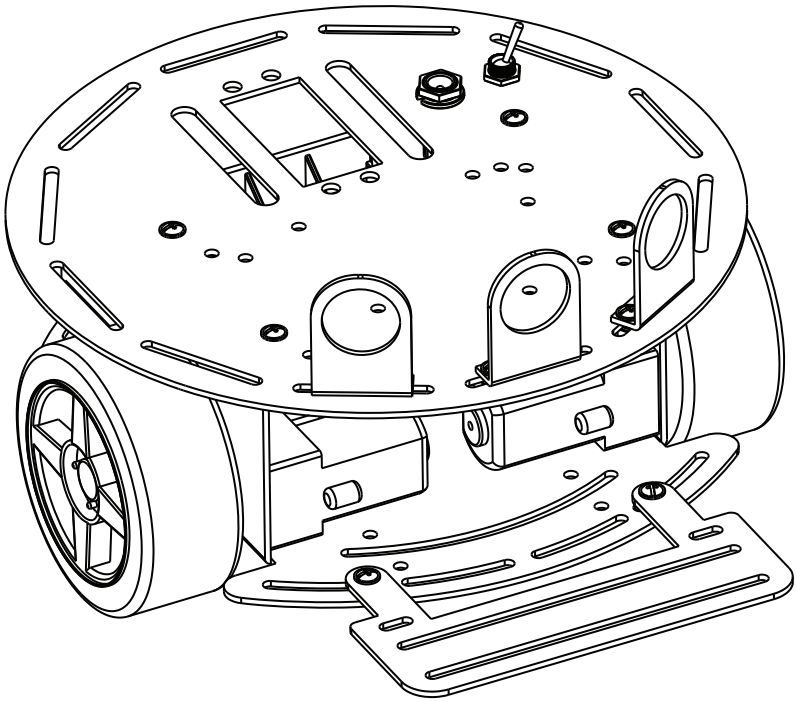
DFROBOT DRIVE THE FUTURE

Instruction Manual

Turtle - 2WD Mobile Platform

安装说明书



在使用Turtle - 2WD Mobile Platform之前，请仔细阅读此说明书。

Read the manual carefully before using Turtle - 2WD Mobile Platform.

Ver1.1

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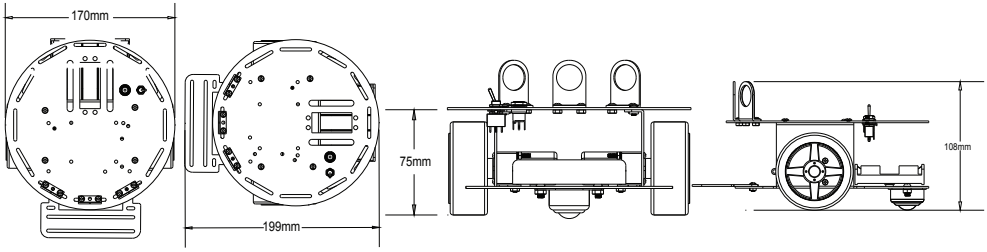
产品特性 Features

整机尺寸：



简介：

Turtle-2WD Mobile Platform两轮驱动机器人是DFRobot研制的机器人实验平台，该平台不但可以用51控制、STC控制器、AVR控制器控制外，更适合使用世界上广泛推广的Arduino控制器，Arduino开放平台拥有全球众多使用者，有丰富的使用例子程序。2轮差数驱动，使用转弯半径趋近于零，机身采用高强度铝合金材料，高速电机加优质橡胶轮运动灵活快速。使用Arduino控制器编程简单，控制起来非常有趣。

整机重量：445克

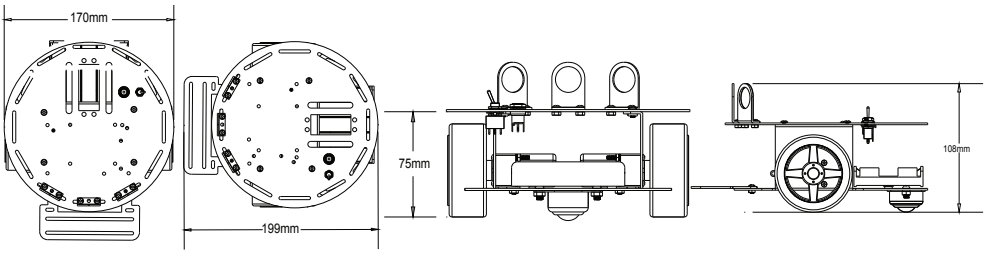
车轮直径：65mm

最大行驶速度：61cm/s

电机参数：

- 电机供电电压：3-6V
- 减速比：1：120
- 无负载转速(3V)：100RPM
- 无负载转速(6V)：200RPM
- 无负载运行电流(3V)：60mA
- 无负载运行电流(6V)：71mA

Dimensions：



Introduction：

The Arduino 2WD two - wheel - drive robot is a DFRobot original design and widely used as self-developed control panel for the Arduino platform. The platform can be controlled by a wide variety of microcontrollers including the widely popular Arduino. The Arduino platform has a large user base which provides a vast amount of resources and sample programs on the internet. The two different drives, powered by high-quality high-speed motors and flexible rubber wheels are mounted on a high-strength aluminum alloy body. This robotic platform is suitable for indoor use or flat road surfaces.

Complete Machine Weight：445g
Wheel Diameter : 65mm
Highest Speed: 61cm/s

Motor Feature：

- ●Gear Ratio : 1:120
- ●No-load speed (3V): 100RPM
- ●No-load speed (6V): 200RPM
- ●No-load current (3V): 60mA
- ●No-load current (6V): 71mA
- ●Stall current (3V): 260mA
- ●Stall current (6V): 470mA
- ●Torgue (3V): 1.2Kgcm
- ●Torque (6V): 1.92Kgcm
- ●Weight : 45g

以下设备不包括在ROB0003的部件清单内，用户需自行配备：

1. 5节AA电池。
2. 控制器以及电机驱动器。

您还需要准备以下工具，并参考零部件清单进行ROB0003的安装：

1. 十字螺丝刀（适用于M2.5，M3，M4的螺丝）。
2. 尖嘴钳。

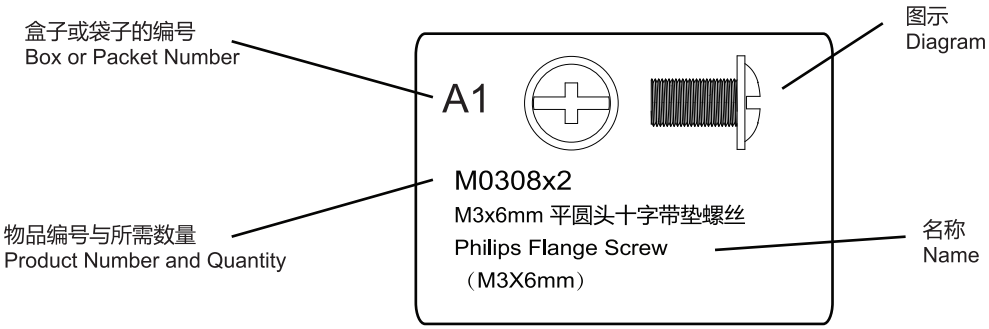
The following parts below are not included in the Parts List, they are self-provided:

1. AA battery (5 pieces).
2. Micro-controller and Motor driver.

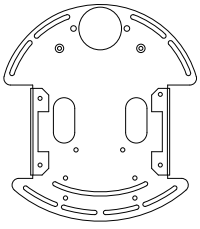
When starting assembly, prepare tools below and pick out the parts referring to the Parts List:

1. Phillips screwdriver（for screws M2.5，M3，M4）.
2. Needle noses pliers.

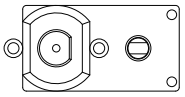
标志含义 Symbol Definition

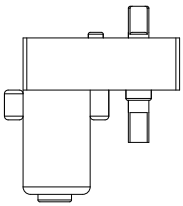


底盘主要部件安装(A) Main Chassis Assembly(A)

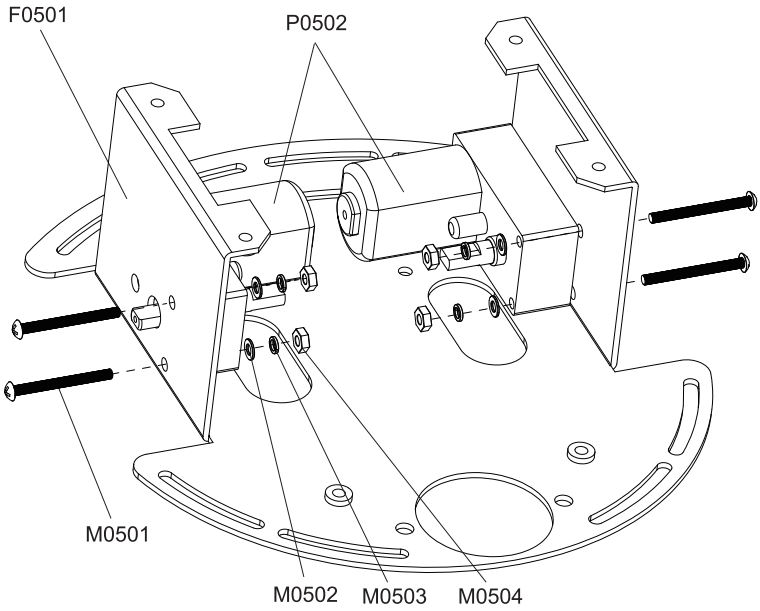


A1
F0501
车身下板
Fuselage Lower Plate





A12
P0502x2
电机
Motor



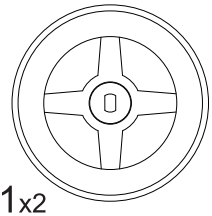
A4
M0501x4
M2.5x25mm平圆头十字螺丝
Philips Truss Screw
(M2.5x25mm)

A4
M0502x4
M2.5垫片
M2.5 Washer

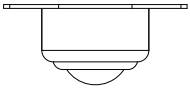
A4
M0503x4
M2.5弹簧垫圈
M2.5 Spring Washer

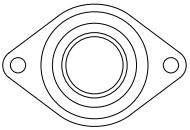
A4
M0504x4
M2.5螺母
M2.5 Nut

底盘主要部件安装(B) Main Chassis Assembly(B)

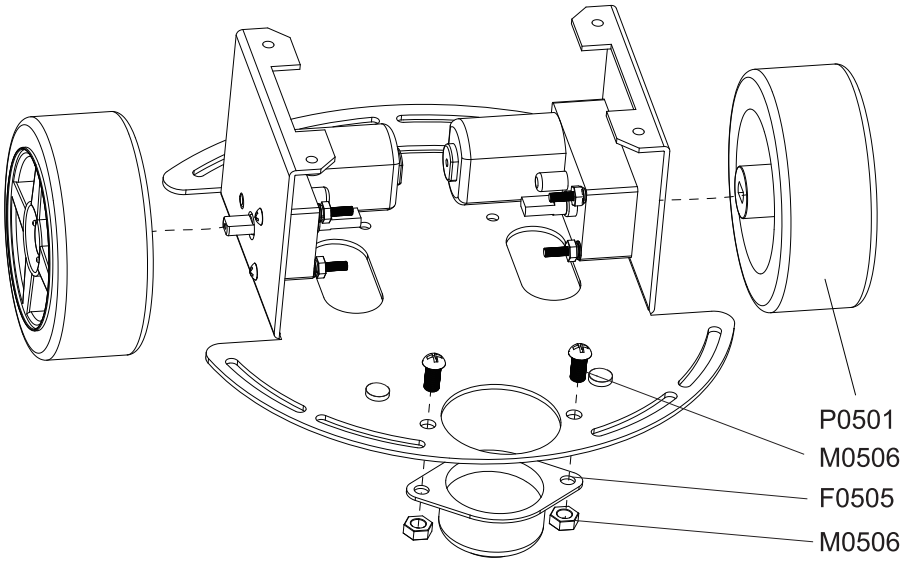


A11
P0501x2
轮子
Wheel

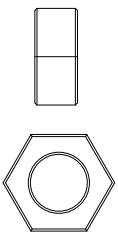




A3
F0501
牛眼轮
Caster

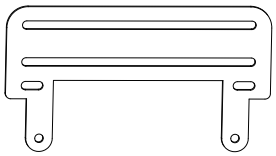


A5
M0505x2
M4x8mm 半圆头十字螺丝
Philips Truss Screw(M4x8mm)

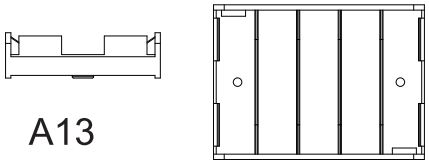


A5
M0506x2
M4 螺母
M4 Nut

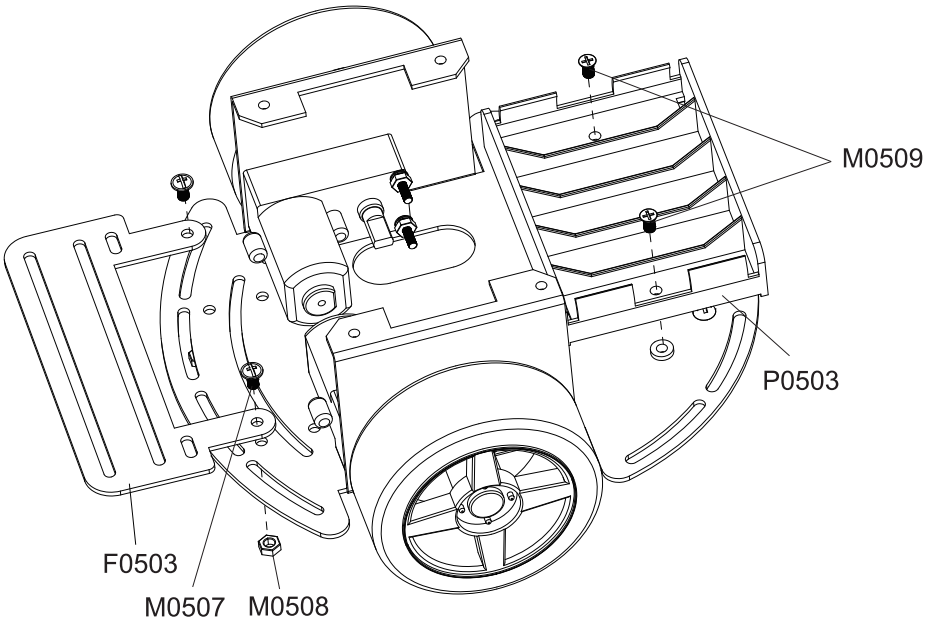
底盘附件安装 Accessories for Chassis Assembly

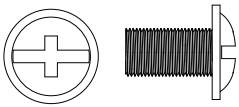


A1
F0503
传感器支架
Sensor Mounting Grill



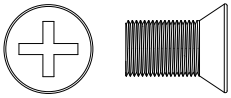
A13
P0503
电池盒
Battery Holder





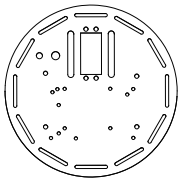
A6
M0507x2
M3x6mm 平圆头十字带垫螺丝
Philips Flange Screw (M3x6mm)

A6
M0504x2
M3 螺母
M3 Nut

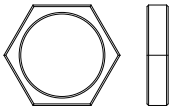


A7
M0509x2
M3x5mm 沉头十字螺母
Philips Countersunk Screw (M3x5mm)

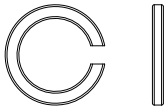
上盖部件安装(A) Upper Cover Assembly(A)



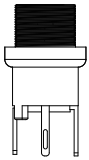
A1
F0502
车身上板
Fuselage Upper Plate



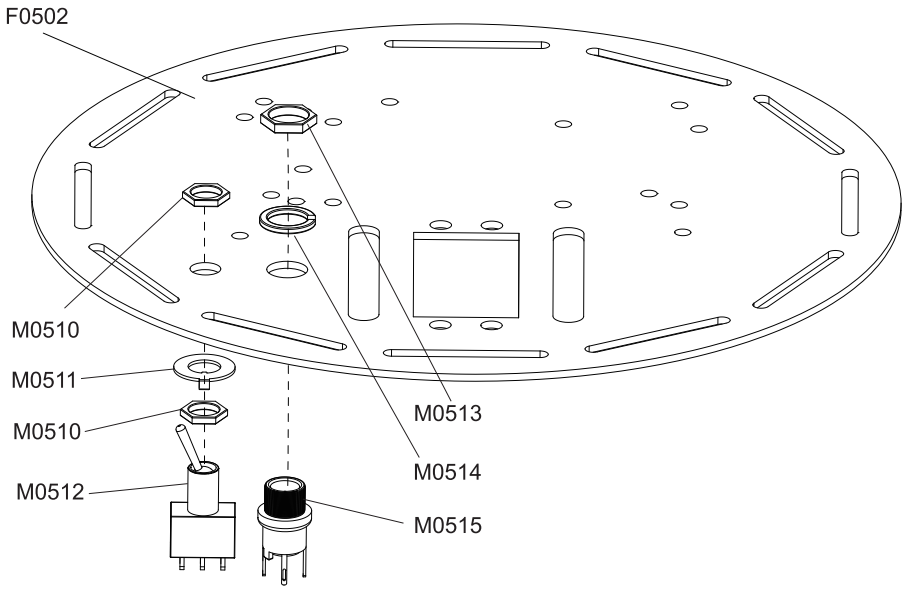
A9
M0513
M8 螺母
M8 Nut



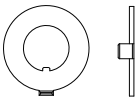
A9
M0514
M8 弹簧垫圈
M8 Spring Washer



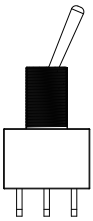
A9
M0515
电源插口
Power Jack



A8
M0510x2
M6 螺母
M6 Nut

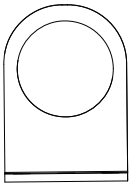
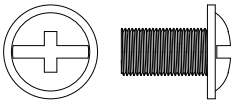


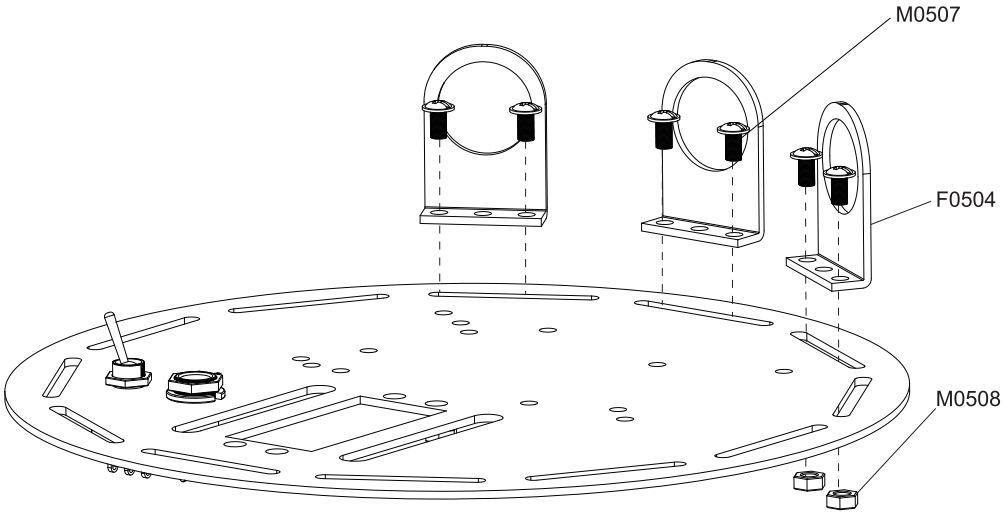
A8
M0511
M6 专用垫片
M6 Special Washer



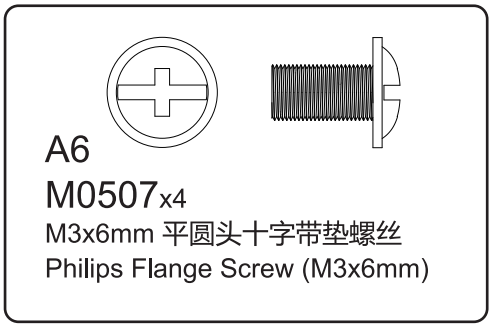
A8
M0512
电源开关
Power Switch

上盖部件安装(B) Upper Cover Assembly(B)

 A2 F0504x3 红外传感器支架 IR Sensor Mounting Bracket	 A6 M0507x6 M3x6mm 平圆头十字带垫螺丝 Philips Flange Screw (M3x6mm)	 A2 M0504x6 M3 螺母 M3 Nut



整机组装 Final Platform Assembly

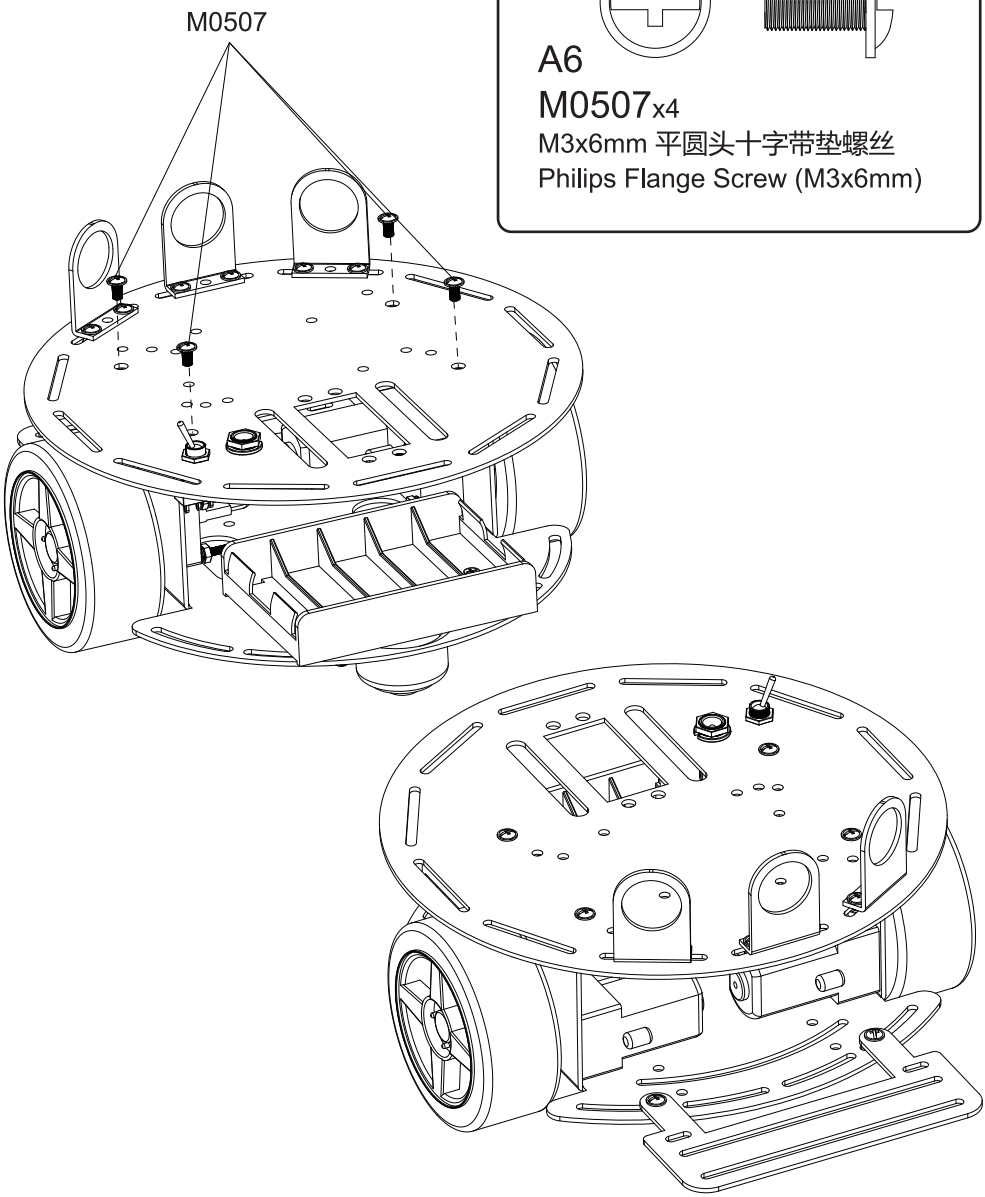


A6

M0507x4

M3x6mm 平圆头十字带垫螺丝

Philips Flange Screw (M3x6mm)



零部件清单 Parts List

编号 Product NO.	盒编号 BOX	袋编号 Packet	名称 Name	数量 Amount	备注 Remark
F0501		A1	车身下板 Fuselage Lower Plate	1	
F0502		A1	车身上板 Fuselage Upper Plate	1	
F0503		A1	传感器支架 Sensor Mounting Grill	1	
F0504		A2	红外传感器支架 IR Sensor Mounting Bracket	3	
F0505		A3	牛眼轮 Caster	1	
M0501		A4	M2.5x25mm 半圆头十字螺丝 Philips Truss Screw(M4x25mm)	4	
M0502		A4	M2.5 垫片 M2.5 Washer	4	
M0503		A4	M2.5 弹簧垫圈 M2.5 Spring Washer	4	
M0504		A4	M2.5 螺母 M2.5 Nut	4	
M0505		A5	M4x8mm 半圆头十字螺丝 Philips Truss Screw(M4x8mm)	2	
M0506		A5	M4 螺母 M4 Nut	2	
M0507		A6	M3x6mm 半圆头十字带垫螺丝 Philips Flange Screw(M3x6mm)	19	
M0508		A6	M3 螺母 M3 Nut	19	
M0509		A7	M3x5mm 沉头十字螺丝 Philips Countersunk Screw(M3x5mm)	2	
M0510		A8	M6 螺母 M6 Nut	2	
M0511		A8	M6 专用垫片 M6 Special Washer	1	
M0512		A8	电源开关 Power Switch	1	
M0513		A9	M8 螺母 M8 Nut	1	
M0514		A9	M8 弹簧垫圈 M8 Spring Washer	1	
M0515		A9	电源插口 Power Jack	1	
M0516		A10	M3x10mm 铜支柱 Copper Pillar(M3x10mm)	4	
P0501		A11	轮子 Wheel	2	
P0502		A12	电机 Motor	2	
P0503		A13	电池盒 Battery Holder	1	

控制器:

- DFRduino Romeo 328控制器 (Arduino 兼容) SKU:DFR0004
- XBee扩展板(Arduino兼容) SKU:DFR0015
- L298N直流电机驱动模块DF-MD V1.3 SKU:DRI0002
- Wireless GamePad for Arduino SKU:DFR0182

结构升级包:

- 橡胶轮子(适用于4WD和2WD平台) SKU:FIT0003
- 云台舵机支架套件 SKU:FIT0004
- 迷你直流减速电机(带后输出轴) SKU:FIT0016
- 手机支架(兼容Android手机和Iphone) SKU:FIT0167
- D65mm橡胶轮子 - 蓝/红/银 (无连接轴)SKU:FIT0199 + 轮子 - 电机连接轴 SKU:FIT0198
- DF05BB舵机 SKU:SER0020

传感器:

- URM37 V3.2超声波测距模块 SKU:SEN0001
- GP2Y0A21 距离传感器 SKU:SEN0014
- 3-80cm红外接近开关 SKU:SEN0019

通信模块:

- BIuetooh Bee V2蓝牙串口模块 SKU:TEL0023
- DF-BIuetooth V3蓝牙串口模块 SKU:TEL0026

装饰:

- RGB 全彩灯盘 SKU:DFR0106

电源:

- 7.4V 2200mAh 锂电池(DC2.1输出接头) SKU:FIT0137

Controller:

- Romeo-All in one Controller (Arduino Compatible Atmega 328) SKU:DFR0004
- Xbee Shield For Arduino SKU:DFR0015
- 2A Dual Motor Controller SKU:DRI0002
- Wireless GamePad for Arduino SKU:DFR0182

Mechanical Update Package:

- Rubber Wheel for A4WD and A2WD (Pair) SKU:FIT0003
- Pan and Tilt Kit (Black Anodized) (no servos) SKU:FIT0004
- Micro DC Geared Motor with Back Shaft SKU:FIT0016
- Phone Holder For Andriod&Iphone SKU:FIT0167
- D65mm Rubber Wheel Pair - Blue/Red/Silver (without shaft) SKU:FIT0199 + Wheel - Motor Adapter SKU:FIT0198
- DF05BB Standard Servo (5kg) SKU:SER0020

Sersor Accessories:

- URM37 V3.2 Ultrasonic Sensor SKU:SEN0001
- Sharp GP2Y0A21 Distance Sensor (10-80cm) SKU:SEN0014
- Adjustable Infrared Sensor Switch SKU:SEN0019

Communication Accessories:

- Bluetooth Bee SKU:TEL0023
- DFRobot Bluetooth V3 SKU:TEL0026

Decoration:

- Light Disc with 7 SMD RGB LED SKU:DFR0106

Power:

- 7.4V Lipo 2200mAh Battery (Arduino Power Jack) SKU:FIT0137

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