

Controlling Stepper Motor With Remote

Overview

In this lesson, you will learn a fun and easy way to control a stepper motor from a distance using an IR remote control.

The stepper we are using comes with its own driver board making it easy to connect to our MEGA2560.

Since we don't want to drive the motor directly from the MEGA2560, we will be using an inexpensive little breadboard power supply that plugs right into our breadboard and power it with a 9V 1Amp power supply.

The IR sensor is connected to the MEGA2560 directly since it uses almost no power.

Component Required:

1 x Mega2560 R3

1 x 830 tie-points breadboard

1 x IR receiver module

1 x IR remote

1 x ULN2003 stepper motor driver module

1 x Stepper motor

1 x Power supply module

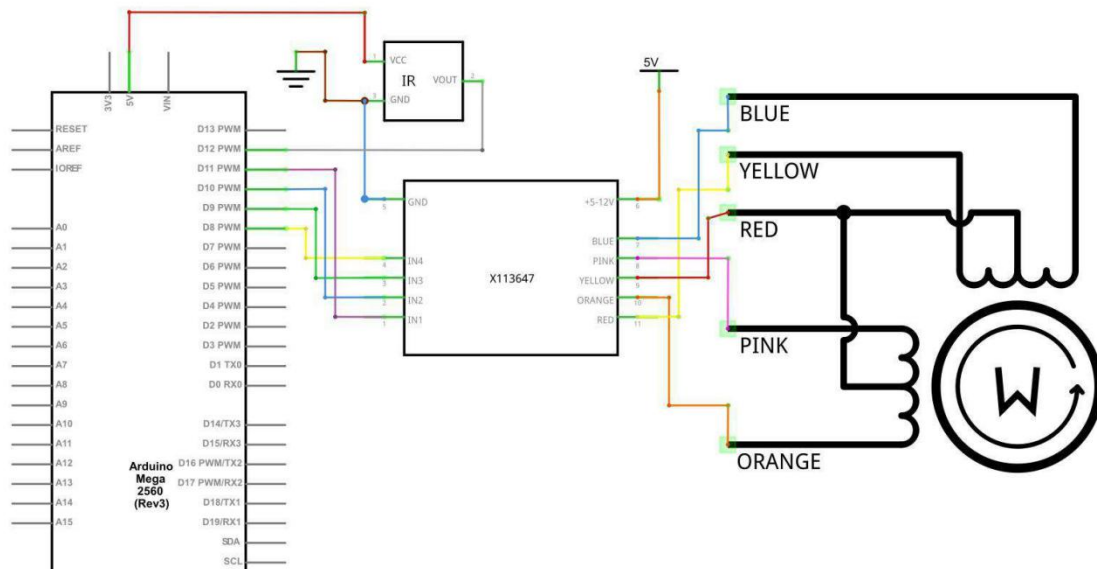
1 x 9V1A Adapter

9 x F-M wires (Female to Male DuPont wires)

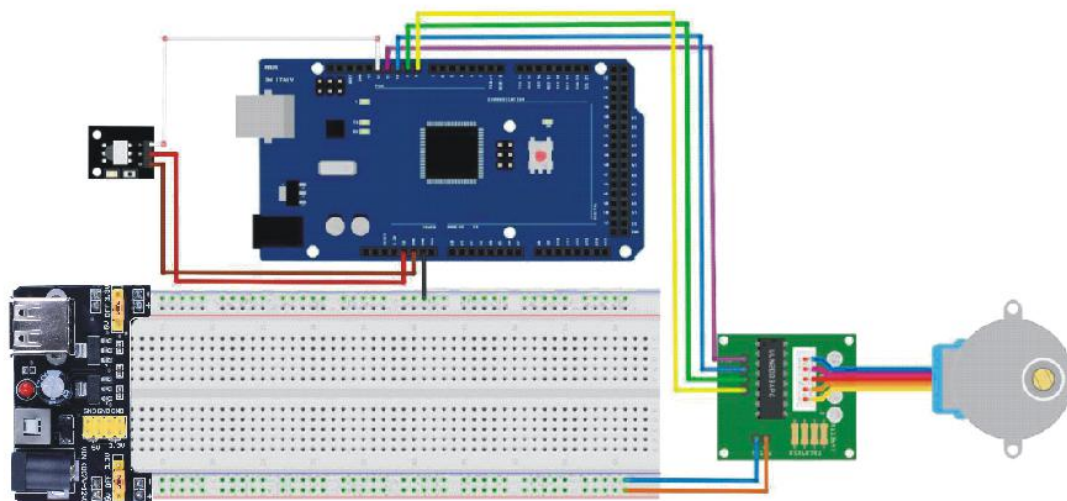
1 x M-M wire (Male to Male jumper wire)

Connection

Schematic



Wiring diagram



We are using 4 pins to control the Stepper and 1 pin for the IR sensor. Pins 8-11 are controlling the Stepper motor and pin 12 is receiving the IR information.

We connect the 5V and Ground from the MEGA2560 to the sensor. As a precaution, use a breadboard power supply to power the stepper motor since it can use more power and we don't want to damage the power supply of the MEGA2560.

Code

After wiring, please open program in the code folder-" Remote" and click UPLOAD to upload the program. See "Blink" for details about program uploading if there are any errors.

Before you can run this, make sure that you have installed the < IRremote > < Stepper >library or re-install it, if necessary. Otherwise, your code won't work. For details about loading the library file, see "Arduino IDE useful manual.pdf".

The code only recognize 2 values from the IR Remote control: VOL+ and VOL-. When VOL+ is pressed on the remote the motor will make a full rotation clockwise. VOL- will make a full rotation counter-clockwise.