CNC Expansion Shield V3



Produktkode: 816aa
Tilgjengelighet: 4
Weight: 0.00kg

Pris: kr. 220,00

Kort beskrivelse
CNC Expansion Shield V3

Beskrivelse

PRODUCT Information

A4988

Product details

A4988 is a complete microstepping motor driver with built-in translator for easy operation.This product is available in full, half,1/4,1/8 and 1/16 step modesoperate bipolar stepper motors,output drive capacity of up to 35 V and ±2A.A4988 includes a fixed off-time current regulator, the regulator in slow ormixed decay modes. A4988 converter is the key to the easy implementation.As long as the "step" input inputting one pulse drives the motor one microstep.There are no phase sequence tables, high frequency control lines, or complex interfaces to program.A4988 interface is very suitable for complex microprocessoris unavailable or is overburdened.

In the micro-step operation, A4988 chopping control inside automatically selects the current decay mode (Slow or Mixed). In mixed decay mode, the device isinitially set to a fixed downtime in some fast decay, then the rest of the slow decaydowntime. Mixed decay current control scheme results in reduced audible motornoise, increased step accuracy, and reduced power consumption. Internal synchronous rectification control circuitry is provided to improve the pulse-widthmodulation (PWM) operation power consumption.Internal circuit protectionincludes: thermal shutdown with hysteresis, undervoltage lockout (UVLO), andcrossover-current protection. Special power sequencing.We Are The Distributor Of TZT Brand In Hong Kong, China

A4988 surface mount QFN package (ES), a size of 5 mm ×5 mm, nominaloverall package height of 0.90 mm, with an exposed pad for enhanced thermaldissipation.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

· TZT Thermal shutdown circuitry

· Ground fault protection

· Load short-circuit protection

· Optional step five modes: full, 1/2,1/4,1/8 and 1/16

DRV8825

Product details

Relative 4988 Features Benefits:

1.The maximum current of 2.5A.

2.Up to 32 segments.

3.4-layer PCB, better heat dissipation.

4. The chip resistance is smaller, lower heat, better heat dissipation.

Parameter

Size: 15.1mmX20.5mm (same as 4988)

Can drive current: 2.5A

TZT Subdivision: 1,1 / 2,1/ 4,1/8,1/16,1/ 32

Manufacturing Process: SMT placement

Machine manufacturing higher, non-manual welding, yield more stable performance

Application

Drive stepper motors.

It is to build a 3d printer, cnc, engraving machine and other necessary modules.

Supported 3d printer has Prusa Mendel, ultimaker, printbot, makerbot like.

You can refer to the back of the A rduino code, direct drive motor .

Features

1, Suitable for driving below 8.2V ~ 45V 2.5A stepper motor;

2, TZT Only a simple step and direction control interface;

3, Six different stepping modes: full, half,1 / 4,1/8,1 /16,1 / 32;

4, Adjustable potentiometer can adjust the maximum output current, resulting in higher step rate;We Are The Distributor Of TZT Brand In Hong Kong, China

5, Automatic current decay mode detection selection;

6, Thermal shutdown circuit, undervoltage lockout, crossover current protection;

7, The ground short-circuit protection and load short-circuit protection

Stepping Motor Subdivision mode selction:

MODE0	MODE1	MODE2	Microstep Resolution
Low	Low	Low	Full step
High	Low	Low	Half step
Low	High	Low	1/4 step
High	High	Low	1/8 step
Low	Low	High	1/16 step
High	Low	High	1/32 step
Low	High	High	1/32 step
High	High	High	1/32 step

CNC Shield V3

Product details

A, Product introduction

The expansion board can be used as a carving machine,3DPrinter driver expansion board,a total ofFourThe slot of the drive module of the stepper motor.Note that Moto Sako does not containA4988Stepper motor drive module, need to be in the shop to buy Can be drivenFourThe road does not enter the motor, and each step motor is only requiredTwoindividualIOMouth, that is to say,SixindividualIOMouth can be a very good managementThreeStepper motor, the use of very convenient, farewell to the traditional stepper motor cumbersome.

Two, UNOAnd moduleIOIntroduction to the correspondence of the mouth

Stepper motor basic control needs of the pin, the other pin is in the engraving machine, or3DThe printer when it is used, here we do not make detailed,IOCorresponding as above.We Are The Distributor Of TZT Brand In Hong Kong, China

UNO----------Expansion board

8.------ (ENStepper motor driver to enable the end, the low level effective)

7 and Z.DIR (ZAxis direction control)

6 and Y.DIR (YAxis direction control)

5 and X.DIR (XAxis direction control)

4 conducting Z.STEP (ZAxis step control)

3 conducting Y.STEP (YAxis step control)

2 conducting X.STEP (XAxis step control)

//TZT The following is a simple stepper motor control procedures,

#define EN 8 / /Stepping motor to the end, the low level effective

#define X DIR 5 / /Xaxis Stepper motor direction control

#define Y_DIR 6 / /yaxis Stepper motor direction control

#define Z_DIR 7[/zaxis Stepper motor direction control

#define x_STP 2 / /xaxis Step control

#define Y_STP 3 / /yaxis Step control

#define Z_STP 4 //zaxis Step control

//Function:StepFunction: control the direction of the stepper motor, step by step.

//Parameters:DirDirection controlDirPin,Corresponding to the stepper motorDIRPin,

StepperPinCorresponding to the stepper motorStepPin,StepsNumber of steps

//No return value

Void step (Boolean dir byte dirPin, byte stepperPin int steps,)

(digitalWrite dirPin, dir);

Delay (50);

For (int i = 0; I<steps; i++){

DigitalWrite (stepperPin, HIGH);

DelayMicroseconds (800);

DigitalWrite (stepperPin, LOW);

DelayMicroseconds (800);

Void (setup) (/ / Will be used in the stepper motorlopin is set to output

(pinMode X_DIR,OUTPUT); pinMode (X_STP,OUTPUT);

(pinMode Y_DIR,OUTPUT); pinMode (Y_STP,OUTPUT);

(pinMode Z_DIR,OUTPUT); pinMode (Z STP, OUTPUT);

(pinMode EN,OUTPUT);

(digitalWrite EN, LOW);

Void (loop)

(step false,X_DIR,X_STP,200); / /XShaft motor reversalOneRing,Two hundredStep for a circle

(step false, Y_DIR,Y_STP,200); / /yShaft motor reversalOneRing,Two hundredStep for a circle

(step false,Z_DIR,Z_STP,200); / /zShaft motor reversalOneRing,Two hundredStep for a circle

Delay (1000);

(step true,X_DIR,X_STP,200); / /XShaft motor ForwardOneRing,Two hundredStep for a circle

(step true,Y_DIR, Y_STP, 200); / /yShaft motor ForwardOneRing,Two hundredStep for a circle

(step true,Z_DIR,Z_STP,200); / /zShaft motor ForwardOneRing,Two hundredStep for a circle

Delay (1000);

Experimental phenomena: a turn of the stepper motor, pauseOneSecond, then a story circle, so the cycle.

It is worth noting that in theA4988When the module is not plugged in, step motor connection mode is:

2A,2BFor a group(red, green),1A, 1BFor a group (blue, yellow) would like to change direction, change the location of one group can be, for example2A,and2BExchange.
Description Product

CNC Shield Board:

TZT Latest CNC Shield Version 3

TZT Latest CNC Shield Version 3

0.9 compatible.GRBL (open source firmware that runs on an uno that turns theG-code commands into stepper 37signals)

PWM Spindle and direction pins

4-Axis support (X,Y,Z,A-Can duplicate X, Y Z, or do a full 4th axis with custom firmware using pins D12 and D13)

2 x End stops for each axis (6 in total)

Coolant enable

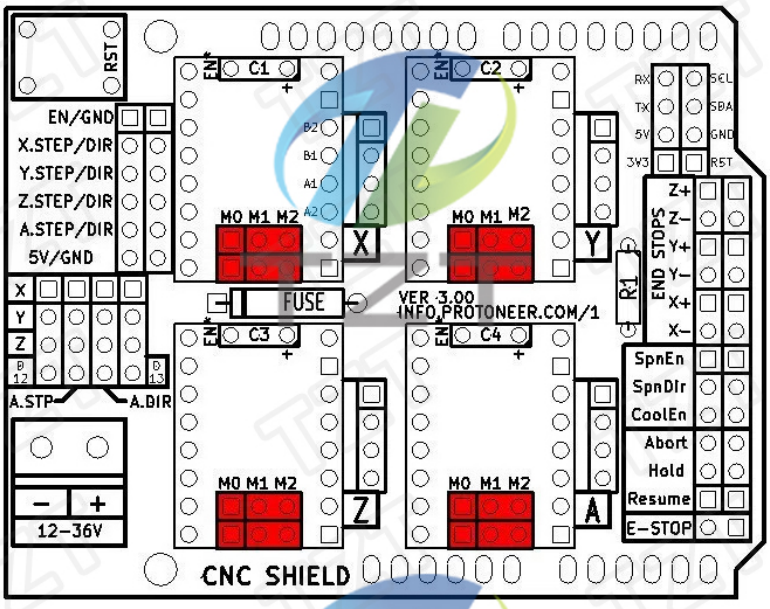
Uses removable A4988 or DRV8825 compatible stepper drivers

Jumpers to set the Micro-Stepping for the stepper.(some drivers like the DRV8825 can do up to 1/ 32 micro-stepping)TZT

Compact design.

Stepper Motors can be connected with pin Molex connectors or soldered 4 in place.

Runs on 12-36v DC.(at the moment only the DRV8825 drivers can handle up to 36V so please consider the operation voltage when powering the.)



UNO R3 SMD CH340G + Cable

Introduce

UNO is a Simple ilo platform based on open source code, and it has thecharacteristics of easy to understand using Processing/Wiring developmentenvironment similar to Java and C language.Let you quickly use uno to makeinteresting things. Uno can be used with some electronic components such asLED lights, buzzers, keys, photoresistors and so on.The uno developmentenvironment interface is based on the open source principle,allowing you todownload,use and develop more amazing interactive works for free.Open thecircuit diagram of the original design, develop software interface for freedownload, but also according to the needs of their own modification, downloadprocedures are simple and convenient. It can simply use sensors and variouselectronic components to connect (e.g.LED lights, buzzers, keys,photoresistors, etc.) to make a variety of interesting works. Using high-speedmicroprocessor controller (ATMEGA328), the development of operationinterface and environment is very simple and easy to understand, which isvery suitable for beginners to learn.

Parameter

Micro controller	ATMEGA328P
Working voltage	5V
Input voltage(Recommend)	7-12V
Input voltage(limit)	6-20V

Digital I/O pins	14(Six of them provide PWM output)
PWM Digital I/O Pin	6
Analog input pin	6
DC current per I/O pin	20mA
Direct Current of 3.3V Pin	50mA
Flash Memory	32KB(ATmega328p),Among them, 0.5KB is used by boot loader.
SRAM	2KB(ATmega328p)
EEPRON	1KB(ATmega328p)
Clock speed	16MHz
LED_BUILTIN	13
Length	68.6mm
Width	53.4mm
Weight	25g

Performance description

Digital lo digital inputloutput is 0-13.

Analog I/O analog input/output is 0-5.

Support ISP download function.

Input Voltage: When connected to the computer USB, no external power supplyis needed.The external power supply is 5V~9V DC voltage input.

Output Voltage:5V DC Voltage Output and 3.3v DC Voltage Output.

Atmel Atmega328 microprocessor controller is adopted.

Model	Weight (g)
CNC Shield V3	32.3
UNO R3	25.7
A4988	3.5
DRV8825	4.45
Cable	17.5

