PR**O**GRESSIVE

A U T O M A T I O N S

FORWARD THINKING

LC-81 PRODUCT MANUAL

MegaMoto GT H-Bridge Arduino Shield

TABLE OF CONTENTS

DESCRIPTION

The LC-81 MegaMoto GT is a low-cost robust H-bridge "shield" for Arduino and hardware compatible base units. The built-in cooling fan and heatsinks allow the MegaMoto GT to handle high current loads without overheating. Up to 50A (5 sec) of current may be controlled by the MegaMoto GT at 24V. This is over 1200W of power!

The MegaMoto GT is a dual half-bridge circuit that can be configured either has a full H-bridge or as two independent half-bridge circuits. This allows a single MegaMoto GT to drive one motor with full variable-speed control both forward and reverse. It also allows two independent motors to be controlled in a uni-directional fashion by connecting one side of each motor to the battery negative and the other motor lead to one of the MegaMoto GT outputs. Jumpers are used to select which Arduino signals drive the Enable and PWM inputs on each MegaMoto.

SPECIFICATIONS

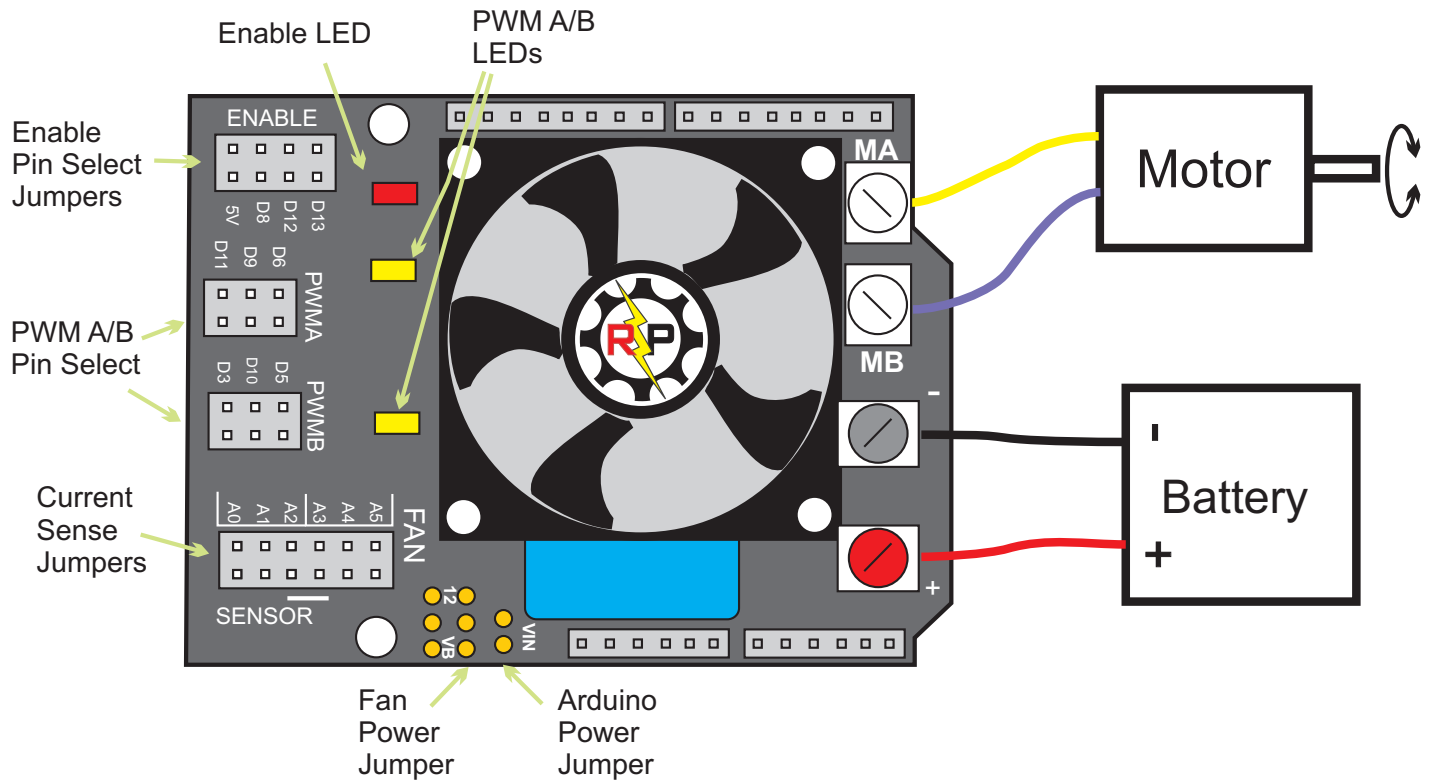|	
Voltage	6V - 35V (28V max battery rating)
Output Current (continuous)	35A
Output Current (surge)	50A + 5 seconds
Weight	0.15 lbs
Power MOSFETs	2 ea. BTN8982
PWM Frequency	DC to 20kHz
Logic Interface	3V - 5V, minimum 2 pins required
Logic Inputs	Jumper select Enable, PWM source
Current Sense Outputs	0.051V per Amp - 2.55V at 50A
Current Sense Pins	Jumper select the analog input connected
Current and Temp Limiting	Built into power chips
Power Connectors	4 each metal screw terminals for crimp-on terminals

MegaMoto *GT* Motor Control for `Arduino`

Enable LED

PWM A/B LEDs

Enable Pin Select Jumpers

ENABLE

5V · D8 · D12 · D13

D11 · D9 · D6

PWM A/B Pin Select

PWMA

D3 · D10 · D5

PWMB

Current Sense Jumpers

A0 · A1 · A2 · A3 · A4 · A5

FAN

SENSOR

12 · VB · VIN

MA

MB

−

+

Motor

Battery

+

Fan Power Jumper

Arduino Power Jumper

Setup
- Place jumpers to select Enable and PWM sources
- Optional: place jumpers to select current sense pins
- Arduino power jumper powers Arduino from battery
- Fan can be powered by either 12V reg or battery