4WD MiniQ Complete Kit (SKU:ROB0050)

4WD MiniQ Complete Kit V2 (SKU:ROB0050)   4WD MiniQ Complete Kit V1 (SKU:ROB0050)

Introduction

4WD MiniQ mobile robot is especially designed for learning purpose. It comes fully assembled and all your need is a PC with Arduino IDE and 4xAA battery.

This upgraded version of MiniQ 4WD Kit comes with new Arduino Leonardo controller (ATmega32u4)but also integrates such modules as 1 RGB LED, photosensitive diode, 2 infrared trasmitter, 1 infrared receiver, 5 infrared line tracking sensor, two light sensors, 5 buttons and 1 buzzer.

MiniQ 4WD offers 8 lessons for beginners ,from entry to hunting the line,obstacle avoidance, remote control. Users can easily grasp through the tutorial.Code Package download,tutorials download.
https://github.com/Arduinolibrary/Source/blob/master/Code.rar?raw=true
https://github.com/Arduinolibrary/Source/blob/master/Tutorial%20pdf.rar?raw=true

- lesson1.Get you to know Your Robot
- lesson2.Control Buzzer
- lesson3.Light Direction Indication
- lesson4.Line_follow
- lesson5.RGB LED
- lesson6.Obstacle Avoidance
- lesson7.Encoder
- lesson8.IR Remote Control

Specification

- Controller: Atmega32U4(Arduino Leonardo)
- Power Supply: 4x AA batteries or Micro-USB
- Working Voltage: 4.5 to 6V
- Driving Mode: 4WD
- Max Speed: 79cm/s
- Size: 115x110x45mm
- Weight:400g

Layout Introduction
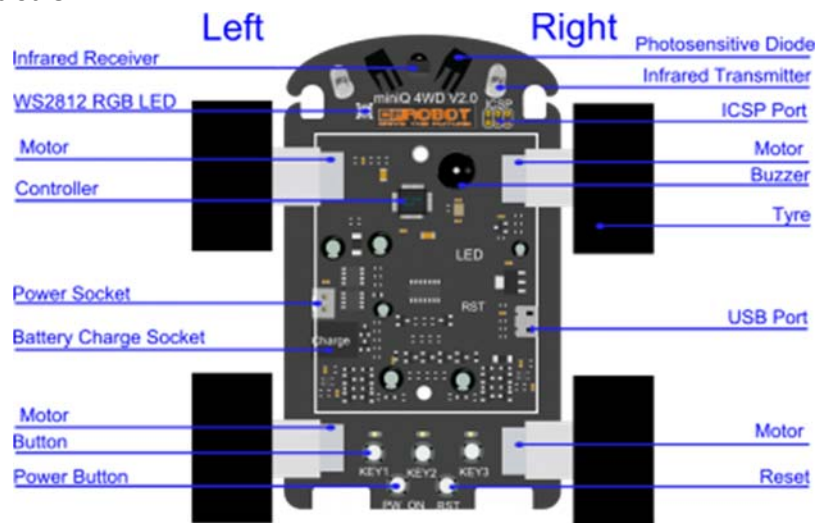
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Function about every component：

- Infrared transmitter：transmit the infrared signal, the signal can be used for detecting obstacles
- Infrared receiver：receive infrared signal, the signal can be used for obstacle avoidance
- Photosensitive diode：sensitive with the light, so it can help you get some information about the light
- Button：can be programmed for your idea
- RGB LED：you can change its color use your code, it can show as an alarm and other things you want
- USB port：download your code and let your robot talk to your computer
- Buzzer（passive）：be an alarm bell or sing a simple song
- Controller：runs your code
- Motor：can be controlled to run forward or backward, so that the car can turn left or right freely
- Reset button；Reset the robot, the program in the robot will runs again from its initiation
- Power switch：power switch of the robot
- Power port：power provided from this port
- Charge port: if your batteries can be charged，you can charge them from this port thus they can be hold in the car
- Infrared line-follow sensor: can be used for detecting for white or black lines

Pin Mapping

- Line follow sensor：

    A0--IR0 （No.1 count from the left）

    A1--IR1 （No.2 count from the left）

    A2--IR2 （in middle）

    A3--IR3 （No.2 count from the right）

    A4--IR4 （No.1 count from the right）

    - Follow light: A5

    - Motors

    D5-- PWM control from left motor, D12--EN1 direction control from left motor

    D6-- PWM control from right motor, D7--EN2 direction control from right motor

    - RGB LED : D10

    - Infrared obstacle avoidance：

    Transmitter：D13—IRL left transmitter sensor, D8—IRR right transmitter sensor

    Receiver: D17—IRS receiver sensor

    - Button：A6

    - Encoder：

    D0--INT2 Right Motor

    D1--INT3 Left Motor

    - Buzzer

    D16(MOSI)— Buzzer