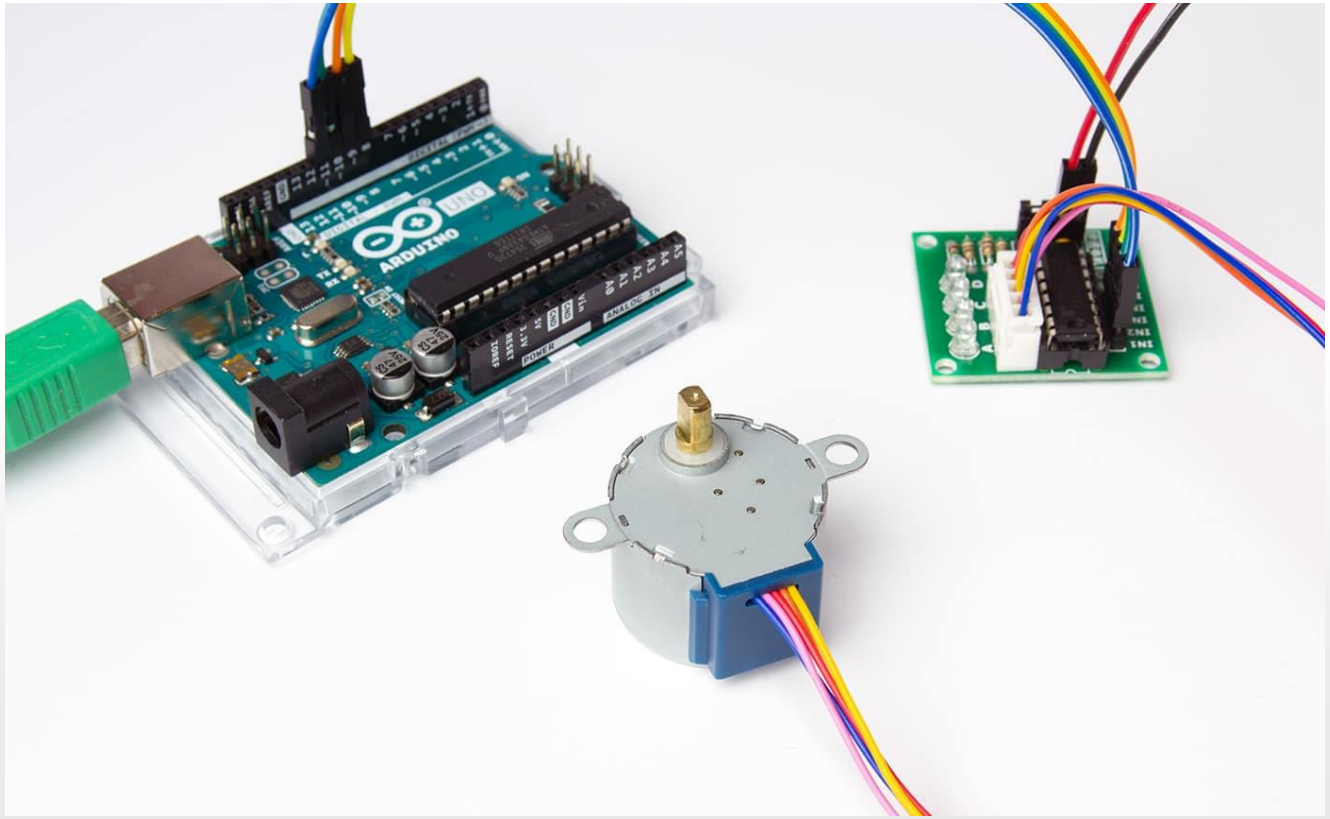
STEPPER MOTOR



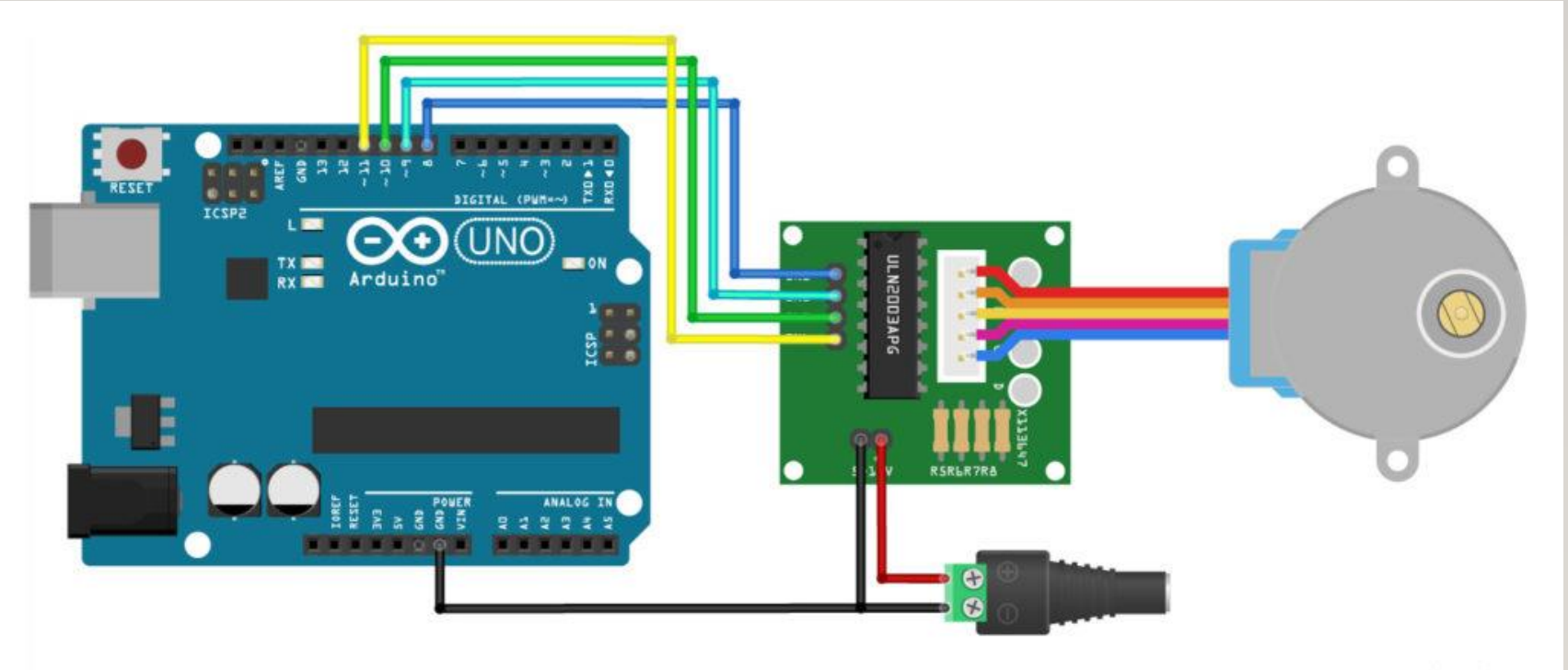
28BYJ-48 STEPPER MOTOR ULN2003 DRIVER BOARD

- វាគឺជាម៉ូទ័រដ៏ល្អមួយ និងសមស្របសម្រាប់អ្នកចាប់ផ្តើមដំបូង (beginner) ដែលចង់យល់ដឹងអំពីការប្រើ stepper motor។ ប៉ុន្តែវាក៏អាចប្រើសម្រាប់ធ្វើ project តូចៗ តាមតម្រូវការរបស់យើង។
- ម៉ូទ័រនេះត្រូវបានគេប្រើជាញឹកញាប់ដើម្បីកំណត់ស្លាបខ្យល់របស់ម៉ាស៊ីនត្រជាក់ដោយស្វ័យប្រវត្តិ។
- វាមាន gearbox ភ្ជាប់មកជាមួយ ដែលផ្តល់ឱ្យវានូវកម្លាំងបង្វិល (torque) បន្ថែមនិងកាត់បន្ថយល្បឿនយ៉ាងខ្លាំង។

HARDWARE COMPONENTS

- 28BYJ-48 stepper motor × 1
- ULN2003 driver board × 1
- Arduino Uno Rev3 × 1
- Jumper wires (male to female) × 10
- Breadboard (optional, makes wiring easier) × 1
- USB cable type A/B × 1
- 5V power supply (powering the stepper motor directly from the Arduino can damage it!)

WIRING – CONNECTING 28BYJ-48 STEPPER MOTOR AND ULN2003 DRIVER BOARD TO ARDUINO UNO



ULN2003 AND 28BYJ-48 TO ARDUINO CONNECTIONS

- យើងប្រើប្រាស់ breadboard និង jumper wire ខ្លះសម្រាប់ភ្ជាប់ឧបរណ៍ទាំងនេះដើម្បីដំណើរការ

ULN2003 Driver Board	Arduino Connection
IN1	Pin 8
IN2	Pin 9
IN3	Pin 10
IN4	Pin 11
-	Logic GND Arduino
-	GND power supply
+	5V power supply

28BYJ-48 STEPPER MOTOR ULN2003 DRIVER BOARD

```
#include <Stepper.h>
const int stepsPerRevolution = 2048;
// Pin 8 to IN1 on the ULN2003 driver
// Pin 9 to IN2 on the ULN2003 driver
// Pin 10 to IN3 on the ULN2003 driver
// Pin 11 to IN4 on the ULN2003 driver
// Create stepper object called 'myStepper', note the pin order:
Stepper myStepper = Stepper(stepsPerRevolution, 8, 10, 9, 11);
```

28BYJ-48 STEPPER MOTOR ULN2003 DRIVER BOARD

```
void setup() {
  // Set the speed to 5 rpm:
  myStepper.setSpeed(5);
  // Begin Serial communication at a baud rate of 9600:
  Serial.begin(9600);
}
```

28BYJ-48 STEPPER MOTOR ULN2003 DRIVER BOARD

```
void loop() {
  // Step one revolution in one direction:
  Serial.println("clockwise");
  myStepper.step(stepsPerRevolution);      delay(500);
  // Step one revolution in the other direction:
  Serial.println("counterclockwise");
  myStepper.step(-stepsPerRevolution);     delay(500);
}
```