About Drv8825

Introduction:

The DRV8825 stepper motor driver carrier is a breakout board for TI's DRV8825 microstepping bipolar stepper motor driver.

The module has a pinout and interface that are nearly identical to those of our A4988 stepper motor driver carriers, so it can be used as a higher-performance drop-in replacement for those boards in many applications.

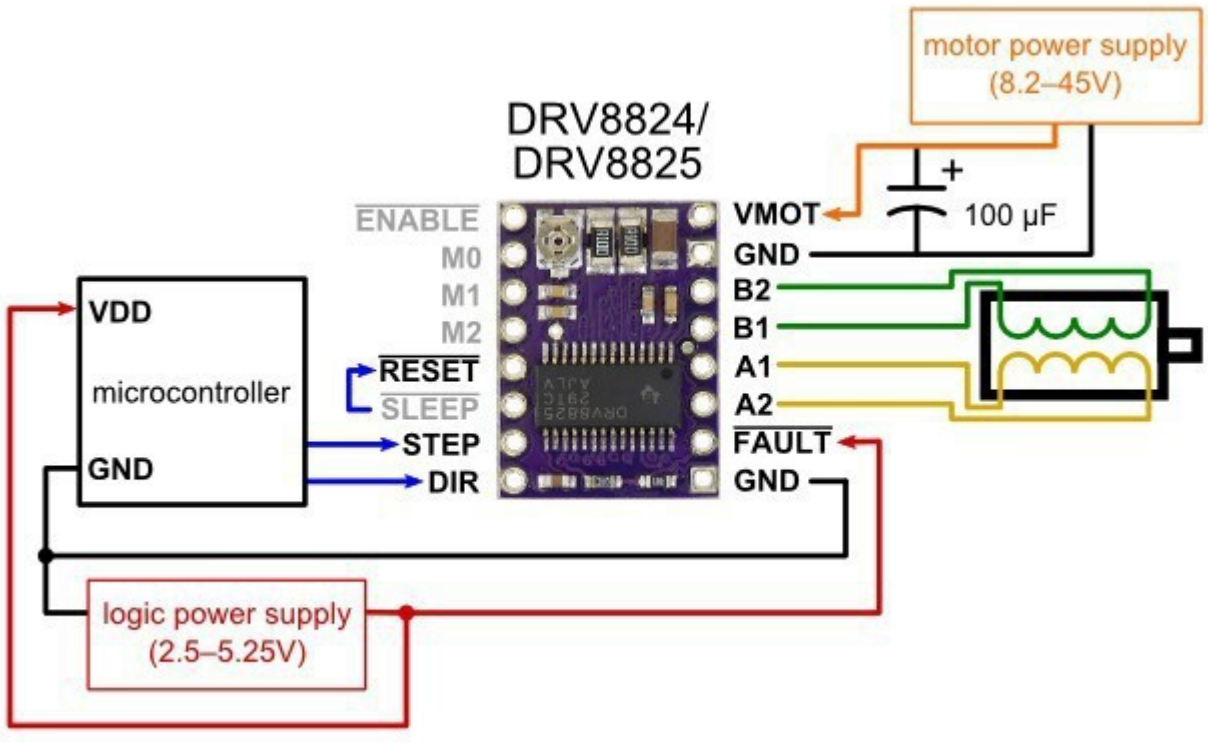
The DRV8825 features adjustable current limiting, overcurrent and overtemperature protection, and six microstep resolutions (down to 1/32-step). It operates from 8.2 – 45 V and can deliver up to approximately 1.5 A per phase without a heat sink or forced air flow (rated for up to 2.2 A per coil with sufficient additional cooling).

Features:

- Simple step and direction control interface
- Six different step resolutions: full-step, half-step, 1/4-step, 1/8-step, 1/16-step, and 1/32-step
- Can interface directly with 3.3 V and 5 V systems
- Over-temperature thermal shutdown, over-current shutdown, and under-voltage lockout
- Short-to-ground and shorted-load protection
- 4-layer, 2 oz copper PCB for improved heat dissipation
- Exposed solderable ground pad below the driver IC on the bottom of the PCB
- Module size, pinout, and interface match those of our A4988 stepper motor driver carriers in most respects (see the bottom of this page for more information)
- Adjustable current control lets you set the maximum current output with a potentiometer, which lets you use voltages above your stepper motor's rated voltage to achieve higher step rates
- Intelligent chopping control that automatically selects the correct current decay mode (fast decay or slow decay)
- 45 V maximum supply voltage
- Built-in regulator (no external logic voltage supply needed)

Subdivision:

Drive chip	MODE2	MODE1	MODE0	Subdivision	Excitation Mode
DRV8825 Maximum 32 subdivisions 8.2V-45V 2.5A at 24V T=25℃	L	L	L	Full Step	2 Phase
	L	L	H	1/2	1-2 Phase
	L	H	L	1/4	W1-2 Phase
	L	H	H	1/8	
	H	L	L	1/16	
	H	L	H	1/32	
	H	H	L	1/32	
	H	H	H	1/32	
Driving current calculation formula Rs=0.1Ω	$I_{CHOP} = \frac{V_{REFX}}{5 \bullet R_{ISENSE}}$				



About A4988

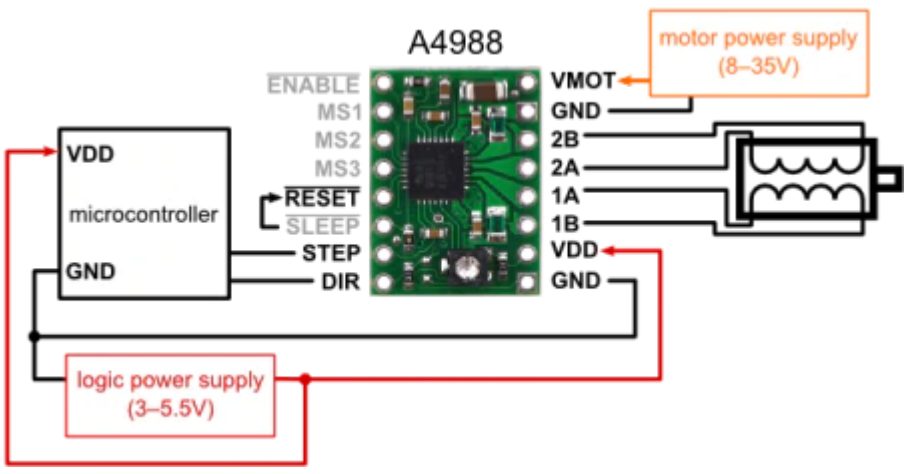
Introduction:

This product is a breakout board for Allegro's A4988 DMOS Microstepping Driver with Translator and Overcurrent Protection; please read the A4988 datasheet carefully before using this product. This stepper motor driver lets you to operate bipolar stepper motors in full-, half-, quarter-, eighth-, and sixteenth-step modes, with an output drive capacity of up to 35 V and 2 A.

The translator is the key to the easy implementation of the A4988. Simply inputting one pulse on the STEP input drives the motor one microstep. There are no phase sequence tables, high frequency control lines, or complex interfaces to program.The A4988 interface is an ideal fit for applications where a complex microprocessor is unavailable or is overburdened.

Feature：

- Simple step and direction control interface;
- Five different step resolutions: full-step, half-step, quarter-step, eighth-step, and sixteenth-step;
- Adjustable current control lets you set the maximum current output with a potentiometer, which lets you use voltages above your stepper motor’s rated;
- Voltage to achieve higher step rates;
- 3.3 and 5 V compatible logic supply
- Intelligent chopping control that automatically selects the correct current decay mode (fast decay or slow decay);
- Over-temperature thermal shutdown, under-voltage lockout, and crossover-current protection;
- Short-to-ground and shorted-load protection.



Subdivision:

Drive chip	MS1	MS2	MS3	Subdivision	Excitation Mode
A4988 Maximum 16 subdivisions 35V 2A	L	L	L	Full Step	2 Phase
	H	L	L	1/2	1-2 Phase
	L	H	L	1/4	W1-2 Phase
	H	H	L	1/8	2W1-2 Phase
	H	H	H	1/16	4W1-2 Phase
Driving current calculation formula Rs=0.1Ω	Imax = Vref / (8 * Rs)				