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1. Description

CrowBot BOLT is a programmable educational car that can be easily used. It is small and beautiful in shape and easy to install. It uses ESP32-WROVER-B as the MCU, with Bluetooth and WiFi functions. It has a wealth of sensors (such as photodiode, ultrasonic sensor, line Tracking Sensor), can quickly realize functions such as light chasing, line tracking, obstacle avoidance, remote control, and light show.

As an entry-level ESP32 programmed educational robot, the cool and cute Bolt makes robot programming learning, and teaching easy and fun. It comes with 16 lessons in three languages (Letscode, Arduinio, MicroPython), provides rich programming, and allows programming beginner to learn to program in the fun of creativity. It has reserved 2 expansion interfaces, which can be expanded and used with 150+ kinds of Crowtail modules. Unlimited creativity, waiting for you to discover!

Model: CRB00157C



2.Features

- Support for Letscode, Arduino and Python
- Can be controlled by IR remote control, Bluetooth/WiFi control
- The car is equipped with ultrasonic, infrared tracking, photodiode and other sensors
- With 16 courses, it is the best choice for the entry of ESP32
- Equipped with on board indicator LED , through which you can intuitively understand the working condition of the car
- 4Pin I2C and A/D ports are reserved to connect Crowtail sensors, creating more possibilities
- Compatible with CrowBot Joystick, provides various methods to play

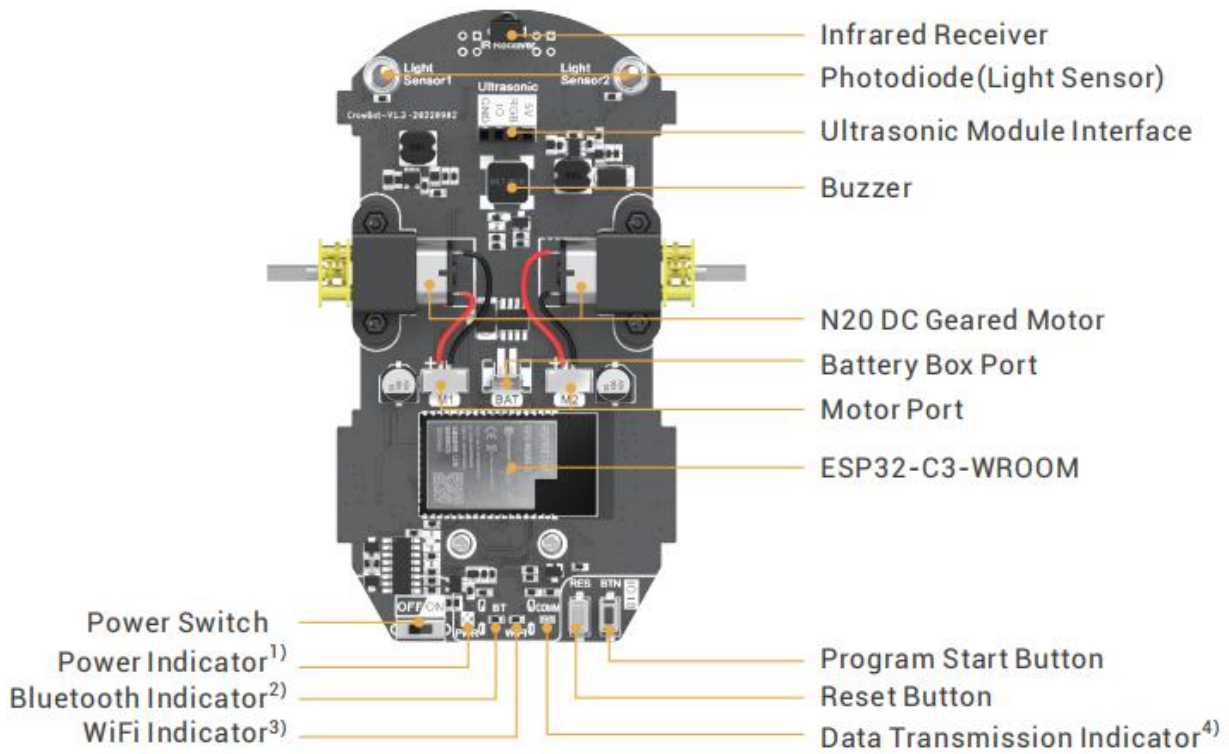
3.Specifications

Item	Description
MCU	ESP32-WROVER-B (8MB)
Programmatically	Letscode, Arduinio, Micropython
Control method	Bluetooth Remote Control/Infrared Remote Control
Input	Button, Photodiode, Infrared Receiving Module, Ultrasonic Sensor, Line Tracking Sensor
Output	Buzzer, Programmable RGB_LED, Motor
Wifi&Bluetooth	Supported
Photodiode	Can realize the function of chasing light or avoiding light

Ultrasonic Sensor(with RGB; 4Pin interface)	When an obstacle is detected, the driving route of the car can be corrected to avoid the obstacle
RPR220 Line Tracking Sensor	Can make the car move along the dark/black lines, intelligently judge and correct the driving path
Buzzer	Can make the car sing, bringing a more direct sensory experience
Programmable RGB_LED	Through programming, it can show colorful lights in different scenes
Infrared receiver(3Pin interface)	Receive infrared remote control signals to realize remote control
Interface	Type c x1, I2C port x1, A/D port x1
Motor type	N20 Gear Motor(drive: L9110S)
Operating Voltage	3.3V~5V(AAA battery x4)
Work Temperature	-10°C~+55°C
Dimension	128*92*64mm
Weight	200g

4.IO Port Diagram

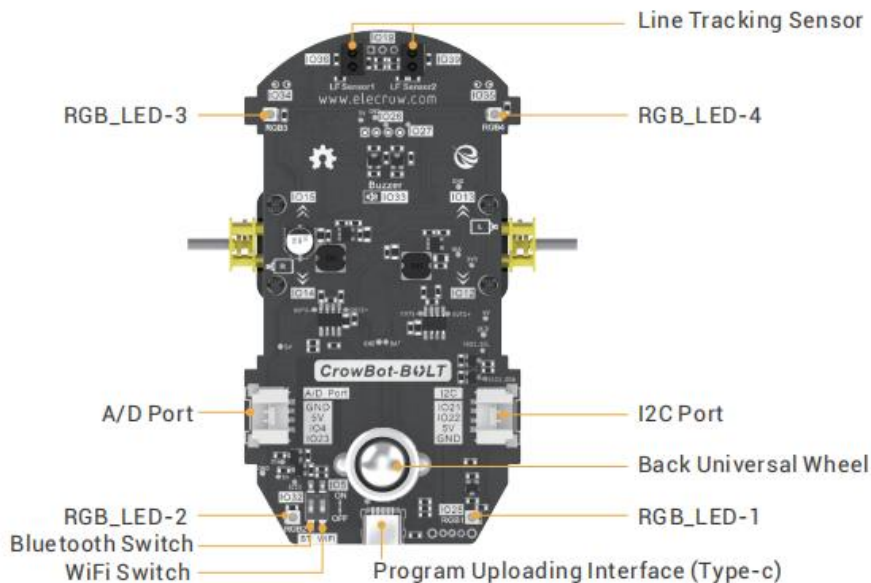
Top Overview



Note:

- 1) When the blue light is on, the power is sufficient; When the red light is on, it means that the voltage is lower than 3.3V and the battery needs to be replaced, otherwise the performance of program will be affected.
- 2) When the blue light is on, it means that the Bluetooth function is on.
- 3) When the blue light is on, the WiFi function is on.
- 4) When the blue light is on, it indicates that there is data transmission.

Bottom Overview



5.Usage

CrowBot-BOLT Assambly Instrustion

STEP 1: Preparation



Chassis x1



Ultrasonic Sensor x1



Battery Holder x1



Wheels x2



M3x8mm Screws x4



M3x55mm Copper Column x2



Side Acrylic Plates x2



Front Acrylic Plates x1



Scewdriver x1



AAA Battery x4
(not included)



STEP 2: Install battery holder

Install 4 AAA batteries into the battery holder, and plug the cable of the battery holder into the 2pin battery(BAT) interface on the chassis.



STEP 3: Install acrylic plates

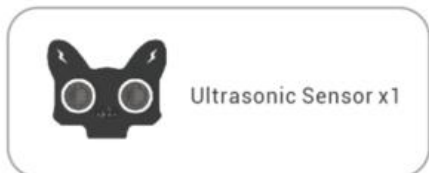


STEP 4: Mounting wheels



STEP 5: Connect ultrasonic sensor

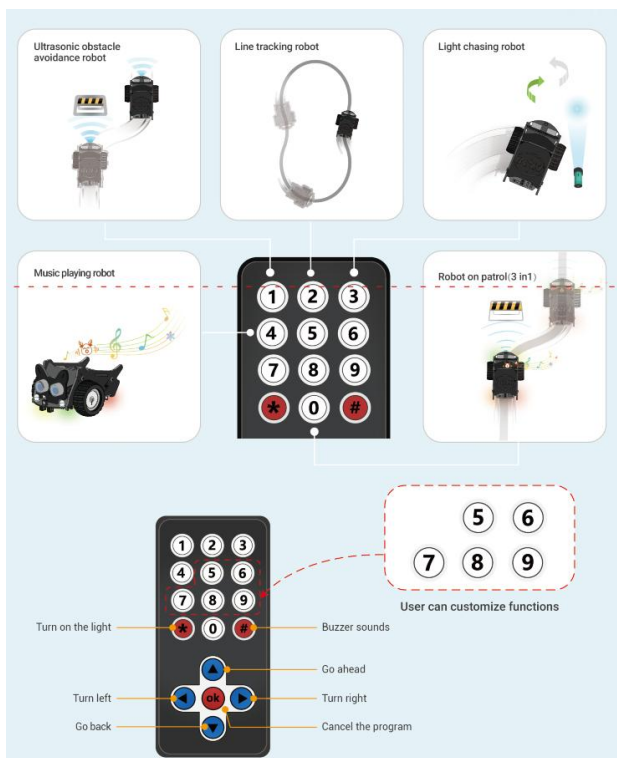
Insert the 4pin ultrasonic sensor into ultrasonic module interface on the chassis.



STEP 6: Finish!

Factory Procedures

The factory default program has been loaded and you can play with CrowBot out of the box. But if you need to re-flash the program, please download [Factory_source_code.zip](#) to re-upload the factory default program. The folder contains a tutorial on how to set the Arduino for ESP32.



Joystick Assambly Instrustion

1 Preparation



Joystick Board x1



Top Transparent Acrylic x1



Bottom Acrylic x1



OLED Screen x1



13x8.2mm Button Cap x4



M3x9mm Copper Column x4



AAA Battery x2
(not included)



M3x8mm Screw x8



6x6mm Button Cap x2



Screwdriver x1

2 OLED Screen



3 Top Button Cap



4 Front Button Cap



5 Bottom Acrylic



6 Top Acrylic



7 Battery



8 Finish



Front



Back

Instructions for Factory Default Settings

L Turn on the light

R Buzzer sounds

Omnidirectional lever

Y
 Go ahead

y
 Go back

x
 Turn left

X
 Turn right

II
 Press to cancel the program

A

Ultrasonic obstacle avoidance robot

B

Line tracking robot

C

Light chasing robot

D

Music playing robot

Notice:

- Preset infrared remote controller functions. If you reload other programs, the above functions will be invalid.
- If you need, visit the product link or contact customer service to ask for this factory setting program.

CrowBot