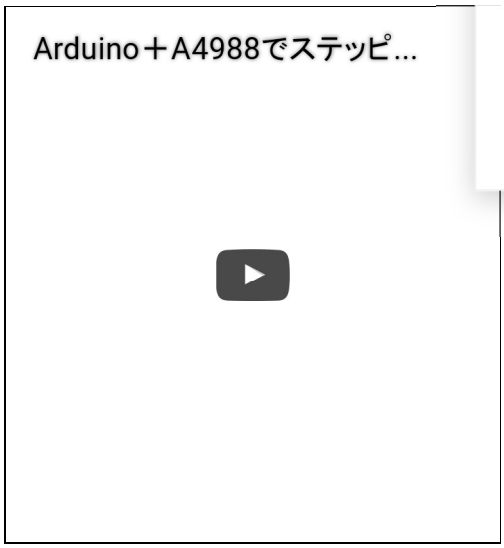
EverydayThanks

Memorandum of electronic tools such as PIC · arduino

Turning the stepping motor in ArduinoUNO + A4988

08 May 02, 2014 | arduino



Original text

参考1 :pololu社サイト

Contribute a better translation

Previously, because there was a stepping motor, which had been taken from the broken printer (EM-483), this time, I tried to move in arduinoUNO use the Pololu manufactured motor driver. It shows the actual conditions wiring diagram is shown in Figure 1. (Video, are powered by the USB to the board.)

Use parts

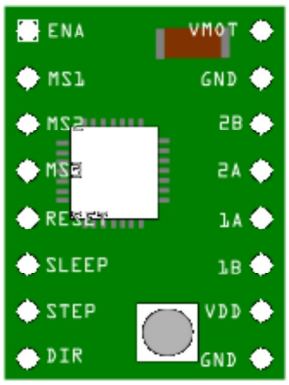
1. Bipolar stepping motor (EM-483 ,,, no data sheet)

2. ArduinoUNO

3. Electrolytic capacitor (100μF)

4. Stepping motor driver (Pololu A4988)

About A4988



Clockwise from upper right

VMOT: stepping motor power supply (8V-35V)

GND: stepping motor power supply GND

2A ~ 1B: stepping motor terminal

VDD: board power supply (3.3V or 5V)

GND: board GND

DIR: direction of rotation of the motor (High · Low)

STEP: rotate to give a pulse (one revolution in 200step When set to Full step)

SLEEP · RESET: keep short

MS1 ~ MS3: by High · Low state of each Pin, can change the step size.

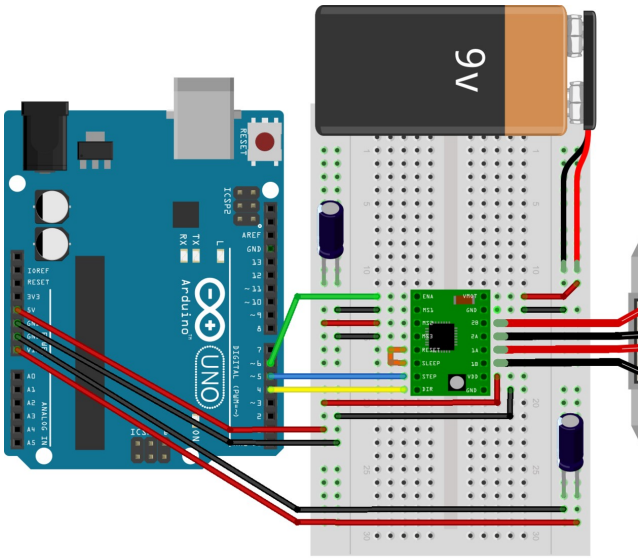
MS1	MS2	MS3	Microstep Resolution
Low	Low	Low	Full step
High	Low	Low	Half step
Low	High	Low	Quarter step
High	High	Low	Eighth step
High	High	High	Sixteenth step

This time, since the High only MS2 Quarter

step. Four times the Full step. That is, one rotation in 800step.

ENA: Enable terminal. Operating in the Low state.

Figure 1) actual wiring diagram according to Fritzing



Source list

```
int x;

Setup Void () {
  PinMode (6, OUTPUT); // Enable → Arduino to 6 pin
  pinMode (5, OUTPUT); // Step → Arduino to pin 5 of
  pinMode (4, OUTPUT); // Dir → to 4 pin of the Arduino
```

```
  DigitalWrite (6, LOW); // Set Enable Low →
Enable at Low state
}

void loop () {

  digitalWrite (4, HIGH); // Set Dir High →
set the direction of rotation
  for (x = 0; x < 200; x ++) // brackets in the
run 200 times
  {
    DigitalWrite (5, HIGH); // 5 pin the to the
High state
    delayMicroseconds (500); // 500ms
waiting
    digitalWrite (5, LOW); // 5 pin to Low
state
    delayMicroseconds (500); // 500ms
waiting
  }
  Delay (1000); // 1 seconds wait


  digitalWrite (4, Low); // Set Dir Low → set
the direction of rotation in the opposite
direction
  for (x = 0; x < 200; x ++) // 200 times run in
the brackets
  {
    DigitalWrite (5, HIGH); // 5 pin to High
state
    delayMicroseconds (500); // 500ms
waiting
    digitalWrite (5, LOW); // 5 pin to Low
state
    delayMicroseconds (500); // 500ms
waiting
```

```
  }
  Delay (1000); / / wait 1 seconds

}
```

Please try while changing the value of the delay and delayMicroseconds.

The following site we were allowed to reference.

The source is almost the same.

Reference 1: Pololu Corporation site

Note 2: Fritzing A4988 Single Stepper Test

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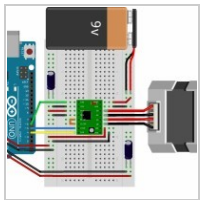

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