CNC Shield v4 Engraving Machine / 3D Printer



Produktkode: 819aa
Tilgjengelighet: 1
Weight: 0.00kg
Ring etter pris: 91166668

Kort beskrivelse

CNC Shield v4 Engraving Machine / 3D Printer / + 3pcs A4988 / DRV8825 / AT2100 Stepper Motor Driver for Arduino

Beskrivelse

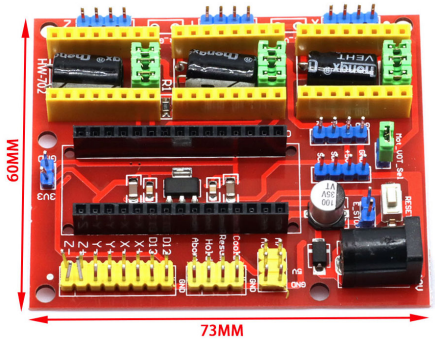
Product description

V4 Description:

CNC shield V4 needs to work with Nano board. It can be used as dr iver expansion board for engraving machines and 3D printers. It has in total 3 channel slots for A4988 stepper motor driver modules (not included) for driving 3 channel of stepper motors. Each chann el of stepper motor only needs 2 IO ports, which means 6 IO ports is sufficient to manage 3 stepper motors. This shield can make quic k work for managing stepper motors in your project.

Specification:

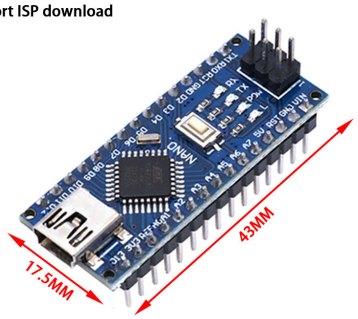
1. 3 axis stepper motor driver
2. Compatible with micro-drive laser engraving machine, three-axis CNC engraving machine,.
3. 2A can be controlled within the two-phase four-wire stepper mo tor.
4. Released the digital IO interface, easy to connect to other modul es, such as ENDSTOP.
5. Released the I2C interface, you can connect to the LCD I2C or oth er I2C module.
6. Power DC5V interface, 7.5-12V voltage input.
7. GRBL compatible
8. For Worked with aduino nano.



Product description

Technical parameters

CH340G Replace FT232RL
8 analog inputs ports : A0-A7
14 Digital input / output ports : TX , RX . D2 - D13
6 PWM ports : D3 , D5 , D6 , D9 , D10 , D11
1 pairs of TTL level serial transceiver ports RX / TX
Using Atmega328p-au MCU
There is bootloader installed in it
Support USB download and Power
Support for external 5V - 12V DC power
supplySupport power supply by 9V battery
Support ISP download



Product description

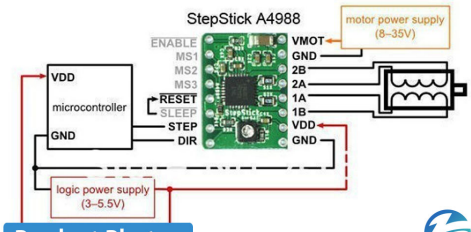
Description:

A4988 is a complete microstepping motor driver with built-in trans lator for easy operation. This product is available in full, half, 1/4, 1/8 and 1/16 step modes operate bipolar stepper motors, output d rive capacity of up to 35 V and ± 2 A. A4988 includes a fixed off-ti me current regulator, the regulator in slow or mixed decay modes. A4988 converter is the key to the easy implementation. As long as the "step" input inputting one pulse drives the motor one microst ep. There are no phase sequence tables, high frequency control lin es, or complex interfaces to program.

A4988 interface is very suitable for complex microprocessor is una vailable or is overburdened.
In the micro-step operation, A4988 chopping control inside autom atically selects the current decay mode (Slow or Mixed). In mixed decay mode, the device is initially set to a fixed downtime in some fast decay, then the rest of the slow decay downtime. Mixed decay current control scheme results in reduced audible motor noise, inc reased step accuracy, and reduced power consumption. Internal sy nchronous rectification control circuitry is provided to improve the pulse-width modulation (PWM) operation power consumption. I nternal circuit protection includes: thermal shutdown with hystere sis, undervoltage lockout (UVLO), and crossover-current protection. Special power sequencing.
A4988 surface mount QFN package (ES), a size of 5 mm × 5 mm, no minal overall package height of 0.90 mm, with an exposed pad for enhanced thermal dissipation. This package is Pb (suffix-T), with 100% matte tin leadframe plating.

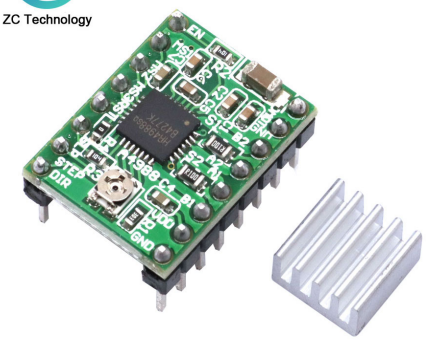
Features and Benefits

- Low RDS (On) Output
- Automatic current decay mode detection / selection
- Mix with slow current decay modes
- Synchronous rectification for low power dissipation
- Internal UVLO
- Cross-current protection
- 3.3 and 5 V compatible logic supply
- Thermal shutdown circuitry
- Ground fault protection
- Load short-circuit protection
- Optional step five modes: full, 1/2, 1/4, 1/8 and 1/16



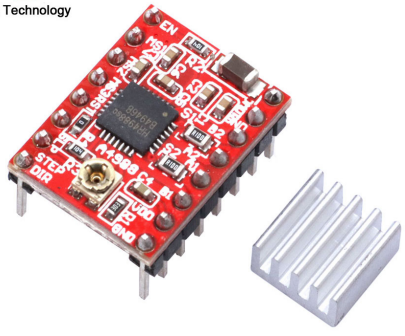
Product Photos

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Green A4988

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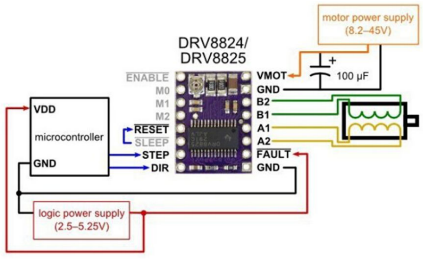
Red A4988

Red A4988

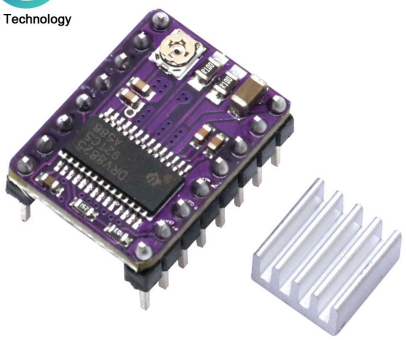
Product description

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 appr oximately 1.5 A per phase without a heat sink or forced air flow (ra ted for up to 2.2 A per coil with sufficient additional cooling).

Features:
1. Simple step and direction control interface
2. Six different step resolutions: full-step, half-step, 1/4-step, 1/8-st ep, 1/16-step, and 1/32-step
3. Can interface directly with 3.3 V and 5 V systems
4. Over-temperature thermal shutdown, over-current shutdown, and under-voltage lockout
5. Short-to-ground and shorted-load protection
6. 4-layer, 2 oz copper PCB for improved heat dissipation
7. Exposed solderable ground pad below the driver IC on the botto m of the PCB
8. Module size, pinout, and interface match those of our A4988 ste pper motor driver carriers in most respects (see the bottom of this page for more information)
9. Adjustable current control lets you set the maximum current out put with a potentiometer, which lets you use voltages above your stepper motor's rated voltage to achieve higher step rates
10. Intelligent chopping control that automatically selects the corr ect current decay mode (fast decay or slow decay)
11. 45 V maximum supply voltage
12. Built-in regulator (no external logic voltage supply needed)



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DRV8825

Product description

Product Description
The AT2100 is an easy-to-use,intelligent stepper motor driver with integrated decoder.Its output drive capability reaches 32V±2.5A, supports up to 16 subdivisions,and supports interpolation subdivis ion work.The AT2100 supports voltage attenuation for full quiet op eration while supporting mixed current attenuation for high torque

output.

The AT2100 supports voltage decay mode, with 256 automatic interpolation subdivision, so that the motor is in a completely silent working mode, achieving a smooth motion trajectory,even in full steps.The AT2100 can operate in an internal current sense mode,eliminating the need for two external current-sense resistors to save cost. At the same time, the AT2100 supports automatic half-current lock function,which automatically reduces the output current by half when there is no STEP change, reducing the system lock power consumption.

Product Features

- Low on-resistance RDS(ON),2.5A peak-current output;
- Simple STEP/DIR interface for up to 16 segments;
- Support for interpolation and automatic interpolation to 256 subdivisions;
- Supports compatibility with 3.3V and 5V Support for thermal shutdown Support output over-current protection;
- Supports voltage attenuation,ultra-quiet operation, and smoother motion;
- Supports mixed current attenuation,high torque output;
- Support built-in current detection function, eliminating external current-sense resistor;
- 3.3V/5.0V optional Compatible with 3.3V and 5V logic levels.

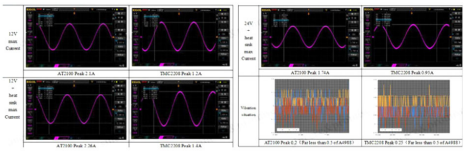
DIR	Direction control input
STEP	STEP pulse input
EN	Enable
GND	GND
VDD	3.3V-5V(DC)
O1B	Full bridge B output 1 end
O1A	Full bridge A output 1 end
02A	Full bridge A output 2
02B	Full bridge B output 2
VBB	Motor power

Applications

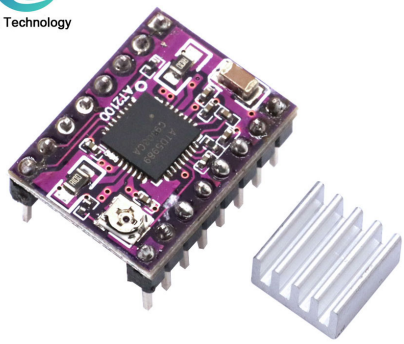
- Printer,Scanner;
- 3D printer;
- Game machines/Robots;
- Medical equipment/ATM;
- Automated office equipment.
- Precautions:
- AT2100 driver, there is no current adjustment when shipped. client When using, please pay attention, if it will not be biased, when adjusting the current.

Note that if the driver is burned out due to personal reasons, we will not Be responsible for!

- If you have not used a driver like a driver,please read and use the module correctly
- Comparison report between AT2100 and TMC2208



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AT2100