BalaC

SKU:K038



Description

BalaC is a DIY dual wheel balancing car kit. BalaC uses the STM32 series chip, two motor driver ICs, and is also equipped with a rechargable replaceable battery. It incorporates a light-weight design with 360° servos. It's possible to use the UIFlow graphic interface to program the balancing car. An M5StickC is included in the package. The BalaC maintains its balance with the help of mpu6886. The real-time compensation of the servos are controlled by calculating the offset value to achieve the purpose of balancing. A LEGO compatible design allows you to change different tires. If you want to learn about PID or need an interesting programming toy product, BalaC will be a good choice

At present, there is no stock program, you will need to write the PID code by yourself.

Product Features

- Based on ESP32 + STM32
- Personality DIY
- Detachable Design
- Two wheel Drive
- Replaceable battery
- Program Platform: UIFlow, MicroPython, Arduino

Include

- 1x M5StickC
- 1x BalaC Base
- 2x Wheels
- 2x Wheel Connectors
- 2x 9G Servos
- 2x Elastics
- 2x Screws
- 1x Hex key
- o 1x 16340 Battery

Application

Balancing car

Specification

Specification	Parameter Parame
ESP32-Pico-D4	240MHz dual core, 600 DMIPS, 520KB SRAM, Wi-Fi, dual mode Bluetooth
Servo	Rotation angle: 360°; no load speed: 0.12 seconds / 60 degrees (4.8V)
Driver	L9110S
Slave	STM32F030F4P6
Communication protocol	I2C: 0x38
Battery	16340, 3.7V, 700mAh, Li-ions rechargeable
Net weight	162g
Gross weight	206g
Product Size	30*100*105mm
Package Size	148*118*42mm

EasyLoader

EasyLoader is a concise and fast program writer, which has a built-in case program related to the product. It can be burned to the main control by simple steps to perform a series of function verification.

Download Windows Version Easyloader

Download MacOS Version Easyloader



Description:

After power on, press the power key for calibration. At this time, the LED flashes and the calibration is successful, and the balance can be maintained automatically

Example

Arduino

Click here to download examples

UIFlow

(Not actual code for reference only) Click here to download UIFlow

```
utton (A 🔻 (wasPressed 🔻
                                                               Enable - = 0
                                                           set Enable ▼ to 1
                                                           Set circle0 v color
set Kd v to 0.32
                                                            set Target ▼ to Get X
set 🔽 to 🚺 0
                                                       else set Enable to 0
set PreP ▼ to 0
set PreTime ▼ to Get ticks ms
 Label label4 show Reduce Get X to 1 decimal places
       Enable = 1
 do set Now to Target Get X
             1-30 < Now - and - Now - < 30
     do set Time to Get ticks ms
         set Dt ▼ to Time ▼ - ▼ PreTime ▼ ÷ ▼ 1000
         set PreTime ▼ to ☐ Time ▼
         set Pv to Now ÷v 90
         set to to PV XV Dtv
         set D to PreP ÷ Dt
         set PreP ▼ to P ▼
         set Power v to Kd v x D v + v kp v x v P v Ki v x v V + v
                                                                        Returns the value of this
         Label label9 show Reduce Power to 2 decimal places
         set Power v to Power v x v 60
             ulse 1 Power V
```