ACEduino Motor/Sensor Shield v1.1

C



E

Aout

D

Cout

( B )

( A )

G

Bout

F

H

**Features:**

The ACEduino Motor/Sensor Shield is an Arduino-compatible shield that:

* Can control up to two (2) stepper motors or up to four (4) DC motors using two Dual Full Bridge Driver ICs L298D (A&B)
* Can control Up to eight (8) servo motors using only two pins (digital pins 6 and 7 by default) and one 8-bit timer (Timer 2) or two 16/8 bit timers (Timer 1 and Timer 2 for ACEduino 328 or Timer 3 for ACEduino MEGA 2560) in high accuracy mode.
* Has pins that are selectable by removing the 2-pin jumpers and wiring out to the desired pin (E).
* Has two ports (Ground-VCC- I/O Signal) for Digital Sensors (D2,D3) and four ports (VCC-Ground-I/O Signal) for Analog Sensors at section (D) that make it very convenient for interfacing sensors to the ACEduino.
* Has voltage supply for the motors (G) that can be selected between ACEduino VIN and external power supply through a terminal block labelled External VCC (F).



Always check the datasheet of motors that are going to be used. Make sure that its absolute maximum value of the motor must not be exceeded by the supply voltage.

**Library** to control the servo motors and **sample codes** for DC motor control for the Shield that is compatible with both ACEduino 328 and ACEduino MEGA 2560 can be downloaded at Alexan website ([*www.alexan.com.ph*](http://www.alexan.com.ph)).

Pinout

|  |  |
| --- | --- |
|  | ***ACEduino 328/ACEduino MEGA 2560*** |
| **L298 Full Bridge Driver (A)** | |
| IN1 | D I/O 5 |
| IN2 | D I/O 9 |
| IN3 | D I/O 10 |
| IN4 | D I/O 11 |
| OUT1 | TB 1A |
| OUT2 | TB 1B |
| OUT3 | TB 2A |
| OUT4 | TB 2B |
| **L298 Full Bridge Driver (B)** | |
| IN1 | D I/O 4 |
| IN2 | D I/O 8 |
| IN3 | D I/O 12 |
| IN4 | D I/O 13 |
| OUT1 | TB 3A |
| OUT2 | TB 3B |
| OUT3 | TB 4A |
| OUT4 | TB 4B |
| **CD4017 Decade Counter (C) – Servo Control** | |
| CLK | D I/O 6 |
| RST | D I/O 7 |
| **Digital Sensor Inputs (D)** | |
| D2 (INT0) | D I/O 2 |
| D3 (INT1) | D I/O 3 |
| **Analog Sensor Inputs (D)** | |
| A2 | A2 |
| A3 | A3 |
| A4 | A4 |
| A5 | A5 |
| **Pushbuttons (H)** | |
| S1 | A0 |
| S2 | A1 |
| RESET | Resets ACEduino board |

***Note:***

**Overlay for terminal blocks of L298 (B) output located at the lower right part of the shield should be: from 4A, 4B, 3A, 3B to 4B, 4A, 3B, 3A**

*Current: Correct:*

