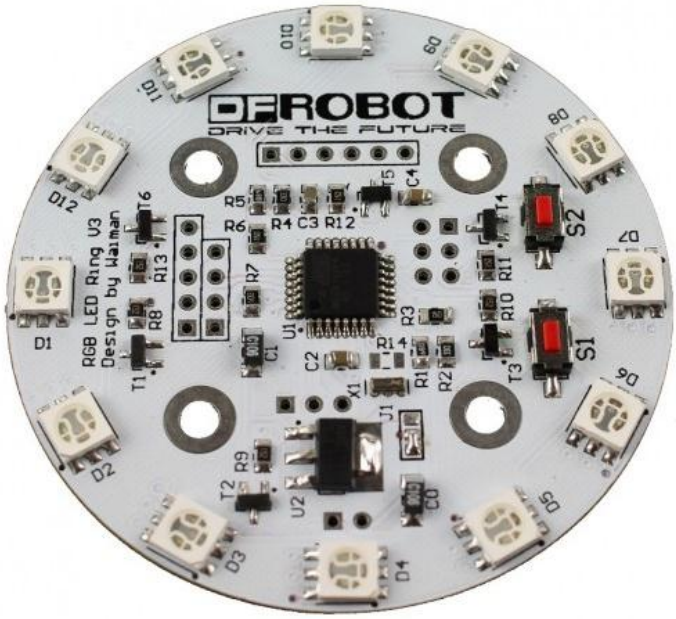
RB-Dfr-105

DFRobot Rainbow LED Ring (Arduino Compatible)

Description



The Rainbow Ring board has been upgraded to version 3! This is probably the most beautiful LED ring ever. Each led on the ring can be controlled seperatly on its brightness and colors (RGB). It comes with pre-burned bootloader which has several built in led scripts.

Hardware requierments

- 1x Arduino Microcontroller
- 1x Rainbow Ring V3
- 1x FTDI board
- 1x USB mini cable
- 1x A/B USB cable
- Tools used
- Soldering iron/solder
- 12x Male pin headers
- 7x Female/male jumper wire

Optional tools for trouble shooting

You can use an extra LED to monitor the "L" LED on the LED Ring. This can help in case of trouble shooting

- 1x LED (color is not important)

- 1x 1KOhm resistor

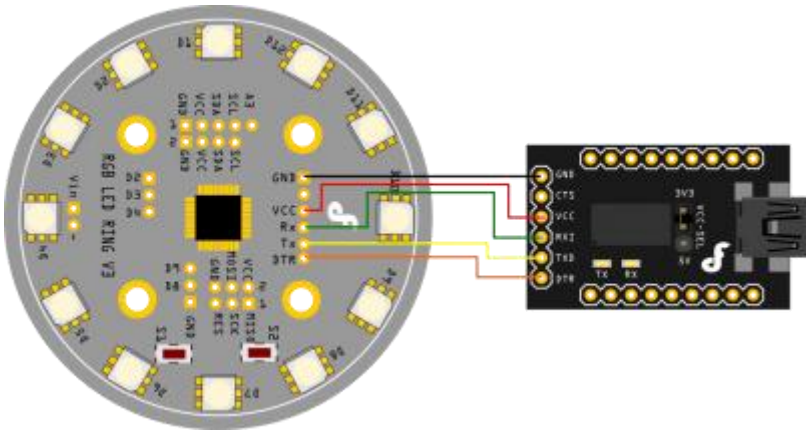
Software

- Arduino IDE
- Serial Monitor (i.e.: Putty)

Procedure

The Rainbow Ring ships with no pin headers. This gives you the option to solder the pins according to your project needs. Before starting to program the LED Ring you should solder the pin headers on to the board.

FTDI connection instructions

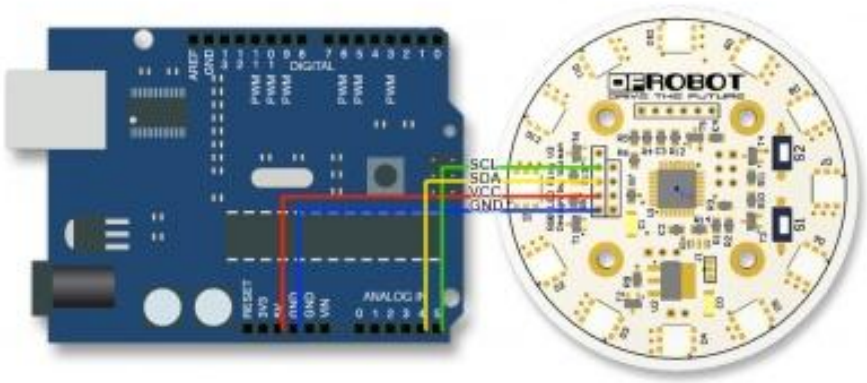


After soldering your pin headers, connect your Rainbow Ring to the FTDI board as shown in the diagram

CAUTION: Only supply power to 1 of the 3 power pins provided at any one time.

Once you have connected the Rainbow Ring to the FTDI breakout board connect the FTDI board to your PC. After windows has finished installing the drivers, find which com port it was assigned to by going to Control Panel and then Device Manager.

I2C connection instructions



NOTE:Do not connect 5V if already connected from the FTDI board

Connect your Arduino to the Rainbow Ring. Since we are providing power from the FTDI board do not plug in the 5V Vcc to the I2C side of the Rainbow Ring. The only 3 wires you need to connect are the SDA to pin 4, SCL to pin 5, and GND.

Prepare sketches and library

NOTE: This library has yet to be upgraded to be compatible with IDE V1.0 Please use IDE V0022

- Download the Rar file with the source code and library.
- Place the RGB_Ring_V3 library folder in:
- Arduino-0022\Libraries\
- Please navigate to the following folder in your Arduino IDE folder: \arduino-0022\hardware\arduino
- Open the boards.txt file located in this folder and at the bottom paste the information from (step 5)
- From the downloaded RAR file open the folder: RGB_Ring_V3\boards and programmers-arduino\boards.txt (the information from this file needs to be added to the boards.txt file in your arduino-0022 folder, from step 4).
- If your Arduino IDE is open, close it. Then re-open it and select the: "[Optiboot] Arduino Diecimila, Duemilanove, Nano, NG w/ ATmega168" option from "Tools>Boards" menu option
- You should now be able to upload sketches to the Rainbow Ring V3