Interfacing Stepper Motor With Arduino UNO

Example

Rotating stepper motor in clockwise and counter clockwise directions alternately.

Here, we are using six wire unipolar stepper motor. Only four wires are required to control this stepper motor. The two center tap wires of the stepper motor are connected to 5V supply.
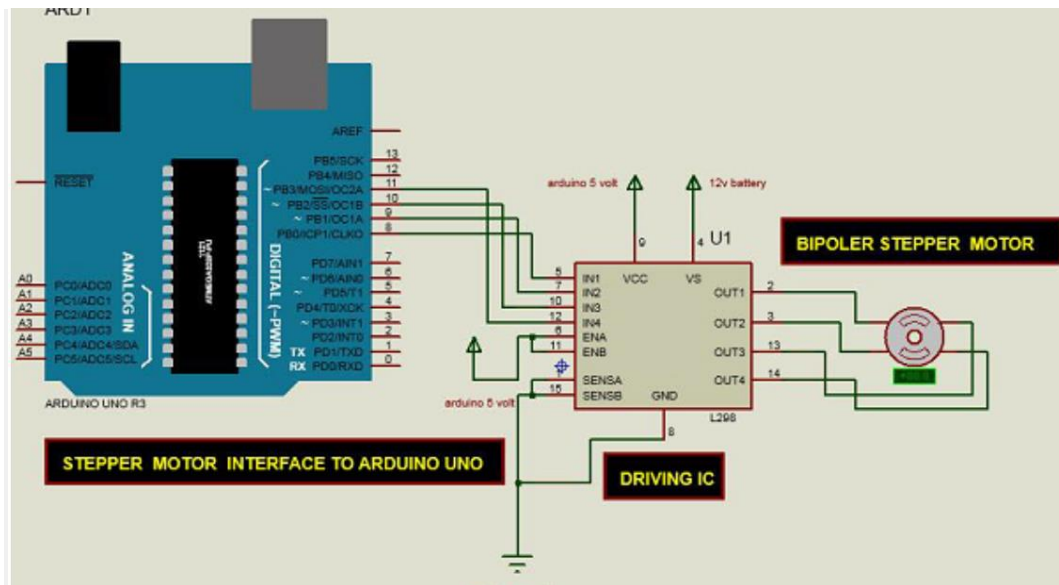
ULN2003 driver is used to drive the stepper motor.

Note : To find winding coils and their center tap leads, measure resistance in between the leads. From center leads we will get half the resistance value as compared to the resistance between winding ends.

```
void setup() {
  pinMode(4, OUTPUT);
  pinMode(5, OUTPUT);
  pinMode(6, OUTPUT);
  pinMode(7, OUTPUT);
}

void loop() {
      /* Rotation in one direction */
  for(int i = 0; i<12; i++)
  {
    digitalWrite(7, HIGH);
    digitalWrite(6, LOW);
    digitalWrite(5, LOW);
    digitalWrite(4, LOW);
```

```
    delay(100);
    digitalWrite(7, HIGH);
    digitalWrite(6, HIGH);
    digitalWrite(5, LOW);
    digitalWrite(4, LOW);
    delay(100);
    digitalWrite(7, LOW);
    digitalWrite(6, HIGH);
    digitalWrite(5, LOW);
    digitalWrite(4, LOW);
    delay(100);
    digitalWrite(7, LOW);
    digitalWrite(6, HIGH);
    digitalWrite(5, HIGH);
    digitalWrite(4, LOW);
    delay(100);
    digitalWrite(7, LOW);
    digitalWrite(6, LOW);
    digitalWrite(5, HIGH);
    digitalWrite(4, LOW);
    delay(100);
    digitalWrite(7, LOW);
    digitalWrite(6, LOW);
    digitalWrite(5, HIGH);
    digitalWrite(4, HIGH);
    delay(100);
    digitalWrite(7, LOW);
    digitalWrite(6, LOW);
    digitalWrite(5, LOW);
    digitalWrite(4, HIGH);
    delay(100);
    digitalWrite(7, HIGH);
    digitalWrite(6, LOW);
    digitalWrite(5, LOW);
    digitalWrite(4, HIGH);
    delay(100);
}
digitalWrite(7, HIGH);
digitalWrite(6, LOW);
digitalWrite(5, LOW);
digitalWrite(4, LOW);
delay(100);
```

STEPPER MOTOR INTERFACE TO ARDUINO UNO

/* Stepper Motor Control */

```
#include <Stepper.h>
const int stepsPerRevolution = 90;
// change this to fit the number of steps per revolution
// for your motor
// initialize the stepper library on pins 8 through 11:
Stepper myStepper(stepsPerRevolution, 8, 9, 10, 11);

void setup() {
  // set the speed at 60 rpm:
  myStepper.setSpeed(5);
  // initialize the serial port:
  Serial.begin(9600);
}

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);
}
```