"STEPPER MOTOR TEST WITH ULN2003 DRIVER USING SALENG UNO/ ARDUINO UNO MICROCONTROLLER"
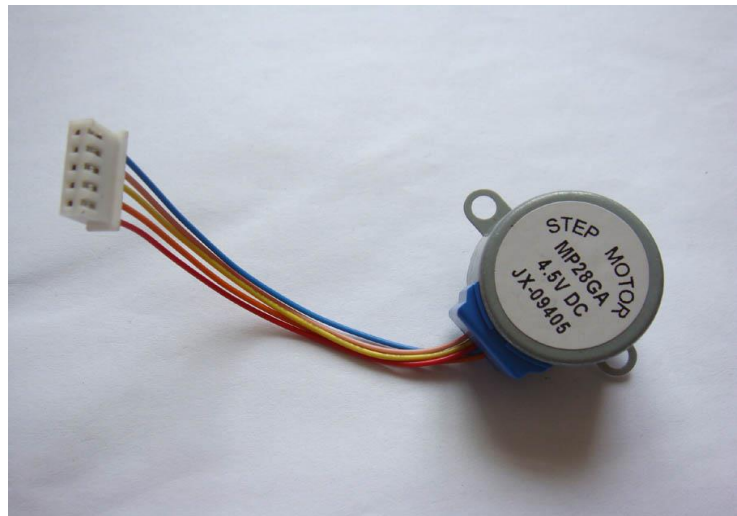
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Stepper motor is a kind of motor that converts electrical pulses into angular displacement of the motor shaft. When the stepper driver receives a pulse signal, it will drive the stepper motor according to the set number of steps. You can control the number of pulses to accurately pinpoint where the motor should move. At the same time, you can control the pulse frequency to control speed and acceleration.
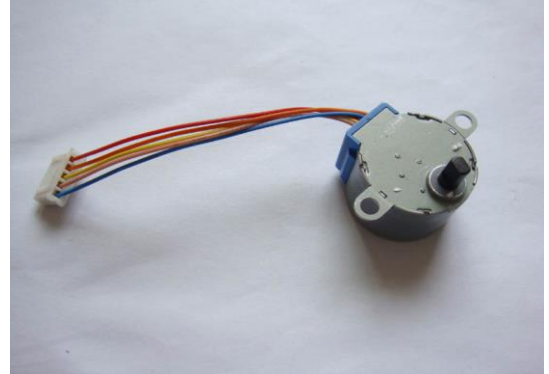
SPECIFICATION:

- Slow step motor

- 28 mm diameter:

- Voltage: 5 v

- The step Angle: 5.625 x 1/64

- The reduction ratio: 1/64

- 5 line 4 phase can use ordinary uln2003 chip driver, it can also connect into 2 phase

The unloaded stepper motor power consumption is under 50 ma, with 64 times the speed reducer, the output torque is larger, it can drive heavy load, very suitable for development board. Note: This move slowly into the motor with 64 times the speed reducer, compared with stepper motor without speed reducer, speed is slower.

Stepper motor (five line four phase) driver board (ULN2003)
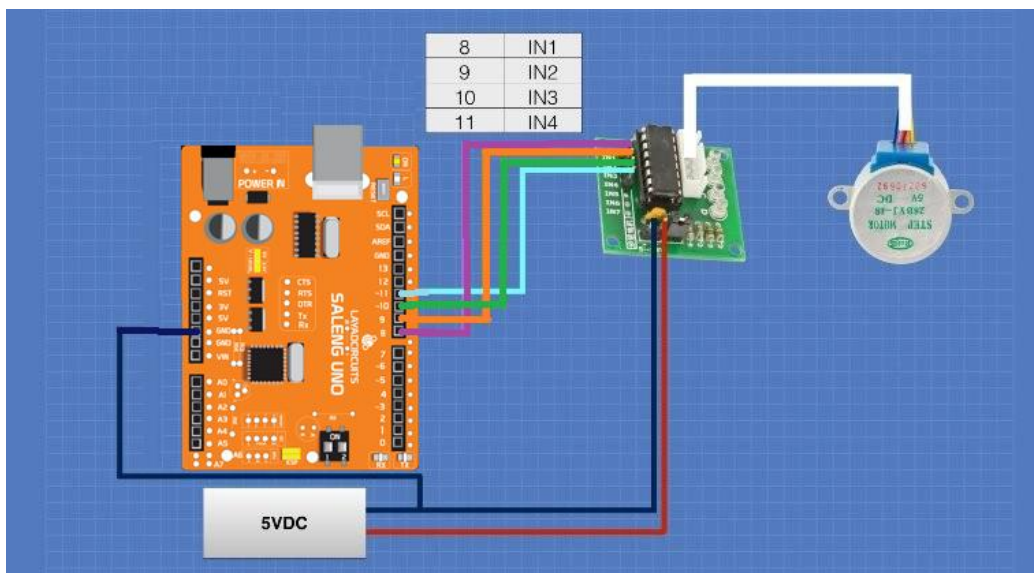Dimension: 31 * 35 mm
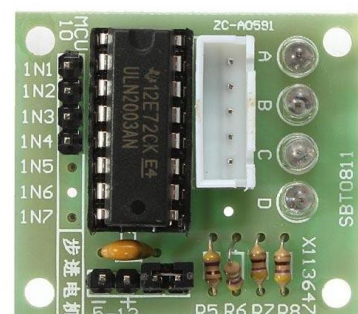
COMPONENTS NEEDED:
1. Saleng Uno/ Arduino Uno
2. 28BYJ-48 Stepper Motor
3. Uln2003 Motor Driver Module
4. Jumper Wires
5. External5v Voltage Source "Optional"

The Hardware Connection diagram is as follows;

HARDWARE DIAGRAM:

DEMONSTRATION

- Connect Wires As Per The Hookup Diagram

- After the wiring , plug and connect the microcontroller to PC using a USB cable.

- Download the Stepper Motor Library : https://github.com/arduino-libraries/Stepper

- Install the library.

- Open the code directly from the examples menu: File -> Example -> Stepper or simply copy the code from below:

CODE: (Copy the code below and paste in a new sketch in the Arduino IDE editor).

```
#include <Stepper.h>

#define STEPS 100
Stepper stepper(STEPS, 8, 9, 10, 11);
int previous = 0;
void setup()
{
   stepper.setSpeed(90);
 }
 void loop()
 {
    int val = analogRead(0);
    stepper.step(val - previous);
    previous = val;
 }
```

FINAL OUTPUT:
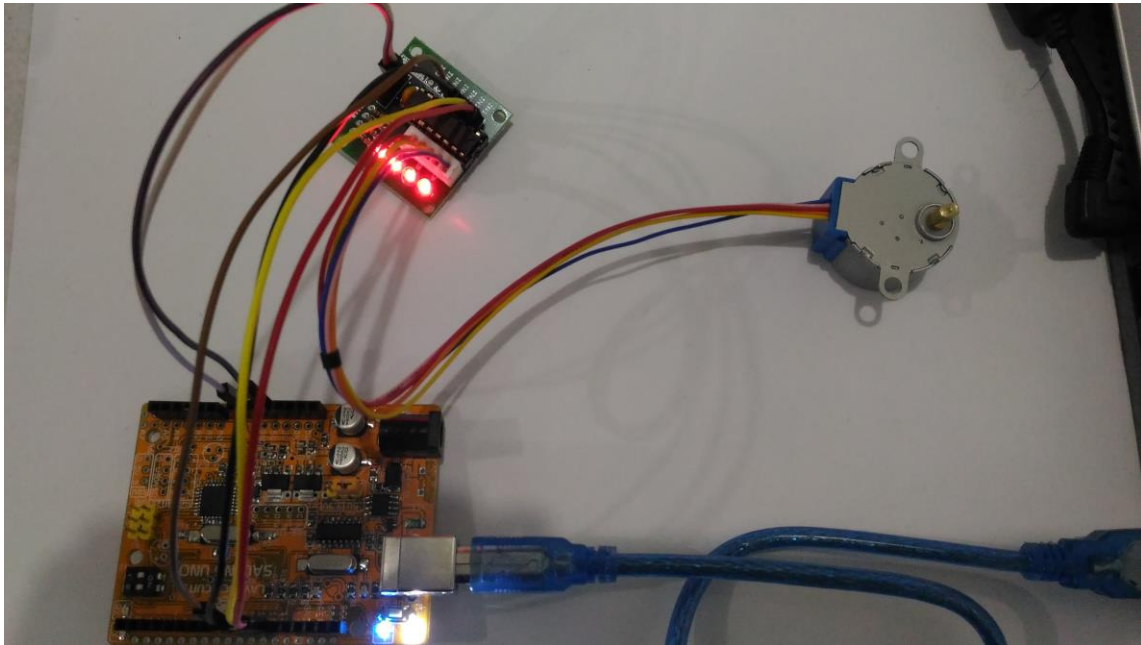
Experimentation ends here. Thank you very much! God Bless ☺