1.1 Description of Pico Robot

Pico Robot is a smart car based on the Raspberry Pi PICO development board. It is an open-source robot that can be used by embedded designers, researchers and students. Quickly realize functions such as obstacle avoidance and remote control.

Raspberry Pi Pico is a low-cost, high-performance microcontroller development board officially designed by Raspberry Pi with a flexible digital interface. In terms of hardware, it adopts the RP2040 microcontroller chip independently developed by the Raspberry Pi, equipped with an ARM Cortex M0 + dual-core processor, with a running frequency of up to 133MHz, built-in 264KB SRAM and 2MB memory, and onboard as many as 26 a multi-function GPIO pin. In terms of software, MicroPython can be used for development, and it is equipped with a complete development material tutorial, which can facilitate the quick start of development and be embedded in the product.

Pico Robot Features

● Onboard ultrasonic ranging module

● Onboard photoresistor, 4-channel tracking sensor, sound sensor

● Onboard Bluetooth interface and infrared receiving probe, you can choose Bluetooth remote control or infrared remote control

● 0.91' mini OLED real-time display

● Powered by a single 18650 lithium battery

● On-board boost, charging, voltage regulator circuits, with overcurrent protection, overcharge protection, motor stall protection, etc.

● 2-channel motor drive plus universal wheel moving mode

● Onboard 8 RGB lights, which can realize colorful lighting effects

● Onboard passive buzzer

● On-board 4-channel servo interface, two sets of IIC interfaces, and one set of GPIO interfaces

● Self-contained power detection circuit and reset circuit

● Python programming