrilik dan steel ball universal wheel pada bagian bawah body kit dengan baut

15. Unduh apk REMOTEXY pada smartphone

16. Pasang baterai 18650 pada holder

17. Hubungkan controller dengan WiFi dan masukkan password

18. Robot soccer siap dimainkan