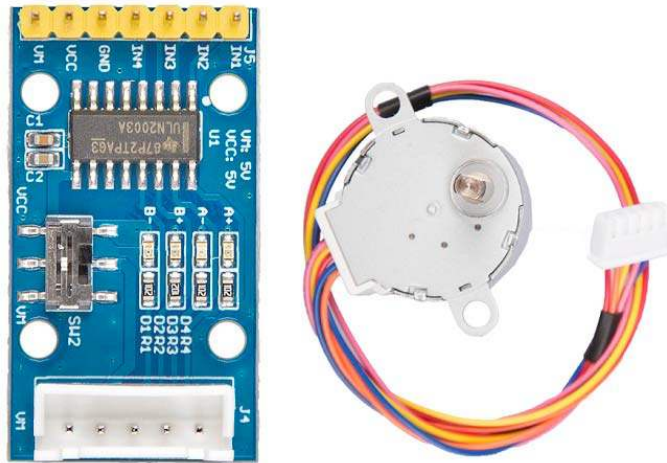# Gear Stepper Motor Driver Pack

The Gear Stepper Motor Driver Pack includes a stepper motor and a motor drive board. It's a four-phase eight-stepping stepper motor, and you can easily control this stepper motor via the drive board.

You can use this pack for position control.

Features

- Low noise
- Large torque
- Built-in gearbox

Specification

Item	Value
Operating Voltage	5V
Phase	4
Reduction ratio	1/64
Step Angle	5.625°/64
Diameter	28mm / Nema 11

Item	Value
Idle In-traction Frequency	>500HZ
Idle Out-traction Frequency	>1000HZ
Resistance	21±7%
Noise	≤40dB
Drive mode	four-phase eight-stepping

Typical applications

- Desktop printers
- Plotters
- 3d printers
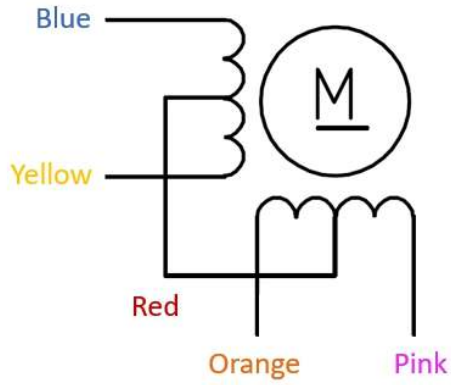- CNC milling machines

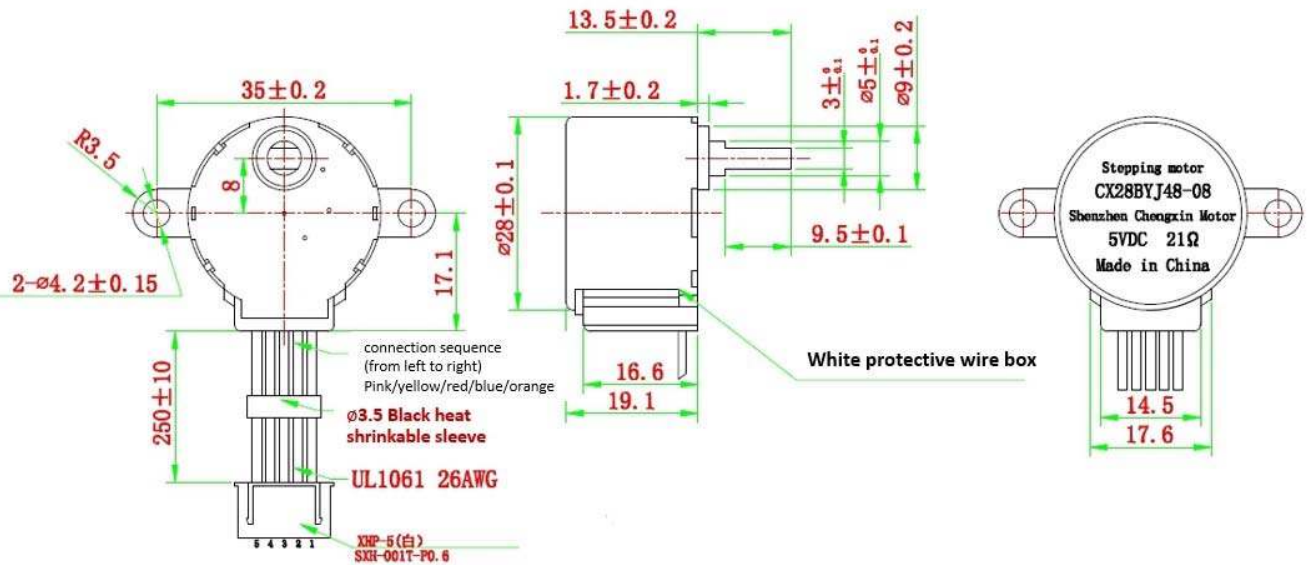## Hardware Overview
Pin Out
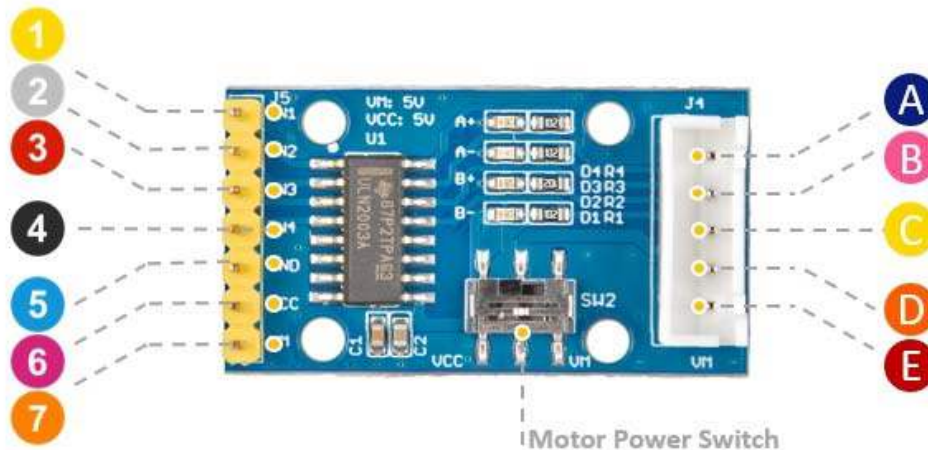
1. IN1: input 1 connect to phrase 1
2. IN2: input 2 connect to phrase 2
3. IN3: input 3 connect to phrase 3
4. IN4: input 4 connect to phrase 4
5. GND: connect this module to the system GND
6. VCC: we use 5v for this module
7. VM: optional power for Motor

A. connect D4 to Blue coil
B. connect D3 to Pink coil
C. connect D2 to Yellow coil
D. connect D1 to Orange coil
E. Connect Power switch pin to Red coil

Blue

Yellow

M

Red

Orange   Pink

Mechanical drawing

you can click it to see the original picture.

13.5±0.2

35±0.2

1.7±0.2

$3\pm^{0}_{0.1}$ $\varnothing5\pm^{0}_{0.1}$ $\varnothing9\pm0.2$

R3.5

8

Stepping motor
CX28BYJ48-08
Shenzhen Chengxin Motor
5VDC 21Ω
Made in China

$\varnothing28\pm0.1$

9.5±0.1

2-ø4.2±0.15

17.1

250±10

connection sequence
(from left to right)
Pink/yellow/red/blue/orange

16.6

19.1

White protective wire box

ø3.5 Black heat
shrinkable sleeve

UL1061 26AWG

14.5

17.6

XHP-5(白)
SXH-001T-P0.6

Platforms Supported

Arduino	Raspberry Pi	BeagleBone	Wio	LinkIt ONE

Getting Started

Play With Arduino

Hardware

Materials required

Seeeduino V4.2	Gear Stepper Motor Driver Pack	Female-Male jumpers

Note

1 Please plug the USB cable gently, otherwise you may damage the port. Please use the USB cable with 4 wires inside, the 2 wires cable can't transfer data. If you are not sure about the wire you have, you can click here to buy

2 To make the Gear-Stepper-Motor-Driver-Pack work with your Arduino, several Female-Male jumpers is also required. In case you do not have jumpers, you can click here to buy.

- **Step 1.** Connect the Gear Stepper Motor Driver Board to your seeedunio via jumppers.

Seeeduino	Gear Stepper Motor Driver Board
Digital Pin 8	IN1
Digital Pin 9	IN2
Digital Pin 10	IN3
Digital Pin 11	IN4
GND	GND

Seeeduino	Gear Stepper Motor Driver Board
VCC_5V	VCC
VCC_5V	VM

- **Step 2.** Plug the stepper motor into the Gear Stepper Motor Driver Board.
- **Step 3.** Connect Seeeduino to PC via a USB cable.
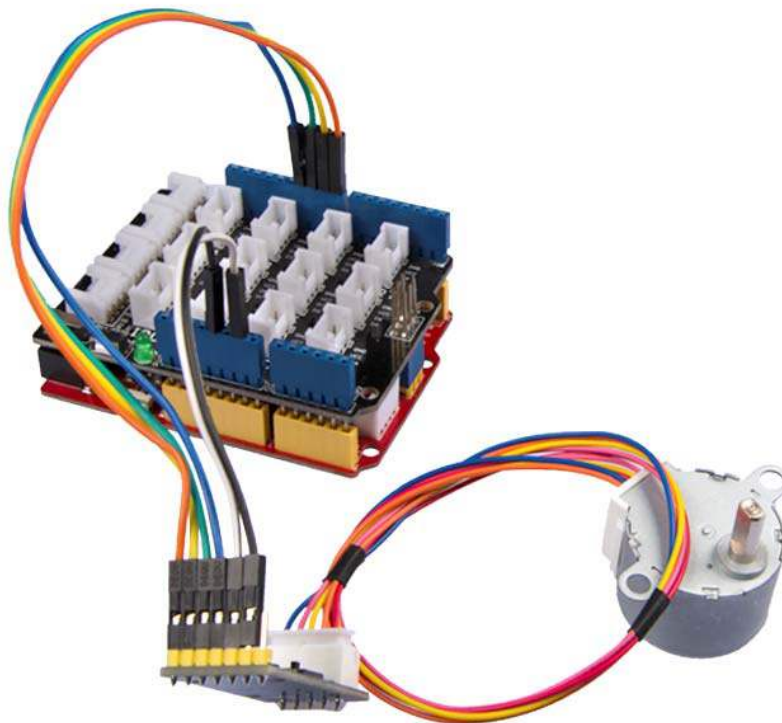
Software

Attention

If this is the first time you work with Arduino, we strongly recommend you to see Getting Started with Arduino before the start.

- **Step 1.** Click the icon in upper right corner of the code block to copy the following code into a new sketch in the Arduino IDE.

```
1 int pwm1=9;
2 int pwm2=10;
3 int ctr_a =9;
4 int ctr_b =8;
5 int ctr_c =11;
```

```
 6 int ctr_d =10;
 7 int sd =6;
 8 int i=0;
 9 int t=1500;
10
11 void setup()
12 {
13     //pinMode(sd,OUTPUT);
14     //pinMode(pwm1,OUTPUT);
15     //pinMode(pwm2,OUTPUT);
16     pinMode(ctr_a,OUTPUT);
17     pinMode(ctr_b,OUTPUT);
18     pinMode(ctr_c,OUTPUT);
19     pinMode(ctr_d,OUTPUT);
20     delay(1);
21     //digitalWrite(sd,HIGH);
22     //digitalWrite(pwm1,HIGH);
23     //digitalWrite(pwm2,HIGH);
24 //    digitalWrite(ctr_a,LOW);
25 //    digitalWrite(ctr_b,LOW);
26 //    digitalWrite(ctr_c,LOW);
27 //    digitalWrite(ctr_d,LOW);
28
29 }
30
31
32 void loop ()
33 {
34 //   for(i=1500;i>=1;i--)
35 //   {
36 //       digitalWrite(ctr_a,HIGH);//A
37 //       digitalWrite(ctr_b,LOW);
38 //       digitalWrite(ctr_c,LOW);
39 //       digitalWrite(ctr_d,LOW);
40 //       delay(t);
41 //       digitalWrite(ctr_a,HIGH);
42 //       digitalWrite(ctr_b,HIGH);//AB
43 //       digitalWrite(ctr_c,LOW);
44 //       digitalWrite(ctr_d,LOW);
45 //       delay(t);
46 //       digitalWrite(ctr_a,LOW);
47 //       digitalWrite(ctr_b,HIGH);//B
48 //       digitalWrite(ctr_c,LOW);
49 //       digitalWrite(ctr_d,LOW);
50 //       delay(t);
51 //       digitalWrite(ctr_a,LOW);
52 //       digitalWrite(ctr_b,HIGH);
53 //       digitalWrite(ctr_c,HIGH);//BC
54 //        digitalWrite(ctr_d,LOW);
55 //       delay(t);
56 //       digitalWrite(ctr_a,LOW);
57 //       digitalWrite(ctr_b,LOW);
58 //       digitalWrite(ctr_c,HIGH);//C
59 //       digitalWrite(ctr_d,LOW);
60 //       delay(t);
61 //       digitalWrite(ctr_a,LOW);
62 //       digitalWrite(ctr_b,LOW);
```

```
 63 //        digitalWrite(ctr_c,HIGH);//CD
 64 //        digitalWrite(ctr_d,HIGH);
 65 //        delay(t);
 66 //         digitalWrite(ctr_a,LOW);
 67 //        digitalWrite(ctr_b,LOW);
 68 //        digitalWrite(ctr_c,LOW);//D
 69 //        digitalWrite(ctr_d,HIGH);
 70 //        delay(t);
 71 //         digitalWrite(ctr_a,HIGH);
 72 //        digitalWrite(ctr_b,LOW);
 73 //        digitalWrite(ctr_c,LOW);//DA
 74 //        digitalWrite(ctr_d,HIGH);
 75 //        delay(t);
 76 //
 77 //    }
 78 //        digitalWrite(ctr_a,LOW);
 79 //        digitalWrite(ctr_b,LOW);
 80 //        digitalWrite(ctr_c,LOW);
 81 //        digitalWrite(ctr_d,LOW);
 82 //
 83 //
 84 //
 85 //     for(i=1500;i>=1;i--)
 86 //    {
 87 //
 88 //        digitalWrite(ctr_d,HIGH);//D
 89 //        delay(t);
 90 //        digitalWrite(ctr_c,HIGH);//DC
 91 //        delay(t);
 92 //        digitalWrite(ctr_d,LOW);//C
 93 //        delay(t);
 94 //        digitalWrite(ctr_b,HIGH);//CB
 95 //        delay(t);
 96 //        digitalWrite(ctr_c,LOW);//B
 97 //        delay(t);
 98 //        digitalWrite(ctr_a,HIGH);//BA
 99 //        delay(t);
100 //        digitalWrite(ctr_b,LOW);//A
101 //        delay(t);
102 //        digitalWrite(ctr_d,HIGH);//AD
103 //        delay(t);
104 //        digitalWrite(ctr_a,LOW);
105 //        digitalWrite(ctr_d,LOW);
106 //    }
107
108    for(i=1500;i>=1;i--)
109    {
110        digitalWrite(ctr_a,LOW);//A
111        digitalWrite(ctr_b,HIGH);
112        digitalWrite(ctr_c,HIGH);
113        digitalWrite(ctr_d,HIGH);
114        delayMicroseconds(t);
115        digitalWrite(ctr_a,LOW);
116        digitalWrite(ctr_b,LOW);//AB
117        digitalWrite(ctr_c,HIGH);
118        digitalWrite(ctr_d,HIGH);
119        delayMicroseconds(t);
```

```
120         digitalWrite(ctr_a,HIGH);
121         digitalWrite(ctr_b,LOW);//B
122         digitalWrite(ctr_c,HIGH);
123         digitalWrite(ctr_d,HIGH);
124         delayMicroseconds(t);
125         digitalWrite(ctr_a,HIGH);
126         digitalWrite(ctr_b,LOW);
127         digitalWrite(ctr_c,LOW);//BC
128          digitalWrite(ctr_d,HIGH);
129         delayMicroseconds(t);
130         digitalWrite(ctr_a,HIGH);
131         digitalWrite(ctr_b,HIGH);
132         digitalWrite(ctr_c,LOW);//C
133         digitalWrite(ctr_d,HIGH);
134         delayMicroseconds(t);
135         digitalWrite(ctr_a,HIGH);
136         digitalWrite(ctr_b,HIGH);
137         digitalWrite(ctr_c,LOW);//CD
138         digitalWrite(ctr_d,LOW);
139         delayMicroseconds(t);
140          digitalWrite(ctr_a,HIGH);
141         digitalWrite(ctr_b,HIGH);
142         digitalWrite(ctr_c,HIGH);//D
143         digitalWrite(ctr_d,LOW);
144         delayMicroseconds(t);
145         digitalWrite(ctr_a,LOW);
146         digitalWrite(ctr_b,HIGH);
147         digitalWrite(ctr_c,HIGH);//DA
148         digitalWrite(ctr_d,LOW);
149         delayMicroseconds(t);
150
151    }
152//       digitalWrite(ctr_a,HIGH);
153//       digitalWrite(ctr_b,HIGH);
154//       digitalWrite(ctr_c,HIGH);
155//       digitalWrite(ctr_d,HIGH);
156//
157
158
159//     for(i=1500;i>=1;i--)
160//   {
161//
162//       digitalWrite(ctr_d,HIGH);//D
163//       delay(t);
164//       digitalWrite(ctr_c,HIGH);//DC
165//       delay(t);
166//       digitalWrite(ctr_d,LOW);//C
167//       delay(t);
168//       digitalWrite(ctr_b,HIGH);//CB
169//       delay(t);
170//       digitalWrite(ctr_c,LOW);//B
171//       delay(t);
172//       digitalWrite(ctr_a,HIGH);//BA
173//       delay(t);
174//       digitalWrite(ctr_b,LOW);//A
175//       delay(t);
176//       digitalWrite(ctr_d,HIGH);//AD
```
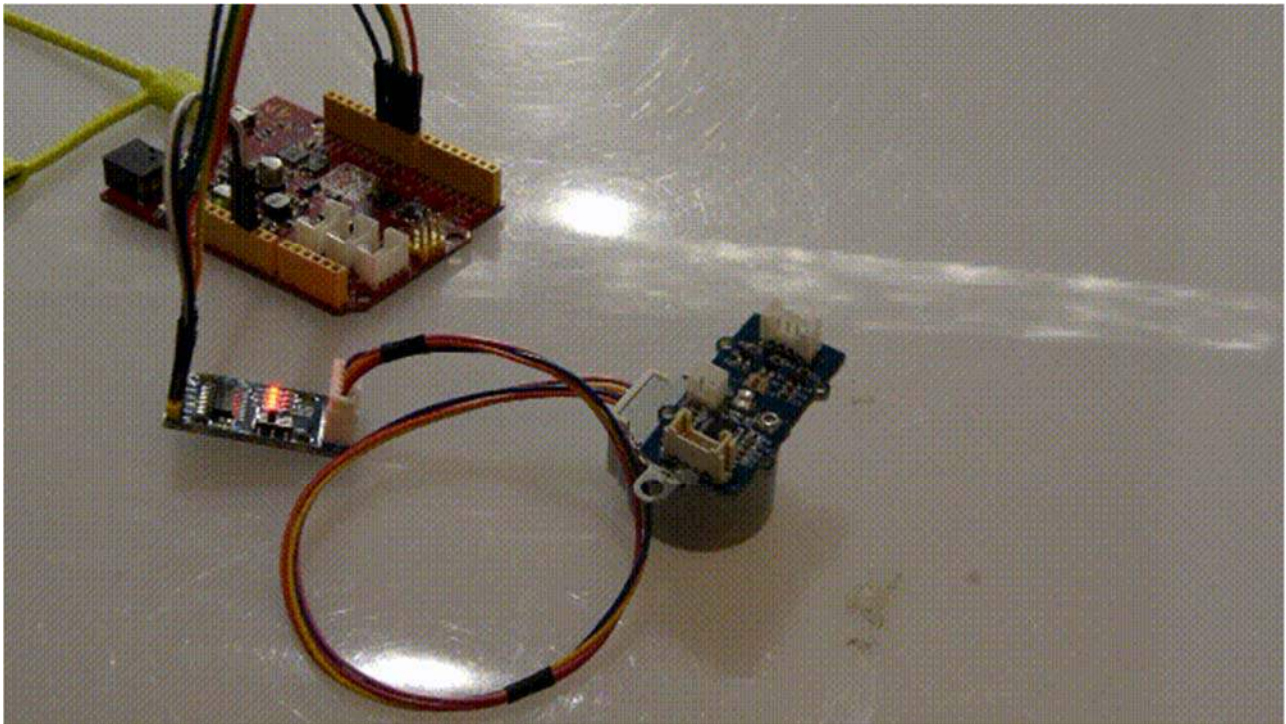
```
177 //        delay(t);
178 //        digitalWrite(ctr_a,LOW);
179 //        digitalWrite(ctr_d,LOW);
180 //    }
181
182
183 }
```

- **Step 2.** Upload the demo. If you do not know how to upload the code, please check How to upload code.

   Success

   If every thing goes well, you can see the motor run:

Tech Support

Please do not hesitate to submit the issue into our forum