Catch Unit

SKU:U102

Description

Catch is a gripper that uses a SG92R servo as a power source. The servo uses a PWM signal to drive the gripper gear to rotate and control the gripper for clamping and releasing operations. The structure adopts a design compatible with Lego 8mm round holes. You can combine it with other Lego components to build creative control structures, such as robotic arms, gripper carts, etc.

> Because the opening and closing angle of the gripper is 90°, please control the rotation angle of the driving servo to 0-45° (PWM: freq: 50Hz, 0°-45°(pulse:0.5ms-1ms) to prevent blocking rotation. The steering gear burned out.

Product Features

- SG92R steering gear
- PWM signal drive
- Lego hole compatible
- The jaw opening and closing angle is 90°
- Compatible with RoverC
- Support input voltage: 4.2-6V
- Development platform UIFlow, MicroPython, Arduino

Include

- 1x Catch Unit(Built-in Servo-SG92R)
- 1x HY2.0-4 adapter
- 1x RoverC.Pro Connector

Application

- Robot gripper
- Steering gear manipulator gripper

Specification

Master control resources	Parameters
Servo model	SG92R
Drive signal	PWM: freq: 50Hz, 0°-45°(pulse:0.5ms-1ms)
Working frequency	50Hz
Clamping jaw opening and closing angle	90°
Input voltage range	4.2-6V
Work dead zone	10us
Output torque	2.5kg/cm at 4.8V
Output speed	0.1sec/60° at 4.8V
Working temperature	0°C to 55°C
Net weight	21.5g
Gross weight	50g
Product size (gripper extension)	72 x 56 x 37 mm
Package size	147 x 90 x 40 mm
Shell material	Plastic (PC)

Pin mapping

When the Catch Unit is connected to PortB, the pin mapping is as follows

M5Core(PORT B)	GPIO26	5V	GND
Catch Unit	SIGNAL	5V	GND

Example

> This case controls the Catch Unit clamping jaws to perform clamping and releasing cycles.

Arduino

For BASIC/M5GO/FIRE

```
/*
    Description: Control Catch Unit through PWM.
*/


#include <M5Stack.h>


const int servoPin = 26;
int freq = 50;
int ledChannel = 0;
int resolution = 10;
void setup() {
  // put your setup code here, to run once:
  M5.begin();
  M5.Power.begin();
  M5.Lcd.setCursor(100, 50, 4);
  M5.Lcd.println("Catch Unit");
  M5.Lcd.setCursor(40, 120, 4);
  ledcSetup(ledChannel, freq, resolution);
  ledcAttachPin(servoPin, ledChannel);
}


void loop() {
  // High level 0.5ms is angle 0°
  // duty = 0.5/20ms = 0.025, 0.025*1023≈25
    ledcWrite(ledChannel, 25);
    delay(2000);
  // High level 1ms is angle 45°
  // duty = 1/20ms = 0.05, 0.05*1023≈50
    ledcWrite(ledChannel, 50);
    delay(2000);
}
```

Video