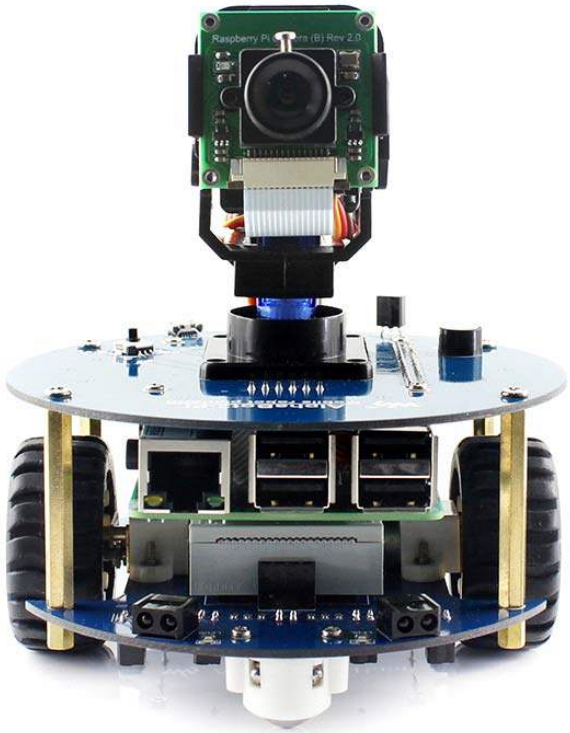


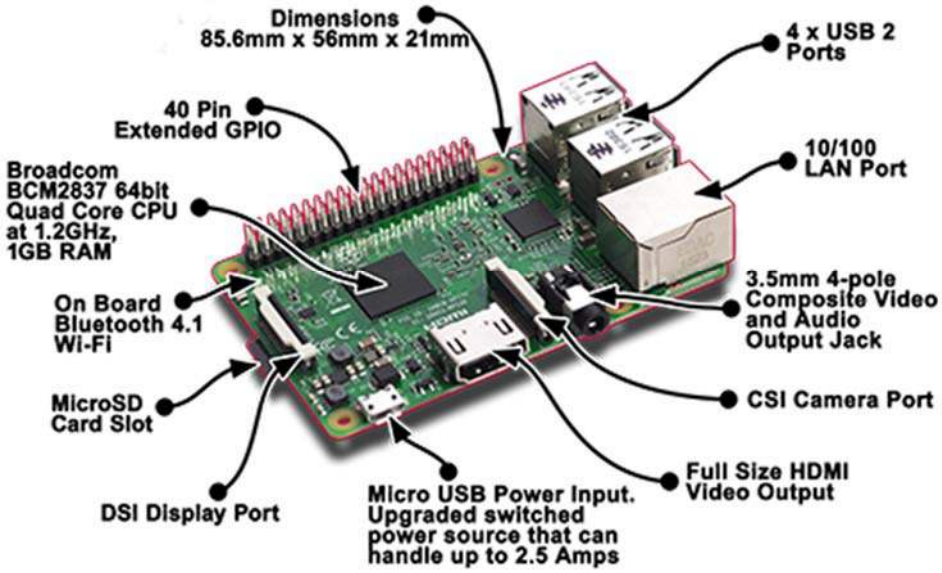
AlphaBot2 robot building kit for Raspberry Pi 3 Model B

SKU 110060863

Description

This AlphaBot2 robot kit is designed to use with Raspberry Pi 3 Model B. It features rich common robot functions including line tracking, obstacle avoiding, Bluetooth/infrared/Wi-Fi remote control, video monitoring, etc.

Thanks to the highly integrated modular design, it is fairly easy to assemble by a snap, no soldering, no wiring. After a few minutes spent on hardware assembled, you're almost there, our open source demo codes will ready to help you get started fast.



•BCM2837, 1.2GHz 64-bit quad-core ARM Cortex-A53
•1GB RAM
•10/100 Ethernet port
•802.11n Wi-Fi NIC
•Bluetooth 4.1 & Bluetooth Low Energy (BLE)
•HDMI port
•USB 2.0 interface x 4
•Micro SD card slot
•Combined 3.5mm audio jack and composite video
•40-pin GPIO interface
•Camera interface (CSI)
•Display interface (DSI)
•Upgraded power management, supports more peripherals (requires a 2.5A power supply or above)

AlphaBot2 Features

AlphaBot2 employs a 2-layer structure to provide excellent stability and compatibility.

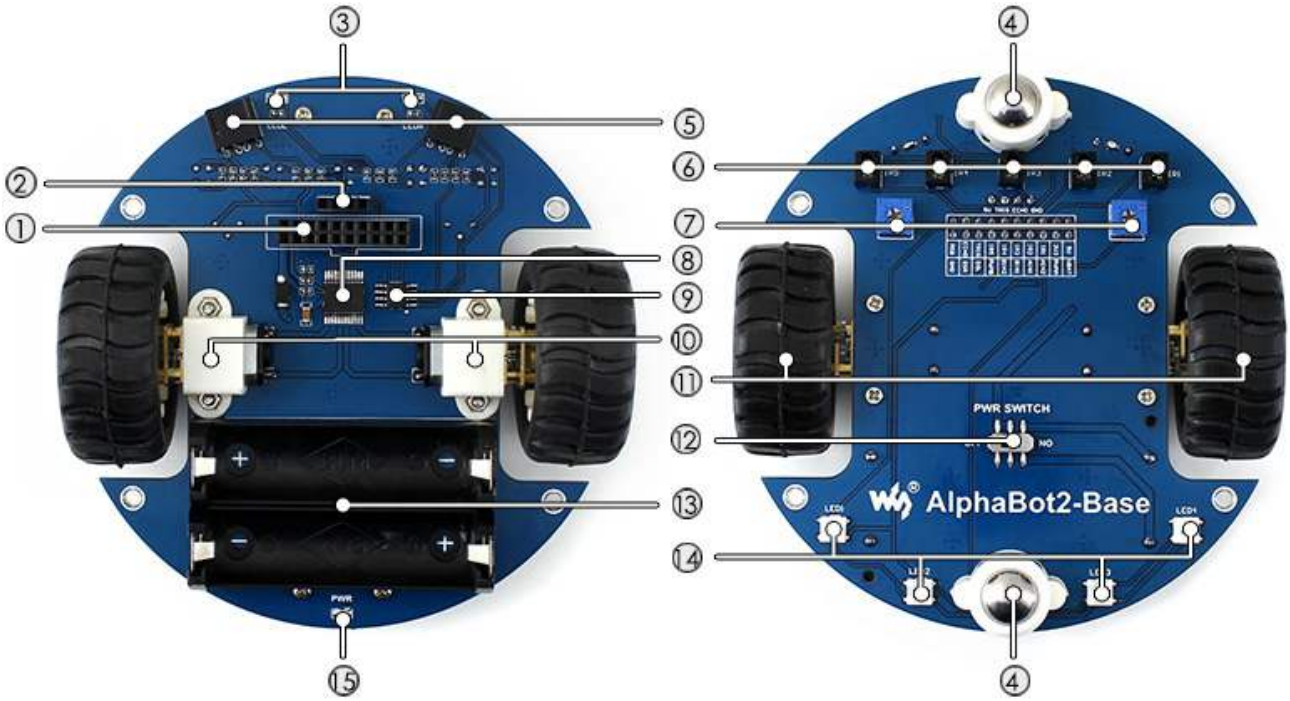
AlphaBot2-Base, the lower base chassis:

•5-ch infrared sensor, analog output, combined with PID algorithm, stable line tracking
•Onboard modules like line tracking, obstacle avoiding, needs no messy wiring
•TB6612FNG dual H-bridge motor driver, compared with L298P, it's more efficient, more compact, and less heating
•N20 micro gear motor, with metal gears, low noise, high accuracy
•Onboard RGB LEDs, true color lighting, pretty cool

AlphaBot2-Pi, the upper adapter board for controller:

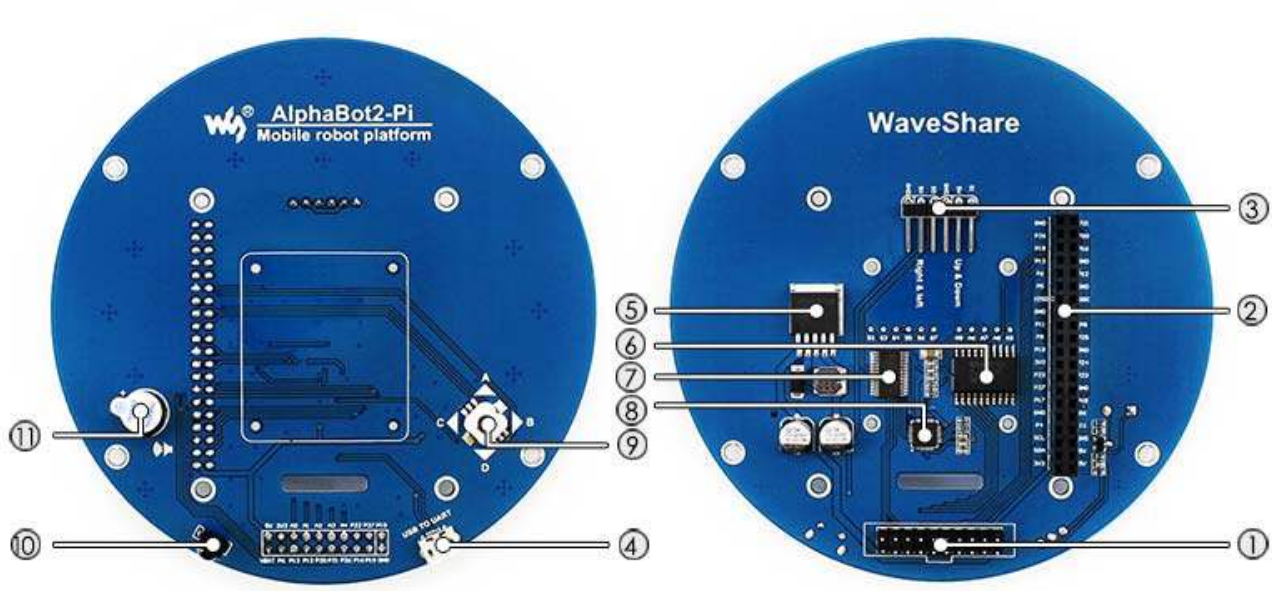
•LM2596 voltage regulator, provides the Pi with stable 5V power
•TLC1543 AD acquisition chip, allows the Pi to use analog sensors
•PCA9685 servo controller, make it more smoothly to rotate the pan head
•CP2102 UART converter, easy for controlling the Pi via UART

What's on the AlphaBot2-Base



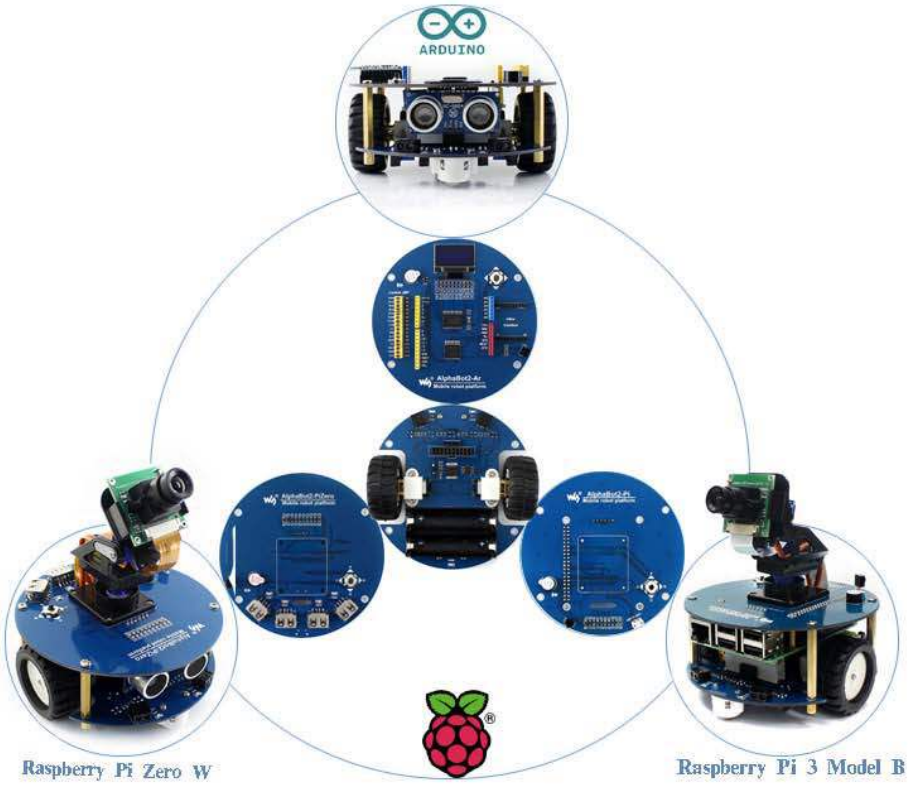
1.**AlphaBot2 control interface:** for connecting sorts of controller adapter board
2.**Ultrasonic module interface**
3.**Obstacle avoiding indicators**
4.**Omni-direction wheel**
5.**ST188:** reflective infrared photoelectric sensor, for obstacle avoiding
6.**ITR20001/T:** reflective infrared photoelectric sensor, for line tracking
7.**Potentiometer** for adjusting obstacle avoiding range
8.**TB6612FNG** dual H-bridge motor driver
9.**LM393** voltage comparator
10.**N20 micro gear motor** reduction rate 1:30, 6V/600RPM
11.**Rubber wheels** diameter 42mm, width 19mm
12.**Power switch**
13.**Battery holder:** supports 14500 batteries
14.**WS2812B:** true color RGB LEDs
15.**Power indicato**

What's on the AlphaBot2-Pi



1.**AlphaBot2 control interface:** for connecting AlphaBot2-Base
2.**Raspberry Pi interface:** for connecting Raspberry Pi 3 Model B
3.**Servo interface**
4.**USB TO UART:** easy for controlling the Pi via UART
5.**LM2596:** 5V voltage regulator
6.**TLC1543:**10-bit AD acquisition chip, allows the Pi to use analog sensors
7.**PCA9685:** servo controller, make it more smoothly to rotate the pan head
8.**CP2102:**USB TO UART converter
9.**Joystick**
10.**IR receiver**
11.**Buzzer**

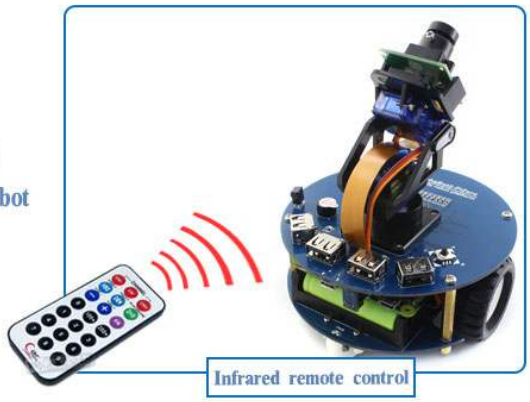
Base board + Adapter board
Compatible with multi controller boards



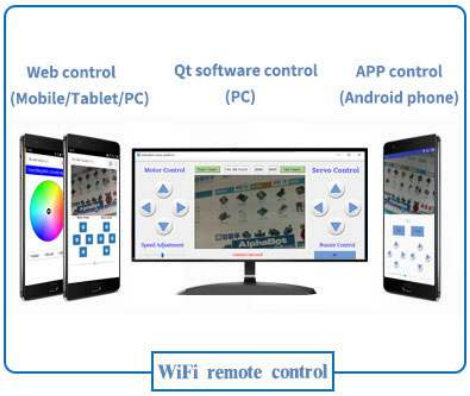
Modular design, Easy installing without wiring

Infrared remote control

Easily take control of your robot



Infrared remote control



WiFi remote control

WiFi remote control

Via Webpage

Via Qt software on PC

Via Android APP

Supports routing, allows creating WiFi hotspot

Video monitoring

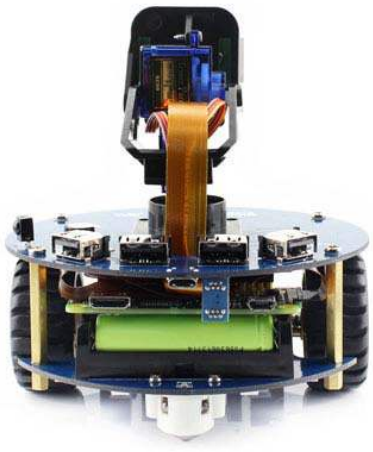
5M pixels camera, 1080P

2-DOF pan and tilt

Hardware PWM servo, rotates smoothly

Video monitoring

Clever design, Proper layout, Stable structure



Full functions, How to play, Up to you

Auto obstacle avoiding

Infrared obstacle avoiding

Easily get out of obstacles in the way

Obstacle avoiding

Ranging

Ultrasonic sensing

Ultrasonic ranging

Ultrasonic obstacle avoiding

Auto line tracking

5-ch detector, high sensitivity

PID algorithm, stable tracking

Line tracking

Bluetooth remote control

Bluetooth remote control

Communicate with the Raspberry Pi Zero W integrated Bluetooth

Get the robot moving, get the RGB LED flashing

Android APP is provided

Technical Details

Dimensions	220mm x 165mm x 95mm
Weight	G.W 480g
Battery	Exclude

Part List

AlphaBot2-Pi (adapter board)	1
AlphaBot2-Base (base chassis)	1
RPi Camera (B)	1
Micro SD Card 16GB	1
Power adapter US standard 5V/2.5A USB output	1
SG90 servo	2
2 DOF pan and tilt kit	1
IR remote controller	1
FC-20P cable 8cm	1
USB type A plug to micro B plug cable	1
15PIN FFC 25cm	1

AlphaBot2-Pi screws	1
Micro SD Card Reader	1
Screwdriver	1
Raspberry Pi 3 Model B	1

Package Contents		Products				
Item	Description	AlphaBot2-Ar Acc Pack	AlphaBot2-Ar	AlphaBot2-Pi Acc Pack	AlphaBot2-Pi	AlphaBot2-PiZero Acc Pack
AlphaBot2-Base	Motor driver, integrates sensors for obstacle avoiding, line tracking	√	√	√	√	√
AlphaBot2-Ar	Adapter board, for connecting Arduino	√	√			
AlphaBot2-Pi	Adapter board, for connecting RPi3 B			√	√	
AlphaBot2-PiZero	Adapter board, for connecting RPi Zero W					√
RPi3 B	Raspberry Pi 3 Model B				√	
UNO PLUS	Enhanced Arduino compatible board		√			
Dual-mode Bluetooth	Dual-mode Bluetooth module		√			
Ultrasonic sensor	Ultrasonic obstacle avoiding, ranging	√	√			√
IR remote controller	remotely control the robot	√	√	√	√	√
RPi Camera (B)	Raspberry Pi camera, adjustable focus			√	√	√
SG90	Servo, working with the pan head, controlling the rotation of the camera			√	√	√
Micro SD Card 16GB	16GB Miro SD Card, class 10			√	√	√
5V 2.5A Power Adapter	RPi3 B requires 2.5A or above power supply			√	√	√

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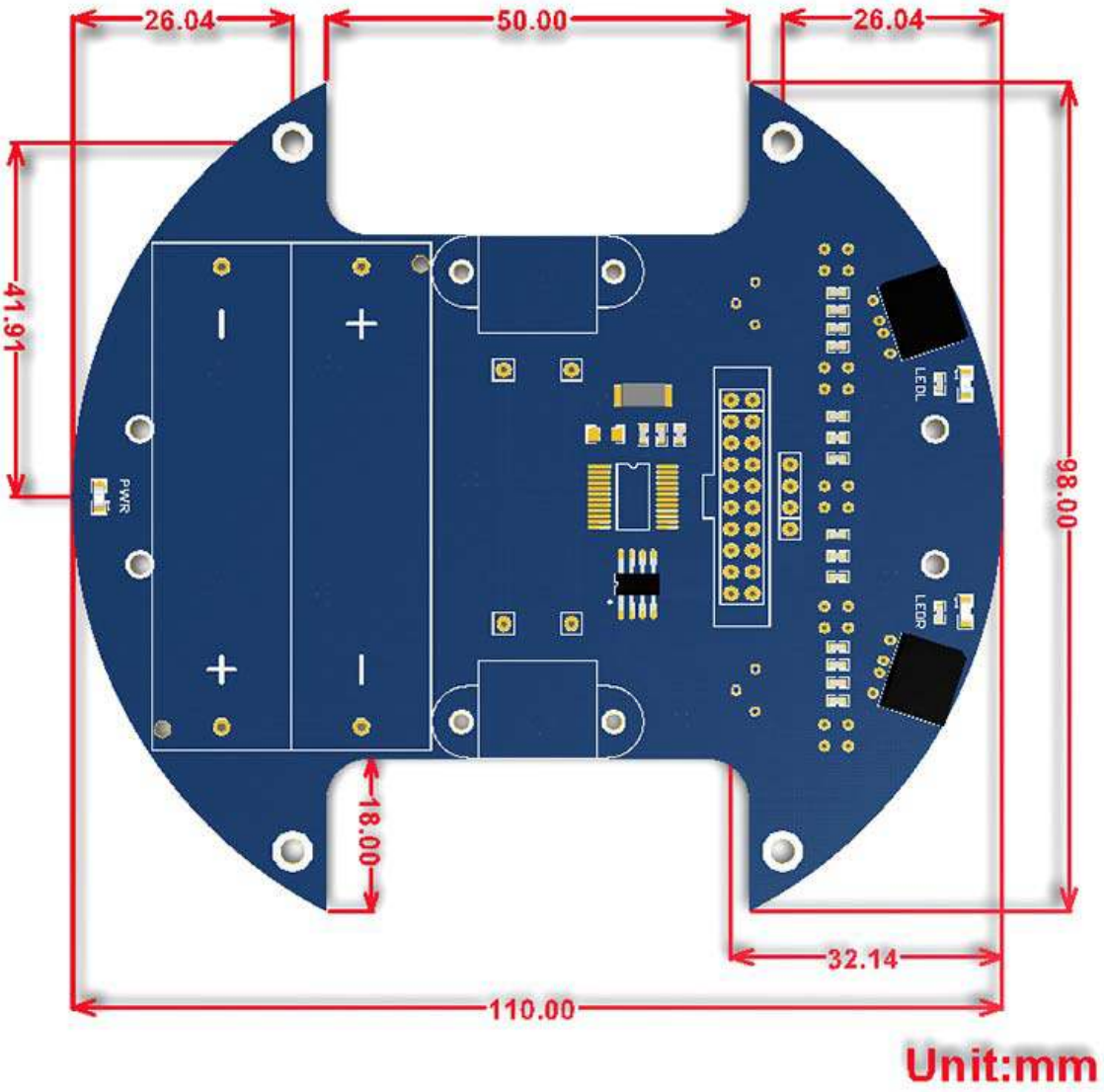
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