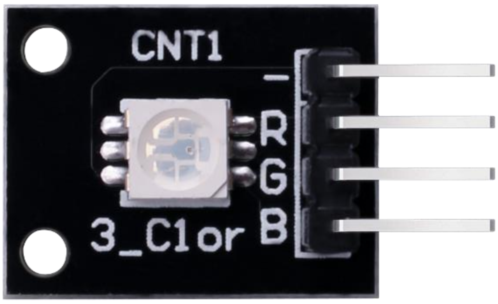
# SMD RGB LED Module

## DESCRIPTION:

RGB LED module consists of a full-color LED made by R, G, B three pin PWM voltage input can be adjusted. Primary colors (red / blue / green) strength in order to achieve full color mixing effect. Control of the module with the Arduino can be achieved Cool lighting effects.



## Specification：

- Red Vf: 1.8 to 2.1V
- Green Vf: 3.0 to 3.2V
- Blue Vf: 3.0 to 3.2V
- Red color: 620-625 nm
- Green color: 520-525 nm
- Blue color: 465-470 nm

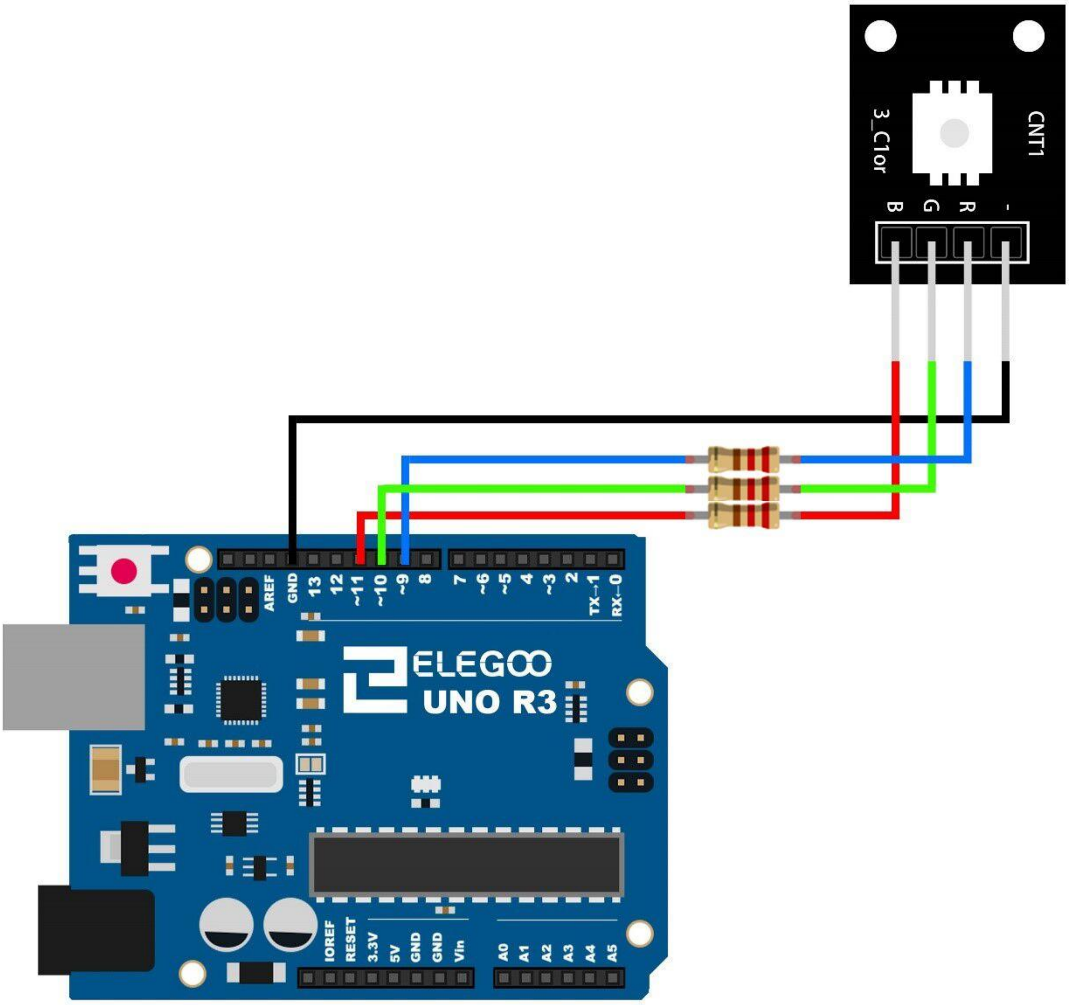
## PIN CONFIGURATION:

1、 “R”: Red light
2、 “G” : Green light
3、 “B” : Blue light
4、 “-”:Ground

## Example:

In this example, we blink an LED and using an RGB LED we can generate any color we want.

Here is the physical connection:



## Code:

```
#define BLUE 11

#define GREEN 10

#define RED 9
```

```
void setup()
{
pinMode(RED, OUTPUT);
pinMode(GREEN, OUTPUT);
pinMode(BLUE, OUTPUT);
digitalWrite(RED, HIGH);
digitalWrite(GREEN, LOW);
digitalWrite(BLUE, LOW);
}

// define variables
int redValue;
int greenValue;
int blueValue;

// main loop
void loop()
{
#define delayTime 10 // fading time between colors

redValue = 255; // choose a value between 1 and 255 to change the color.
greenValue = 0;
blueValue = 0;

// this is unnecessary as we've either turned on RED in SETUP
// or in the previous loop ... regardless, this turns RED off
// analogWrite(RED, 0);
// delay(1000);
```

```
for(int i = 0; i < 255; i += 1) // fades out red bring green full when i=255
{
redValue -= 1;
greenValue += 1;
// The following was reversed, counting in the wrong directions
// analogWrite(RED, 255 - redValue);
// analogWrite(GREEN, 255 - greenValue);
analogWrite(RED, redValue);
analogWrite(GREEN, greenValue);
delay(delayTime);
}

redValue = 0;
greenValue = 255;
blueValue = 0;

for(int i = 0; i < 255; i += 1) // fades out green bring blue full when i=255
{
greenValue -= 1;
blueValue += 1;
// The following was reversed, counting in the wrong directions
// analogWrite(GREEN, 255 - greenValue);
// analogWrite(BLUE, 255 - blueValue);
analogWrite(GREEN, greenValue);
analogWrite(BLUE, blueValue);
delay(delayTime);
}

redValue = 0;
```

```
greenValue = 0;
blueValue = 255;

for(int i = 0; i < 255; i += 1) // fades out blue bring red full when i=255
{
// The following code has been rearranged to match the other two similar sections
blueValue -= 1;
redValue += 1;
// The following was reversed, counting in the wrong directions
// analogWrite(BLUE, 255 - blueValue);
// analogWrite(RED, 255 - redValue);
analogWrite(BLUE, blueValue);
analogWrite(RED, redValue);
delay(delayTime);
}
}
```