CLIGO
## Assembly Guide

**Do not attempt to remove chassis parts by squeezing them with pliers.
You will break the small nubs.**

1
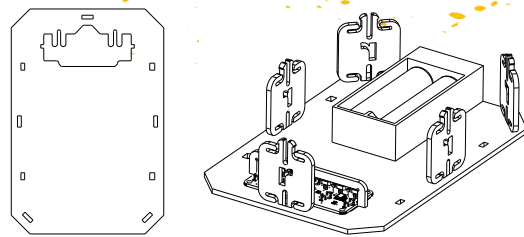
Starting with the base plate, Mount SmartElex RLS-06 Analog/Digital Line Sensor on the base plate with PCB support & also mount the Li-ion cell holder on the top plate with help of 3M DST pad and insert the Orange 18650 Li-ion cells into the holder. Makes sure the batteries are facing the correct direction, as per the markings inside of the Battery Holder. Now snap the all 5 side plates into the slots on the baseplate.
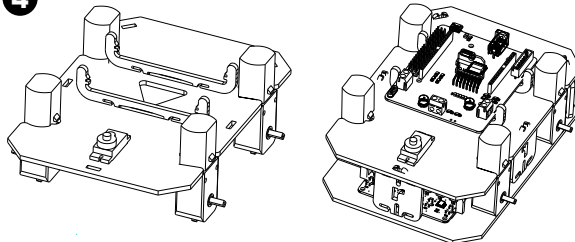
2
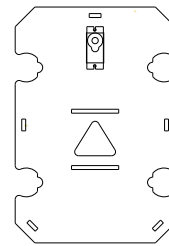
Mount the servo motor in the slot on the Top Plate with the help of screws and screw driver.

3
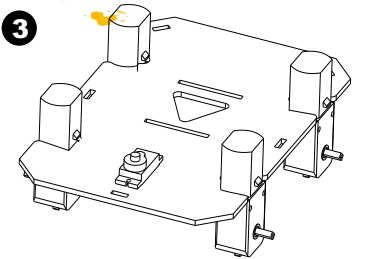
Holding the motor wires, gently twist the Motor counter clockwise so that it snaps in place on the motor and the wires are centered in the gap of the motor mount. Repeat the process for all remaining motors.

4

Snap the PCB holders and back plate in the base plate & mount the SmartElex L298N Motor Driver with Onboard Arduino Uno. Make the connections of the motors to the SmartElex L298N Motor Driver with Onboard Arduino Uno. Refer the motor connection diagram.

5
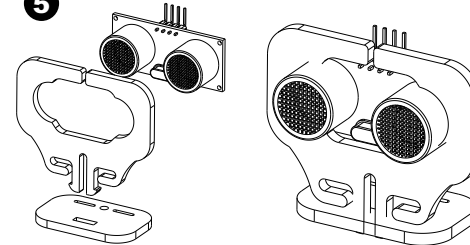
Make assembly of specifically designed EasyMech Snap-fit ABS Bracket for the HC-SR04 Ultrasonic Sensor Module. Snap the ultrasonic sensor in to the bracket as shown in the image. Mount the ultrasonic sensor assembly on the servo motor shaft. Servo horn is already attached to the base plate of the bracket.

6
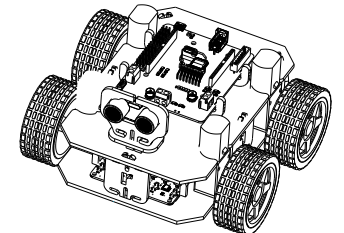
Attach the yellow wheels to the motor. Make sure to line up the flat edges of the motor shaft with the flat edges of the wheel.

Make the all the connection with the help of the connection diagrams. Depending upon type of the robot, upload the program to the board. E.g. for line follower robot you need upload the line follower program.

1. Each movement of the vehicle is controlled by the program so it is necessary to get the program installed and set up correctly. We will use the Arduino Software IDE (Integrated Development Environment) as a programming tool. Go to https://www.arduino.cc/en/Main/Software and download and install Arduino IDE software.
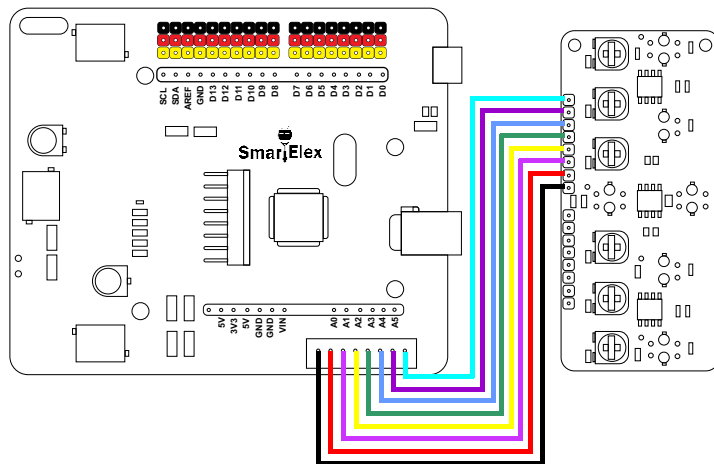
2. Download and install USB driver from https://sparks.gogo.co.nz/ch340.html In the Arduino IDE when the CH340 is connected you will see a COM Port in the Tools > Serial Port menu, the COM number for your device may vary depending on your system.

3. Download attachment "Codes & Arduino Libraries". You will get all the codes and libraries required for the robot. Install the libraries and upload the suitable program.
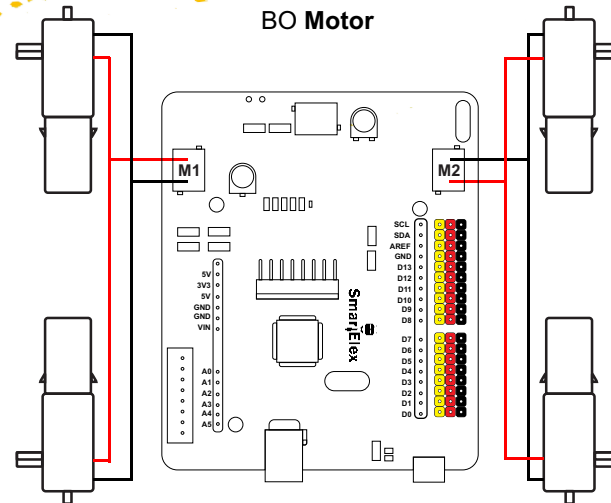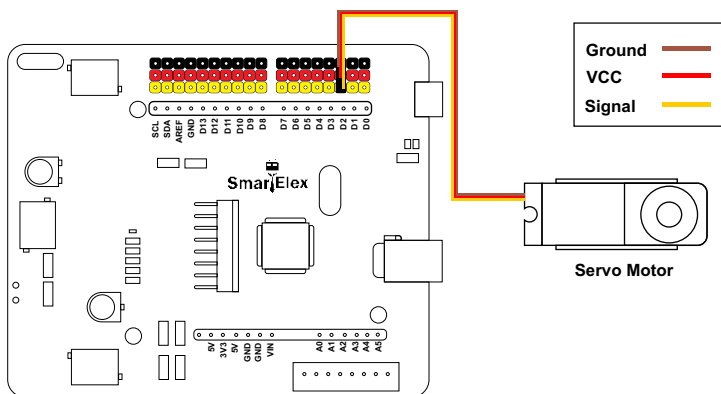
CLIGO
connections Diagram
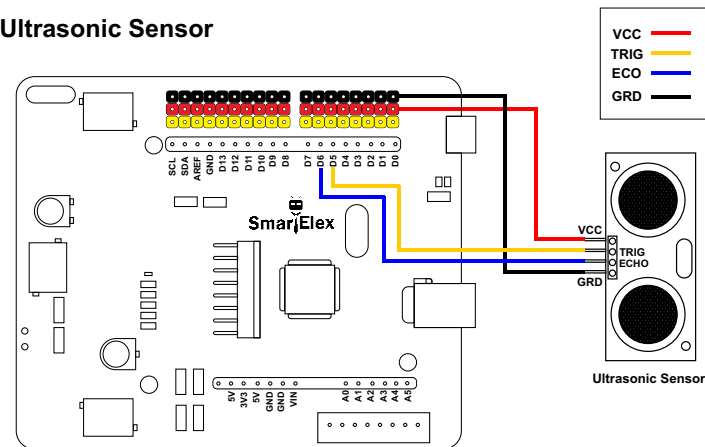
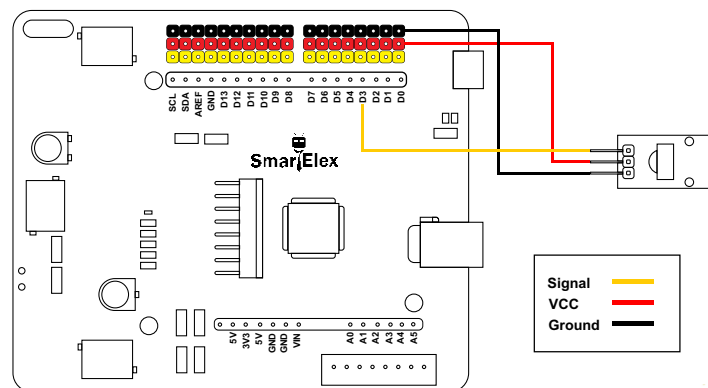### SmartElex RLS-06 Line Follower

BO Motor

Servo Motor

Ground	
VCC	
Signal	

Servo Motor

Ultrasonic Sensor

VCC	
TRIG	
ECO	
GRD	

VCC
TRIG
ECHO
GRD

Ultrasonic Sensor

IR SENSOR

Signal	
VCC	
Ground	

Power Supply

Micro USB

Orange 18650 Li-Ion Battery

Orange 18650 Li-Ion Battery