# MAKEVMA307

**ARDUINO® COMPATIBLE RGB LED MODULE (2 PCS)**

USER MANUAL

# USER MANUAL

## 1.    Introduction

**To all residents of the European Union**

**Important environmental information about this product**

This symbol on the device or the package indicates that disposal of the device after its lifecycle could harm the environment. Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to a specialized company for recycling. This device should be returned to your distributor or to a local recycling service. Respect the local environmental rules.

**If in doubt, contact your local waste disposal authorities.**

Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

## 2.    Safety Instructions

| | |
|---|---|
| ⚠ | • This device can be used by children aged from 8 years and above, and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the device in a safe way and understand the hazards involved. Children shall not play with the device. Cleaning and user maintenance shall not be made by children without supervision. |

| | |
|---|---|
| 🏠 | • Indoor use only. Keep away from rain, moisture, splashing and dripping liquids. |

## 3.    General Guidelines

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|---|---|
| ⓘ | • Familiarise yourself with the functions of the device before actually using it. |
| | • All modifications of the device are forbidden for safety reasons. Damage caused by user modifications to the device is not covered by the warranty. |
| | • Only use the device for its intended purpose. Using the device in an unauthorised way will void the warranty. |
| | • Damage caused by disregard of certain guidelines in this manual is not covered by the warranty and the dealer will not accept responsibility for any ensuing defects or problems. |
| | • The dealers cannot be held responsible for any damage (extraordinary, incidental or indirect) – of any nature (financial, physical…) arising from the possession, use or failure of this product. |
| | • Due to constant product improvements, the actual product appearance might differ from the shown images. |
| | • Product images are for illustrative purposes only. |
| | • Do not switch the device on immediately after it has been exposed to changes in temperature. Protect the device against damage by leaving it switched off until it has reached room temperature. |
| | • Keep this manual for future reference. |

# 4.   Overview

The MAKEVMA307 is an RGB LED module with on-board current limiting resistors.
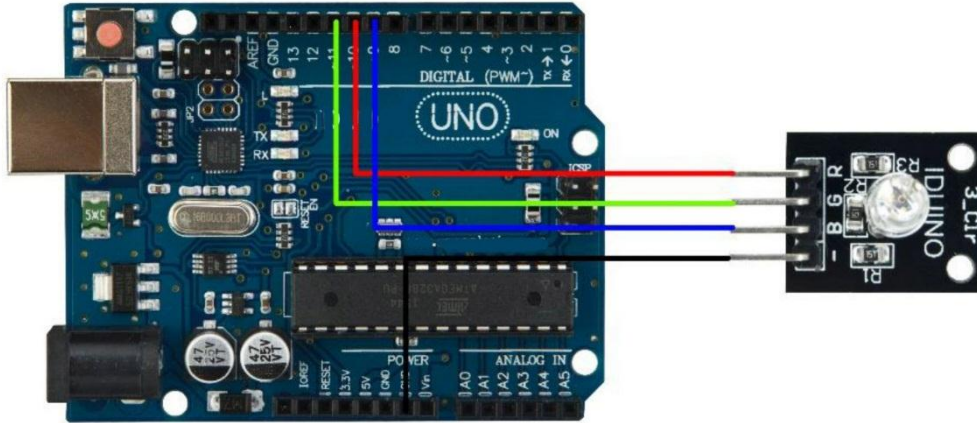


| Arduino® | | MAKEVMA307 |
|---|---|---|
| D11 | ► | R |
| D10 | ► | G |
| D9 | ► | B |
| GND | ► | - |

voltage ............................................................................................... 5 VDC
connection ................................................................................. 4-pin male header
pins names ........................................................................ GND, RED, GREEN, BLUE
dimensions ............................................................................... 24 x 16 x 16 mm
weight ...................................................................................................... 2 g

# 5.   Programming Code

```
********Code begin********
//RGB LED pins
int ledDigitalOne[] = {10, 11, 9}; //the three digital pins of the digital
LED
                                   //10 = redPin, 11 = greenPin, 9 =
bluePin

const boolean ON = HIGH;     //Define on as LOW (this is because we use
a common
                             //Anode RGB LED (common pin is connected to
+5 volts)
const boolean OFF = LOW;   //Define off as HIGH
```

```
//Predefined Colors
const boolean RED[] = {ON, OFF, OFF};
const boolean GREEN[] = {OFF, ON, OFF};
const boolean BLUE[] = {OFF, OFF, ON};
const boolean YELLOW[] = {ON, ON, OFF};
const boolean CYAN[] = {OFF, ON, ON};
const boolean MAGENTA[] = {ON, OFF, ON};
const boolean WHITE[] = {ON, ON, ON};
const boolean BLACK[] = {OFF, OFF, OFF};

//An Array that stores the predefined colors (allows us to later randomly
display a color)
const boolean* COLORS[] = {RED, GREEN, BLUE, YELLOW, CYAN, MAGENTA, WHITE,
BLACK};

void setup(){
  for(int i = 0; i < 3; i++){
    pinMode(ledDigitalOne[i], OUTPUT);     //Set the three LED pins as
outputs
  }
}

void loop(){

/* Example - 1 Set a color
   Set the three LEDs to any predefined color
*/
    setColor(ledDigitalOne, YELLOW);    //Set the color of LED one

/* Example - 2 Go through Random Colors
  Set the LEDs to a random color
*/
   //randomColor();

}

void randomColor(){
  int rand = random(0, sizeof(COLORS) / 2);  //get a random number within
the range of colors
  setColor(ledDigitalOne, COLORS[rand]);  //Set the color of led one to
a random color
  delay(1000);
}

/* Sets an led to any color
   led - a three element array defining the three color pins (led[0] =
redPin, led[1] = greenPin, led[2] = bluePin)
   color - a three element boolean array (color[0] = red value (LOW = on,
HIGH = off), color[1] = green value, color[2] =blue value)
*/
void setColor(int* led, boolean* color){
 for(int i = 0; i < 3; i++){
   digitalWrite(led[i], color[i]);
 }

}
void setColor(int* led, const boolean* color){
  boolean tempColor[] = {color[0], color[1], color[2]};
  setColor(led, tempColor);
}
********Code End********
```