

REX8



GitHub
rbt.ist/rexgithub

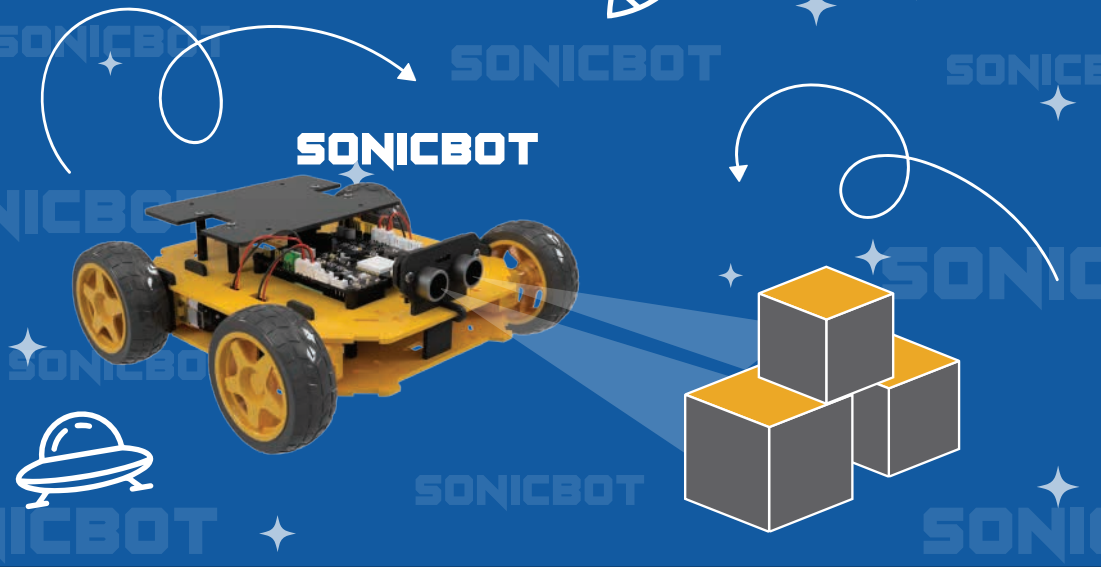


REX DOCS
rbt.ist/rexrdt



Buy REX
rbt.ist/rexrdt

SONICBOT SETUP GUIDE

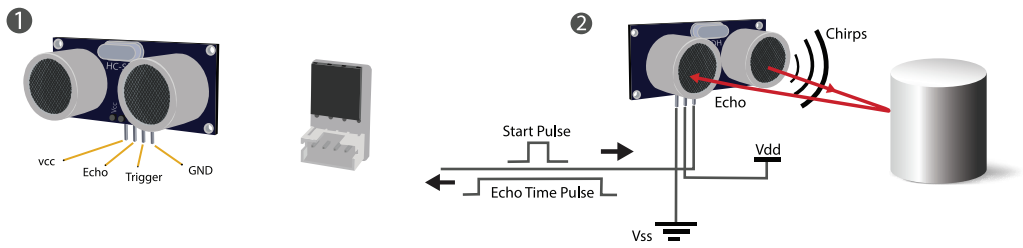


SonicBot

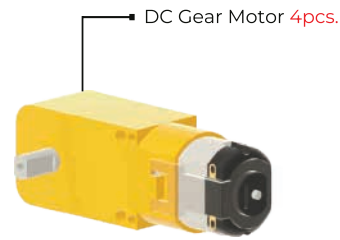
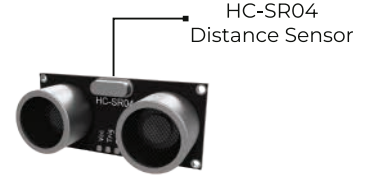
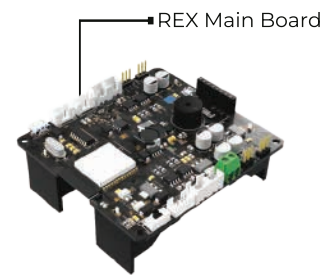
SonicBot is a REX robot that detects objects in front of it by using the HCSR04 (Distance Sensor) and determines its next movements accordingly. By utilizing the HCSR04 distance sensor converter, you can effortlessly connect the HCSR04 distance sensor to the connector on the REX board using a single cable.

How Does SonicBot Detect The Objects In Front of It?

SonicBot detects objects in front of it thanks to the HCSR04 distance sensor located in its body. The HCSR04 distance sensor is an input sensor with 4 pin ports as GND, VCC, Trigger and Echo. The distance between the sensor and the object in front of it is measured by using the return time of the ultrasonic wave sent from the trigger pin to the echo pin.



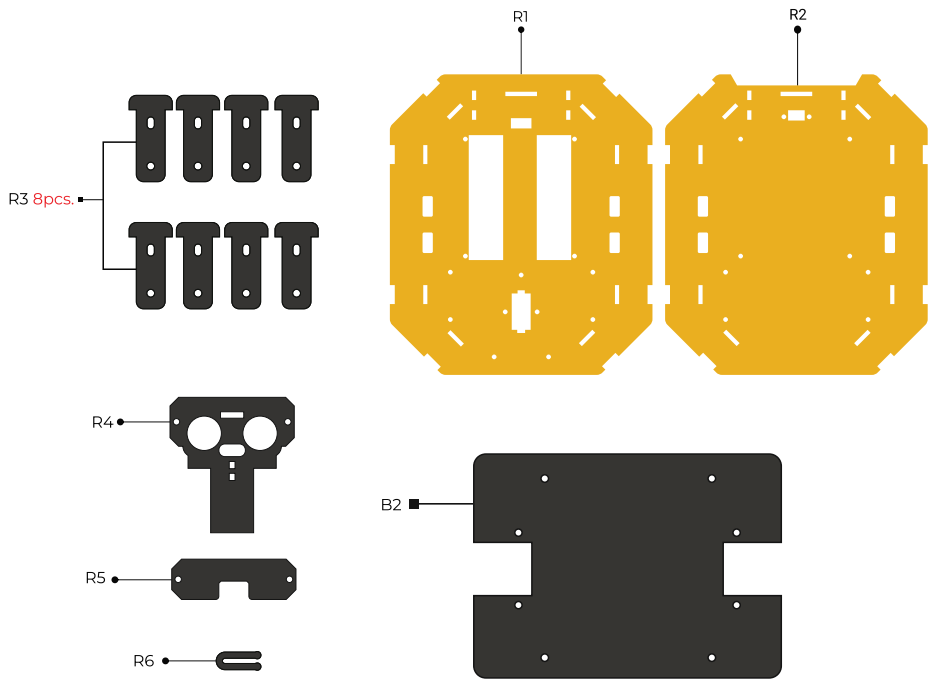
Components of SonicBot



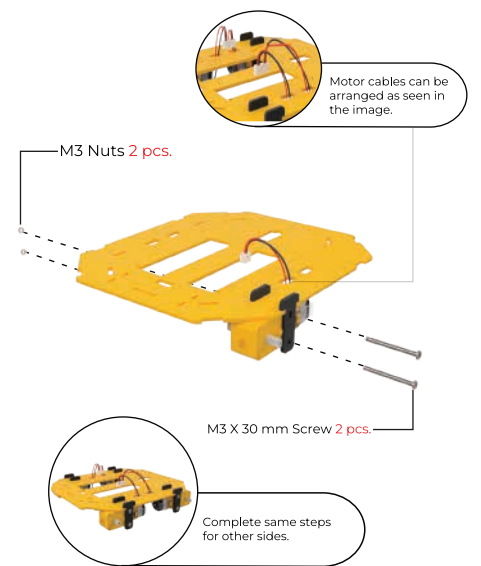
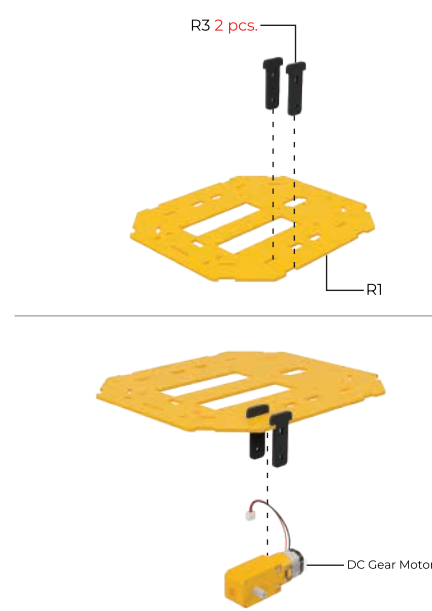
- M3 Nut 10 pcs.
- M3 x 6 mm Screw 4 pcs. - (Plastic)
- M3 x 8 mm Screw 8 pcs.
- M3 x 12 mm Screw 2 pcs.
- M3 x 30 mm Screw 8 pcs.
- M3 x 6 mm M - F Spacer 4 pcs.
- M3 x 25 mm Female Spacer 8 pcs.
- M3 x 25 mm M - F Spacer 4 pcs.

02

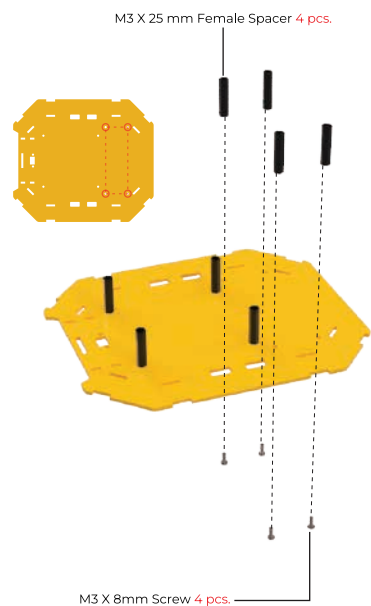
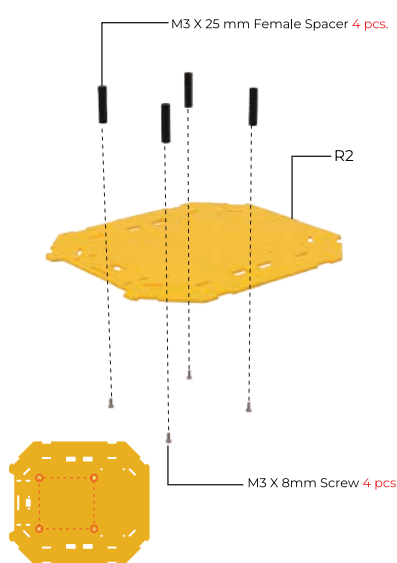
03



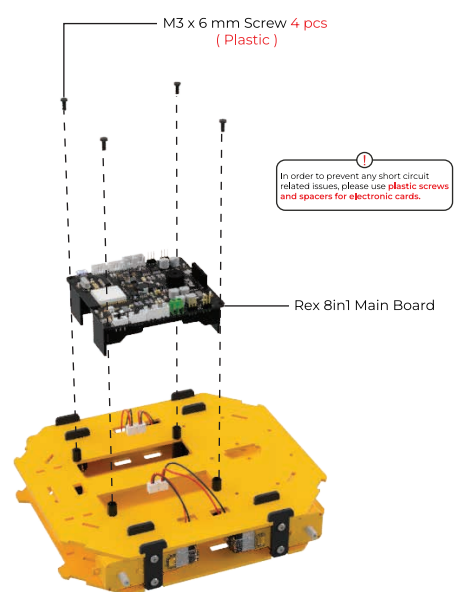
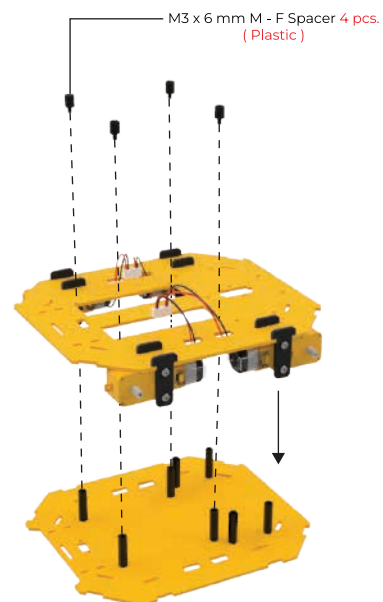
04



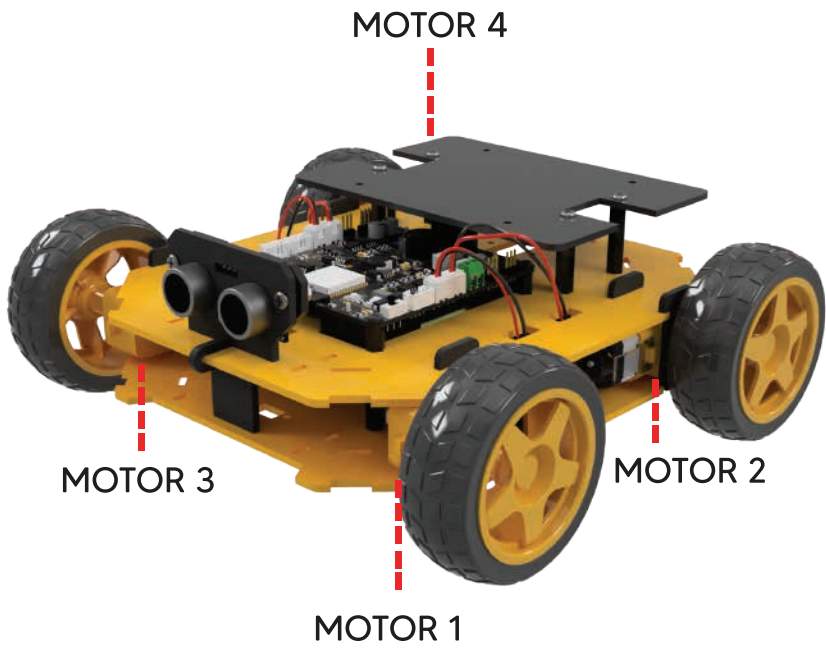
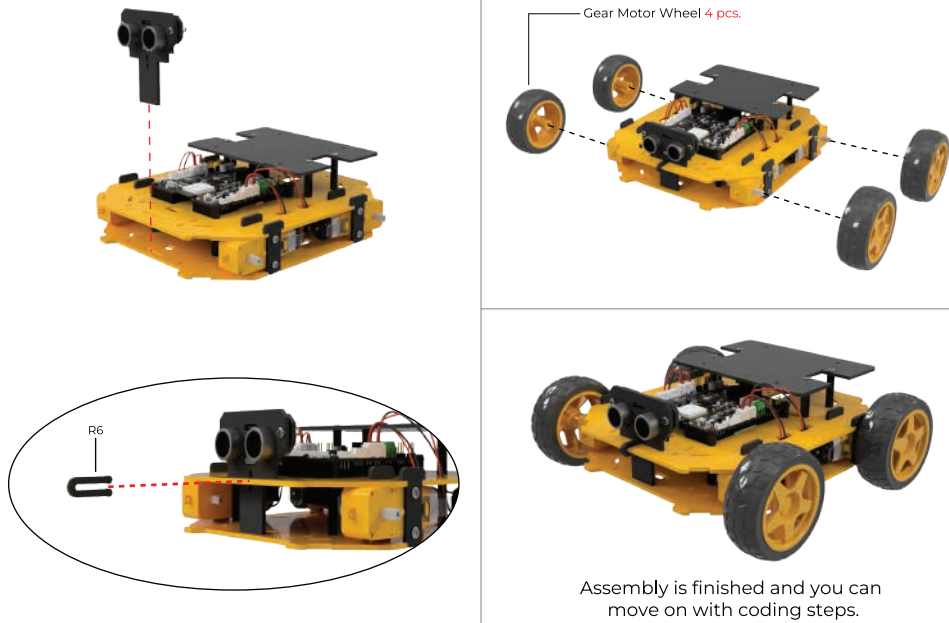
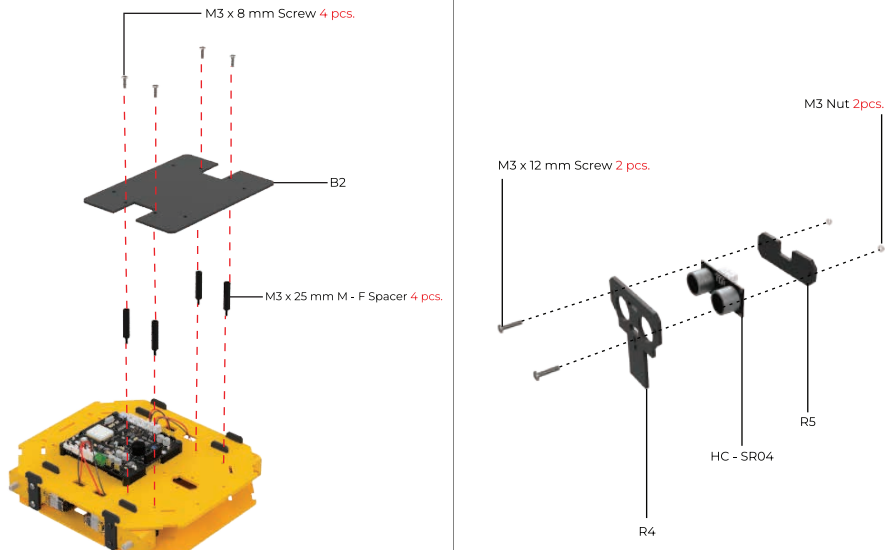
05



06

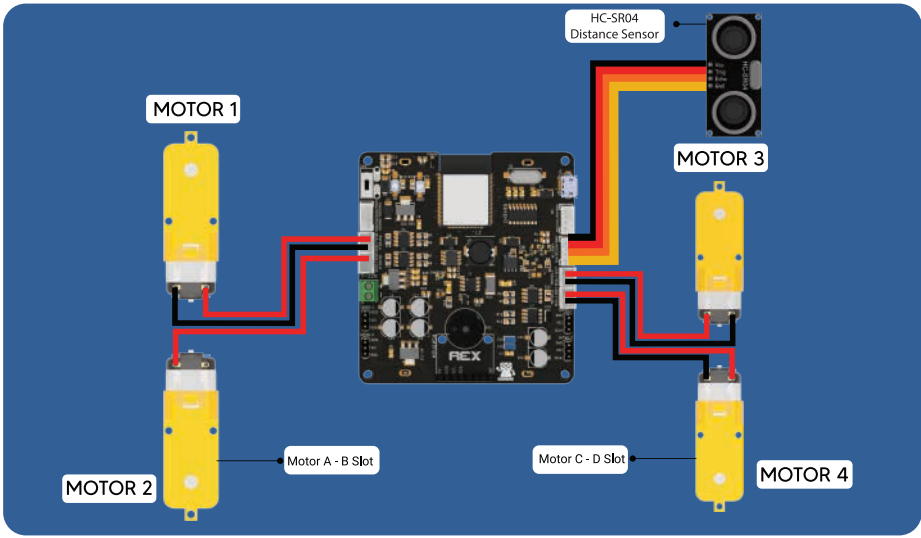


07



The Circuit Diagram

After assembling the acrylic pieces, you can proceed with circuit installation as shown in the diagram below.



Arduino Code

```
SonicBot.ino
1 int trigPin = 4; // Trigger
2 int echoPin = 5; // Echo
3 long duration, cm;
4
5 #define slow 120
6 #define MID 100
7 #define FAST 130
8
9 #define MotorA1 15
10 #define MotorA2 29
11
12 #define MotorB1 33
13 #define MotorB2 33
14
15 #define MotorC1 17
16 #define MotorC2 15
17
18 #define MotorD1 27
19 #define MotorD2 14
20
21
22 int turns = 0;
23 void setup() {
24   //Serial Port Begin
25   Serial.begin(115200);
26
27   //Define inputs and outputs
28
29   pinMode(trigPin, OUTPUT);
30   pinMode(echoPin, INPUT);
31
32
33   pinMode(MotorA1, OUTPUT);
34   pinMode(MotorA2, OUTPUT);
35
36   pinMode(MotorB1, OUTPUT);
37   pinMode(MotorB2, OUTPUT);
38
39   pinMode(MotorC1, OUTPUT);
40   pinMode(MotorC2, OUTPUT);
41
42   pinMode(MotorD1, OUTPUT);
43   pinMode(MotorD2, OUTPUT);
44 }
```

<http://rbt.ist/sonicbotcode>



Scan the QR code to go to the whole code and the necessary libraries.