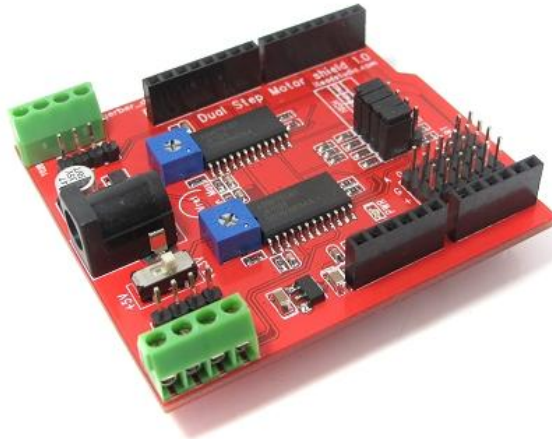


Dual Step Motor Driver shield

Overview



Dual stepper motor driver shield can drive 2 stepper motors at the same time by Arduino. It can work with the power supply from 4.75V to 30V. High accuracy controlling can be supported by Arduino for CNC milling machine.

Features

- Dual step motor driver design for Cartesian coordinate system
- $\pm 750\text{mA}$, 5-30V output rating
- Automatic current-decay mode detection/selection
- 3.0 to 5.5V logic supply voltage range
- Mixed, fast and slow current-decay modes
- Internal UVLO and thermal shutdown circuitry
- Crossover-current protection

Specifications

PCB size	68.33mm X 60.7mm X 1.6mm
Indicators	PWR
Communication Protocol	UART, IIC,
RoSH	Yes

Electrical Characteristics

Specification	Min	Type	Max	Unit
Power Voltage(Vsupply)	4.75	-	30	VDC
Power Voltage(Vlogic)	3.0	-	5.5	VDC
Input Voltage VH:	0.7Vlogic	-	-	V
Input Voltage VL:	-	-	0.3Vlogic	V
Current Consumption	-	-	70	mA

Hardware

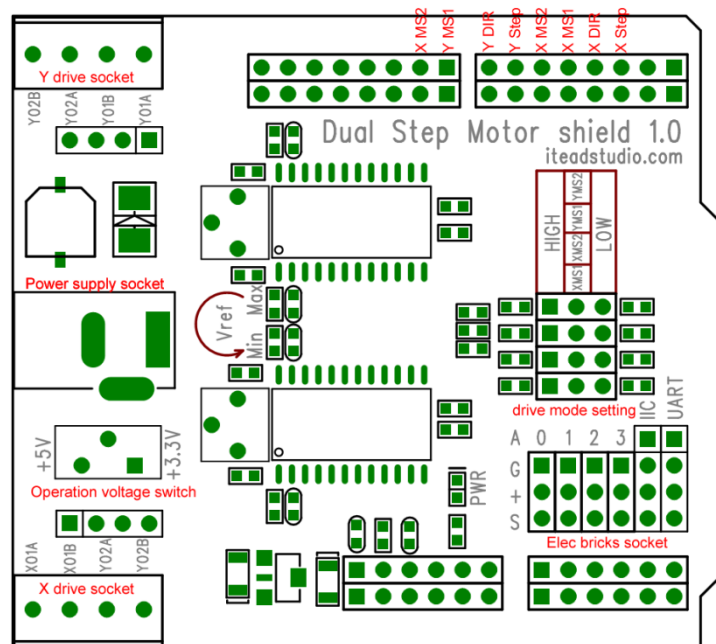


Figure 1 Top Map

Arduino Socket defination:

Pin	Description
D0	UART_Rx
D1	UART_Tx
D2	X Step
D3	X Direction
D4	X MS1 setting
D5	X MS2 setting
D6	Y Step
D7	Y Direction

D8	Y MS1 setting
D9	Y MS2 setting
D10	-
D11	-
D12	-
D13	-
A0	ENY
A1	SLEEPY
A2	ENX
A3	SLEEPX
A4	IIC_SCL
A5	IIC_SDA

Installation

Dual step motor driver shield can drive 2 step motors (4 wires 2 direction) at the same time. On dual step motor driver shield, there is a setting group for micro-step resolution. They can be set by the hardware jumper, and set by pins of Arduino or other controller. And 4 settings of micro-step resolution is at the below table:

MS1(X/Y)	MS2(X/Y)	Description
L	L	Full step
H	L	Half step
L	H	Quarter step
H	H	Eighth STEP

Revision History

Rev.	Description	Release date
v1.0	Initial version	2011-12-08