OPEN-SMART

Name: 4WD Smart Car 02 Installation Tutorial

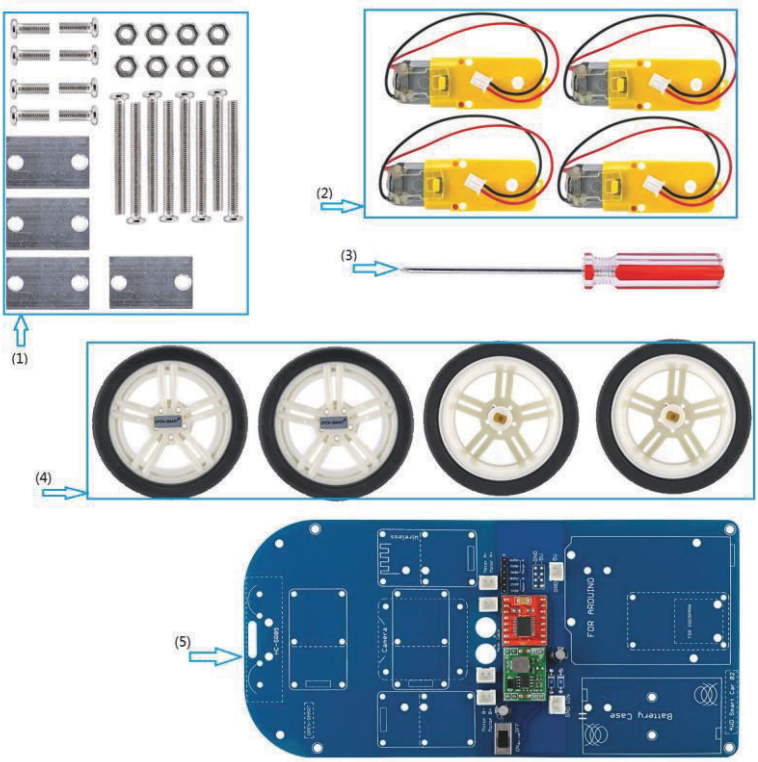
Version: v1.0

Date: 2017.11.25

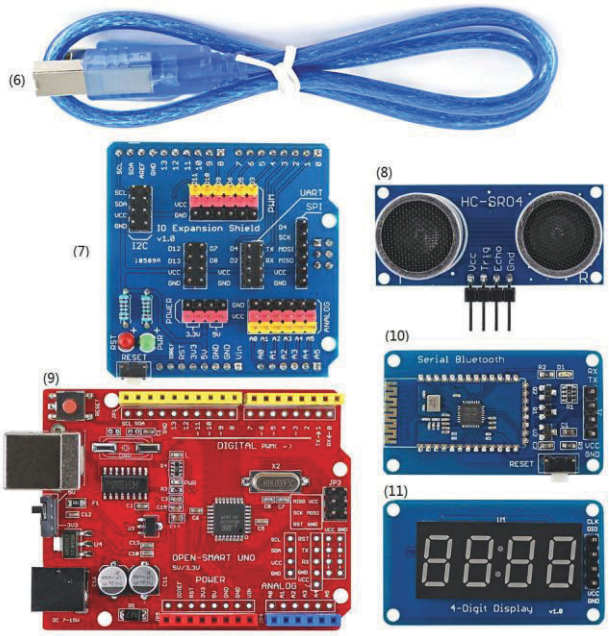
0 Read first please!!!

(1) **NOTE:** The kit contains small parts, such as screws, nuts and Nylon Rivet, so please keep it far away from the children that are under 6 years of age.
(2) As the kit does not contain the battery, you need to buy two 3.7V / 14500 Li-ion batteries(Recommend capacity: greater than 1000mAH) at the local.
(3) You should use the Android mobile phone with Bluetooth to control the Bluetooth Smart Car.

1 Description of the parts

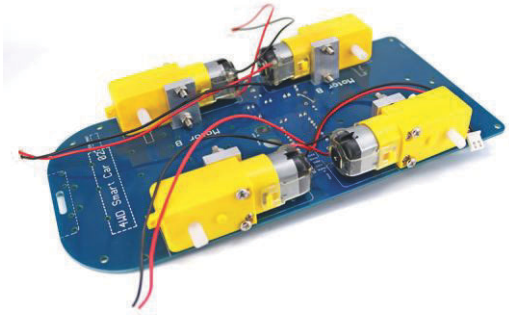


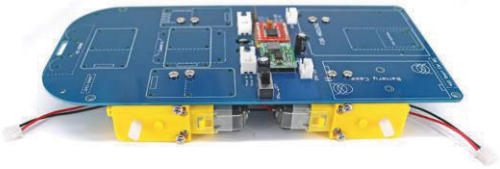
(1) Motor Fixing
(2) Gear Motor with Connection Wires(15cm)
(3) Cross screwdriver 3*75mm
(4) Wheels
(5) PCB Car Chassis



(6) 50cm USB Cable
(7) IO Expansion Shield
(8) Ultrasonic Sensor module
(9) UNO R3 Development Board
(10) Serial Bluetooth module
(11) 4-Digit Display module

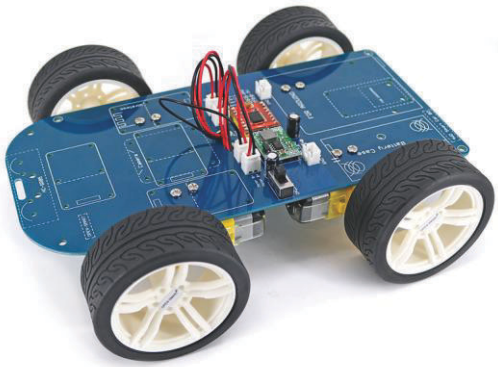
2 STEP1: Mount the motors

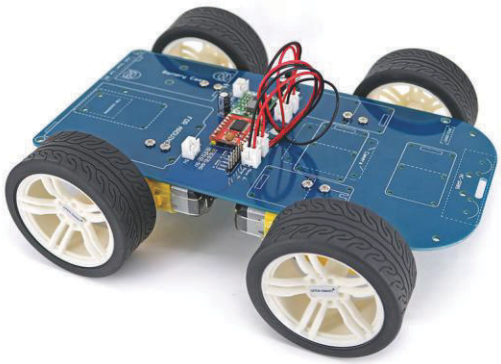


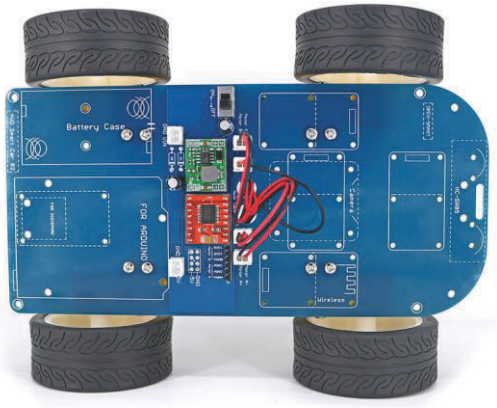


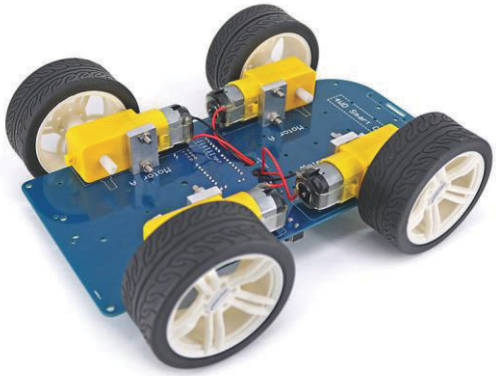
3 STEP2: Install the wheels

3.1 Install the wheels and plug the motor cables





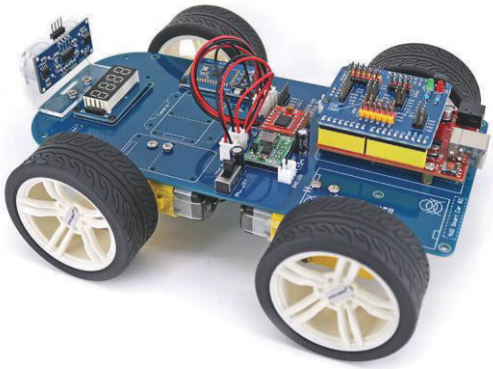




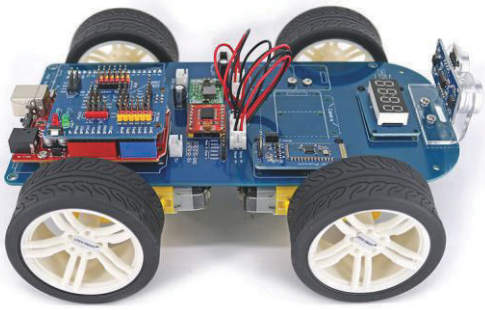
4 STEP3: Mount OPEN-SMART UNO board

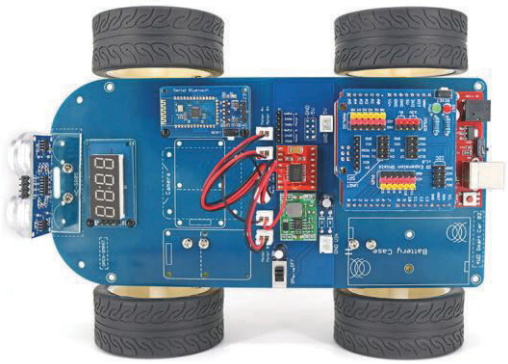
5 STEP4: Install the modules

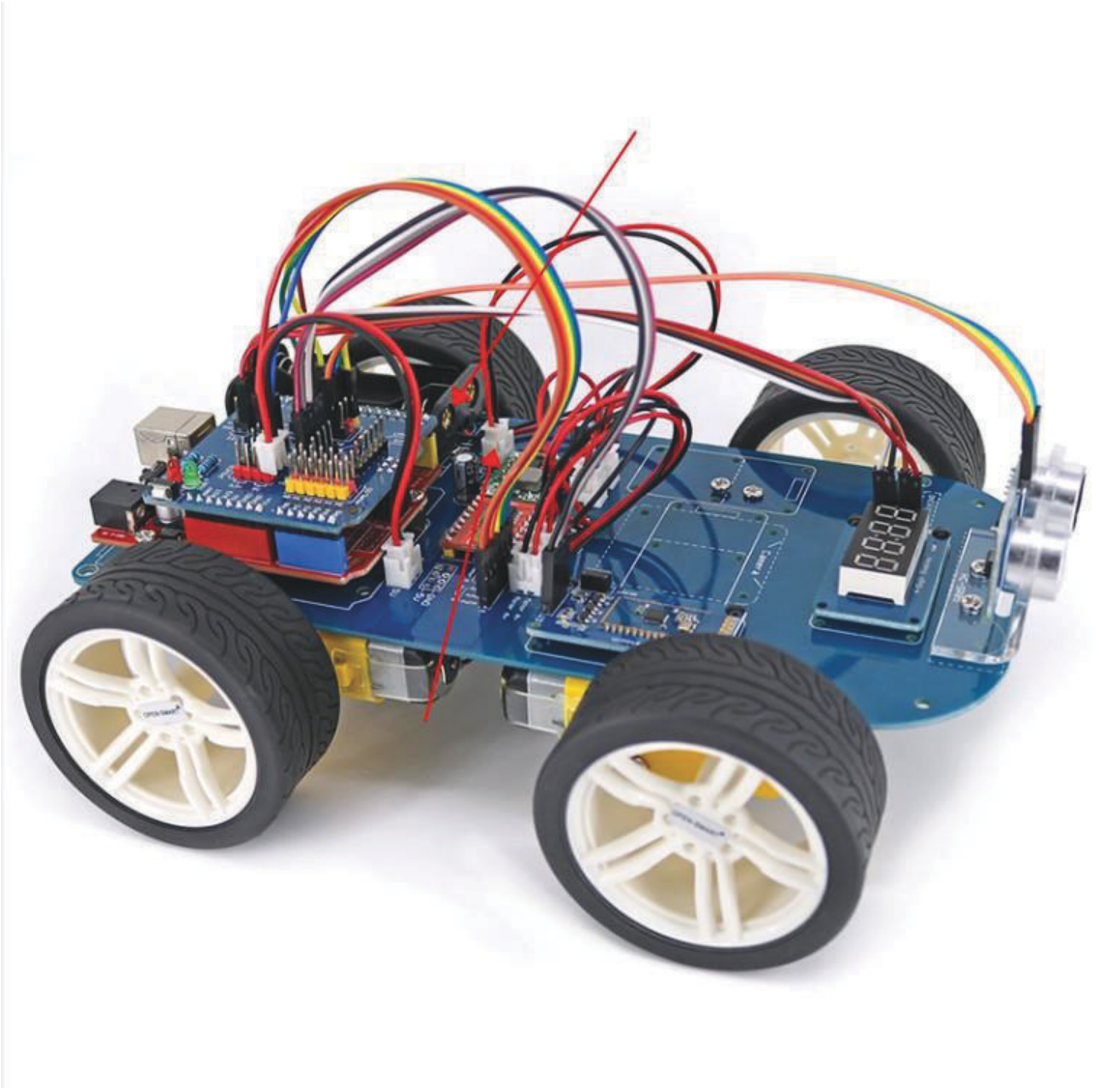
5.1 Plug IO Shield and Mount the Ultrasonic Sensor Acrylic stand, Mount 4-Digit Display



5.2 Mount Serial Bluetooth module







6 STEP5: Connect the modules to Arduino

6.1 Mount battery holder and plug its head onto the white socket, then connect all the modules to IO Expansion Shield with the cables

2P Cable	IO Expansion Shield
Red wire	VCC
Black wire	GND

PCB Car Chassis	IO Expansion Shield
BIN1	D8
BIN2	D11
PWMB	D9
AIN1	D12
AIN2	D13
PWMA	D10

6.2 Connect the Serial Bluetooth

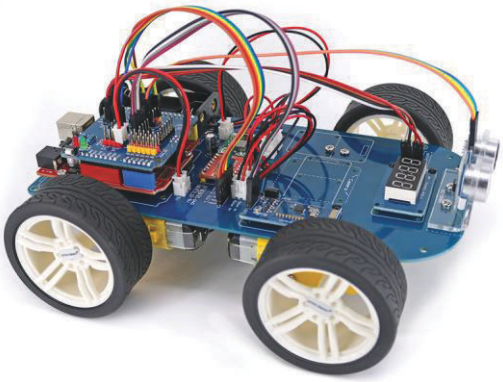
Serial Bluetooth	IO Expansion Shield
RX	D4
TX	D2
VCC	VCC
GND	GND

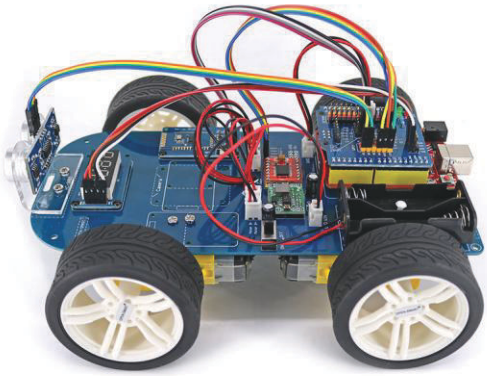
6.3 Mount 4-Digit Display

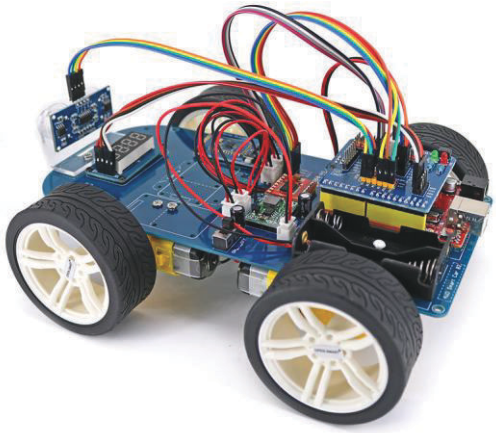
4-Digit Display	IO Expansion Shield
CLK	A5/SCL
DIO	A4/SDA
VCC	VCC
GND	GND

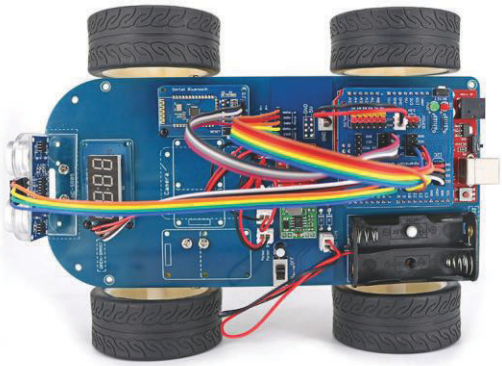
6.4 Connect the Ultrasonic Sensor

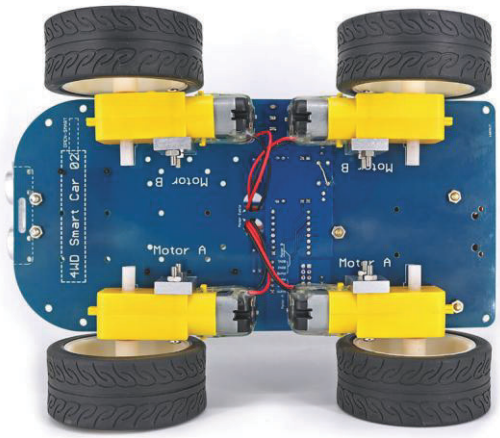
Ultrasonic Sensor	IO Expansion Shield
VCC	VCC
Trig	D5
Echo	D3
GND	GND










4WD Smart Car 02
Motor B
Motor A
Motor B
Motor A

7 In the end

At last, as the kit does not contain the battery, you need to buy two 3.7V / 14500 Li-ion batteries(Recommend capacity: greater than 1000mAH) at the local. Then plug the them into the battery socket.

The two batteries is connected in series and the output voltage is 7.4V which supply power for the motor driver and motors. There is 5V DC-DC regulator on the PCB car classic board and it provides power for Arduino Board. So the smart car can work alone with the batteries.