MegaPi Pro ESC Adapter Board

overview

This module is a dedicated module for MegaPi Pro. This module can drive a 2823 brushless motor. It adopts 2x8Pin connection mode and can be easily installed on MegaPi Pro. MegaPi Pro can install up to four of these modules to drive 4 brushless motors.

technical specifications

- Motor channel: 1
- Minimum working voltage: 9V
- Maximum working voltage: 12V
- Typical voltage: 11.1V
- Rated current: 3A
- Peak current: 5A
- Module size: 30mmx15mm (length x width)

Features

- Support motors with working voltage of 9~12V
- When powered by 12V power supply, the working current can reach 3A (peak value can reach 5A)
- The module has over-voltage protection, over-current protection, and over-temperature protection to ensure the safety of use in all aspects
- Colored male and female sockets to prevent wrong insertion
- The module is compact and easy to replace

programming guide

• Arduino programming

Function Description

function	Function
MeMegaPiProESCMotor (port)	Set up brushless motor interface. bldcmotor_1(1)~bldcmotor_4(4)

run(abs(speed))	Set the speed (speed: 0~100).

After the following program runs, the brushless motor 1 is unlocked. After the unlocking sound, start spinning at 50% power for 2 seconds, stop for 2 seconds, and repeat.

```
#include <Arduino.h>
#include <Wire.h>
#include <SoftwareSerial.h>

#include <MeMegaPiPro.h>
MeMegaPiProESCMotor bldcmotor_1(1);

void setup(){
    TCCR1A = _BV(WGM10);//PIN12
    TCCR1B = _BV(CS11) | _BV(CS10) | _BV(WGM12);
    bldcmotor_1.init();
}

void loop(){
    bldcmotor_1.run(abs(50));
    delay(2);
    bldcmotor_1.run(abs(0));
    delay(2);
    loop();
}
```

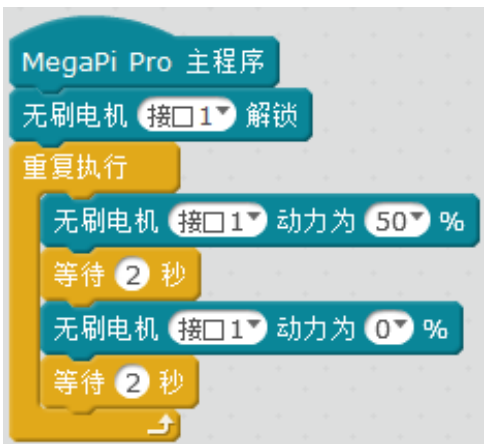
Download sample program

- **mBlock programming**

Block description

building blocks	illustrate
	Select the interface, unlock the motor, and there will be an unlocking sound after unlocking (this building block must be added to the program head).
	Select the interface; set the brushless motor power (0~100).

After the following program runs, the brushless motor 1 is unlocked. After the unlocking sound, start spinning at 50% power for 2 seconds, stop for 2 seconds, and repeat.



Download sample program

- **mBlock programming**

Block description

building blocks	illustrate
	Select the interface, unlock the motor, and there will be an unlocking sound after unlocking (this building block must be added to the program head).
	Select the interface; set the brushless motor power (0~100).

After the following program runs, the brushless motor 1 will start to rotate at 50% power for 2 seconds after unlocking and the unlocking sound will be heard, then stop for 2 seconds and repeat this process.

Download sample program

● Python3 programming

1. The main control board MegaPi Pro is connected to the Raspberry Pi, the RJ25 adapter is connected to the MegaPi Pro RJ25 adapter board interface, and the MegaPi Pro ESC adapter board is connected to the RJ25 adapter.
2. Install the latest Makeblock library on Raspberry Pi `pip3 install makeblock --upgrade`.
3. Create a new python file with the suffix .py.
4. Write the program in the python file.
5. Run the python file such as "python123.py".

Function Description

function	Function
BLDC Motor (port)	Create a brushless motor object. port: MegaPiPro.PORT1~MegaPiPro.PORT4
run(speed)	speed: speed (0~100)

After the following program runs, the brushless motor 1 rotates at a power of 50 for 2 seconds, stops for one second, rotates at a power of -50 for 2 seconds, and stops for one second.

```
from time import sleep
from makeblock import MegaPiPro
board = MegaPiPro.create()
bldc = board.BLDCMotor(MegaPiPro.PORT1)
while True:
    bldc.run(50)
    sleep(2)
    bldc.run(0)
    sleep(1)
    bldc.run(-50)
    sleep(2)
    bldc.run(0)
    sleep(1)
```

Download sample program

connection method

- **Electronic wiring**