

# 4Ch Motor Controller

## Overview

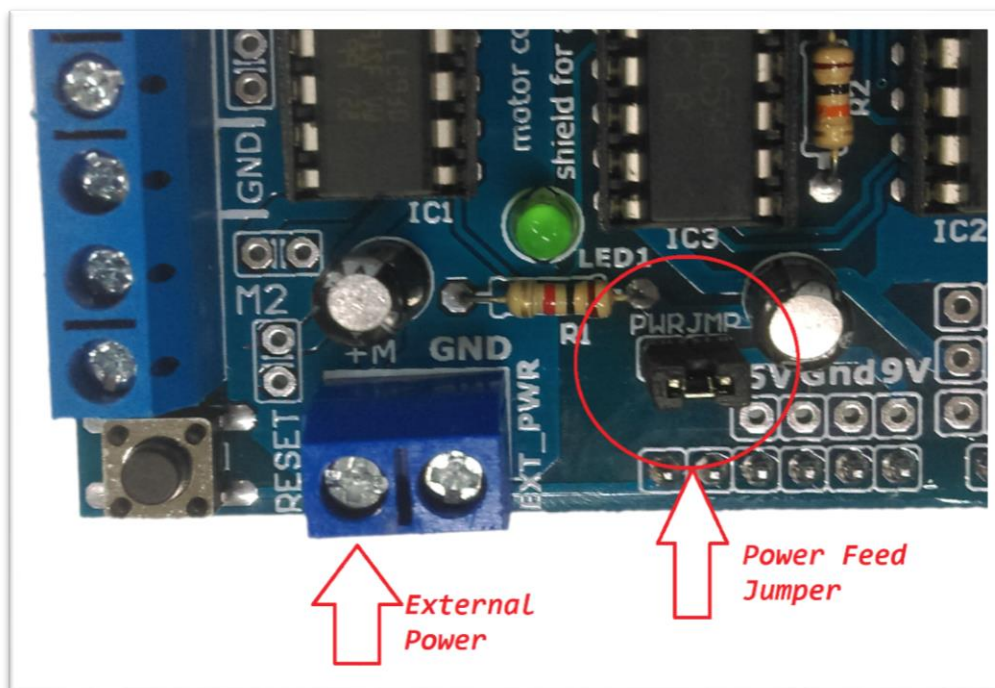
This motor controller shield sits directly on top of the UNO layout. It has 2x 5V Servo ports, 4 Bi-Directional DC Motor ports with 8-bit speed resolution. Alternatively, it can control 2 Stepper motors using 2 motor ports per Stepper.

## Specifications

Specification	Value
Current rating per channel	0.6A (1.2A surge)
Logic input	3V – 5V
Operating Voltage(External Power)	5V – 30V
Chipset	74HC595 & L2930

If you are using a different type of motor, such as a 12V motor; you will have to connect 12V into the **EXT Power** screw terminals found on the side of the shield. By default, the shield is configured to run the Arduino off this power source as well.

**Please note**, if you need to connect more than 12v, you must disconnect the power feed jumper and power the Arduino through some other means. UNO cannot handle 12V.



## Shield Pin Connections

### Uno compatible board Operation

Pin 11, 3, 5, 6	Motor controller connections ( <i>unusable</i> )
Pin 9, Pin 10	Servo 2, Servo 1 ( <i>respectively</i> )
Pin 12	Latch
Pin 4	Clock
Pin 8	Data
D7	Enable

Australia

[www.jaycar.com.au](http://www.jaycar.com.au)

[techstore@jaycar.com.au](mailto:techstore@jaycar.com.au)

1800 022 888

New Zealand

[www.jaycar.co.nz](http://www.jaycar.co.nz)

[techstore@jaycar.co.nz](mailto:techstore@jaycar.co.nz)

0800 452 922

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## Source code

The code for this shield is mainly handled by the “*Adafruit Motor Shield*” Library, you will not need to manually manage different pin configurations to use this shield.

A basic sketch file is presented below, with a basic DC motor attached to M1 on the Motor shield.

```
#include <AFMotor.h>

AF_DCMotor motor(1);          // DC motor on M1
AF_Stepper stepper(48, 2);    // Stepper, Port M3+M4, 48 Steps.
// servo is not managed by AFMotor.h
// Use traditional Servo library in Arduino IDE.
int i = 0;
bool goForward = true;
void setup() {
    servo.attach(9);
    motor.setSpeed(200);
    motor.run(RELEASE);
}
void loop() {
    motor.run(goForward ? FORWARD : BACKWARD );

    for (i = 0; i < 255; i++) {
        motor.setSpeed(i);
        stepper.step(1, FORWARD, INTERLEAVE);
        delay(3);
    }
    stepper.step(255, BACKWARD, INTERLEAVE);
    delay(1000);
    for (i = 255; i > 0; i--) {
        motor.setSpeed(i);
        stepper.step(1, FORWARD, DOUBLE);
        delay(3);
    }
    goForward = !goForward;
}
```