# Grove - Variable Color LED User Manual

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Version： 1.0

Wiki: http://www.seeedstudio.com/wiki/Grove_-_Variable_Color_LED

Bazaar: http://www.seeedstudio.com/depot/Grove-Variable-Color-LED-p-852.html?cPath=81_35

## Document Revision History

| Revision | Date | Author | Description |
|---|---|---|---|
| 1.0 | Sep 22, 2015 | Loovee | Create file |
| | | | |

## Contents

## Disclaimer

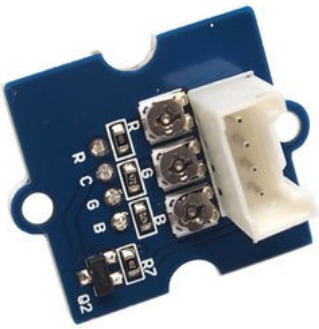
*For physical injuries and possessions loss caused by those reasons which are not related to product quality, such as operating without following manual guide, natural disasters or force majeure, we take no responsibility for that.*

*Under the supervision of Seeed Technology Inc., this manual has been compiled and published which covered the latest product description and specification. The content of this manual is subject to change without notice.*

## Copyright

# 1. Introduction

This Grove consists of one 8mm RGB LED. It operates at 5V DC. When SIG pin is logic HIGH, the RGB LED will light up. Perfect for use on Seeeduino digital outputs, or also can be controlled by pulse-width modulation. And it uses three adjustable resistor to change the color of the RGB LED.

## 2. Features

- Grove compatible
- Color adjustable

*Application Ideas*

- Toys
- Decoration

*Cautions*

Be gentle when adjusting the R, G and B adjustable resistances in case of over-turning.

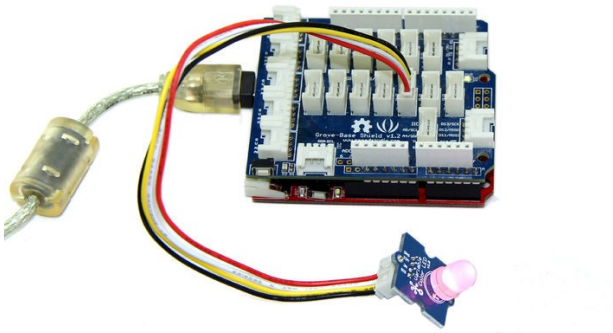
## 3. Specification

| Item | Typical | Unit |
|---|---|---|
| Operate Voltage | 5.0 | VDC |
| Working Current | 20 | mA |
| Variable Resistor | <1 | K Ω |

## 4. Usage

The three resistances RED, GREEN and BLUE of the module control the R, G and B channels respectively. By adjusting the three adjustable resistances, it can turn out variable color. The thing to notice, however, is that be gentle when turning the adjustable resistances.

The following sketch demonstrates a simple application of controlling its brightness. As the picture on the below indicates, the Variable Color LED is connected to digital port 9 of the Grove - Basic Shield. The hardware installation is gave as follow:



- Copy and paste code below to a new Arduino sketch.

Demo code like:

```
int ledPin = 9;    // LED connected to digital pin 9

void setup()  {
    // nothing happens in setup
}

void loop()  {
    // fade in from min to max in increments of 5 points:
    for(int fadeValue = 0 ; fadeValue <= 255; fadeValue +=5) {
        // sets the value (range from 0 to 255):
        analogWrite(ledPin, fadeValue);
        // wait for 30 milliseconds to see the dimming effect
        delay(30);
    }

    // fade out from max to min in increments of 5 points:
    for(int fadeValue = 255 ; fadeValue >= 0; fadeValue -=5) {
```

```
        // sets the value (range from 0 to 255):
        analogWrite(ledPin, fadeValue);
        // wait for 30 milliseconds to see the dimming effect
        delay(30);
    }
}
```

- Upload the code, please click here if you do not know how to upload.

  Adjust the three adjustable resistances, I am sure you will like it. Have a try!

## 5. Resources

- Variable Color LED eagle_file

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