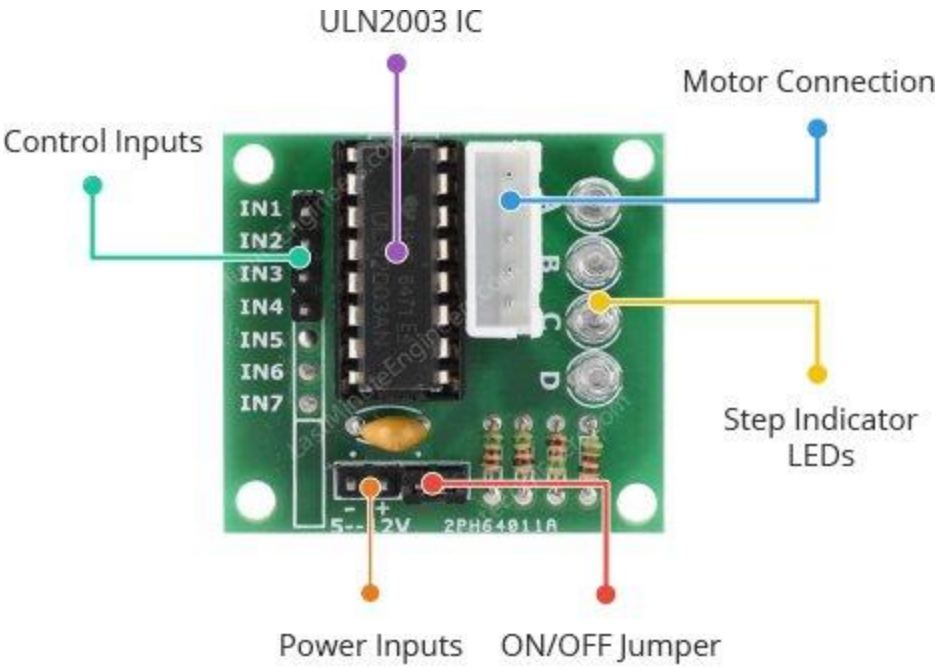
ULN2003 DRIVER MODULE

Because the 28BYJ-48 stepper motor consumes a significant amount of power, it cannot be controlled directly by a microcontroller such as Arduino. To control the motor, a driver IC such as the ULN2003 is required; therefore, this motor typically comes with a ULN2003-based driver board.

The ULN2003, known for its high current and high voltage capability, provides a higher current gain than a single transistor and allows a microcontroller's low voltage low current output to drive a high current stepper motor.

The ULN2003 consists of an array of seven Darlington transistor pairs, each of which can drive a load of up to 500mA and 50V. This board utilizes four of the seven pairs.



The board has four control inputs and a power supply connection.

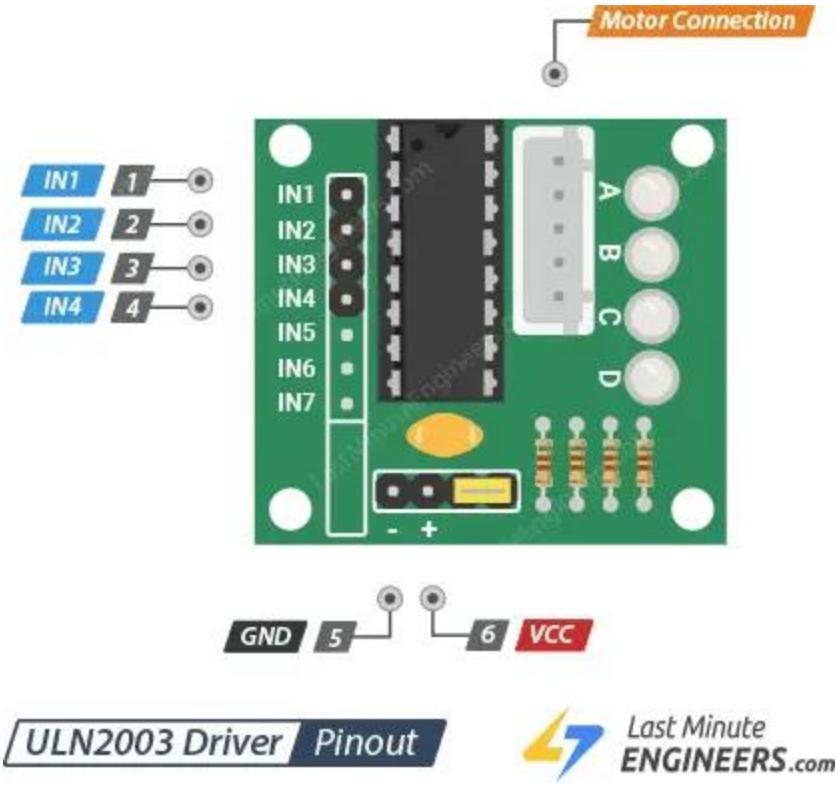
Additionally, there is a Molex connector that is compatible with the connector on the motor, allowing you to plug the motor directly into it.

The board includes four LEDs that indicate activity on the four control input lines. They provide a good visual indication while stepping.

There is an ON/OFF jumper on the board for disabling the stepper motor if needed.

ULN2003 STEPPER DRIVER BOARD PINOUT

The ULN2003 stepper driver board has the following pinout:



ULN2003 Driver Pinout

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IN1 – IN4 are motor control input pins. Connect them to the Arduino's digital output pins.

GND is the ground pin.

VCC pin powers the motor. Because the motor consumes a significant amount of power, it is preferable to use an external 5V power supply rather than from the Arduino.

Motor Connector This is where the motor plugs in. The connector is keyed, so it will only go in

REFERENCE:

https://lastminuteengineers.com/28byj48-stepper-motor-arduino-tutorial/