

WS2812 8×8 64 LED Matrix

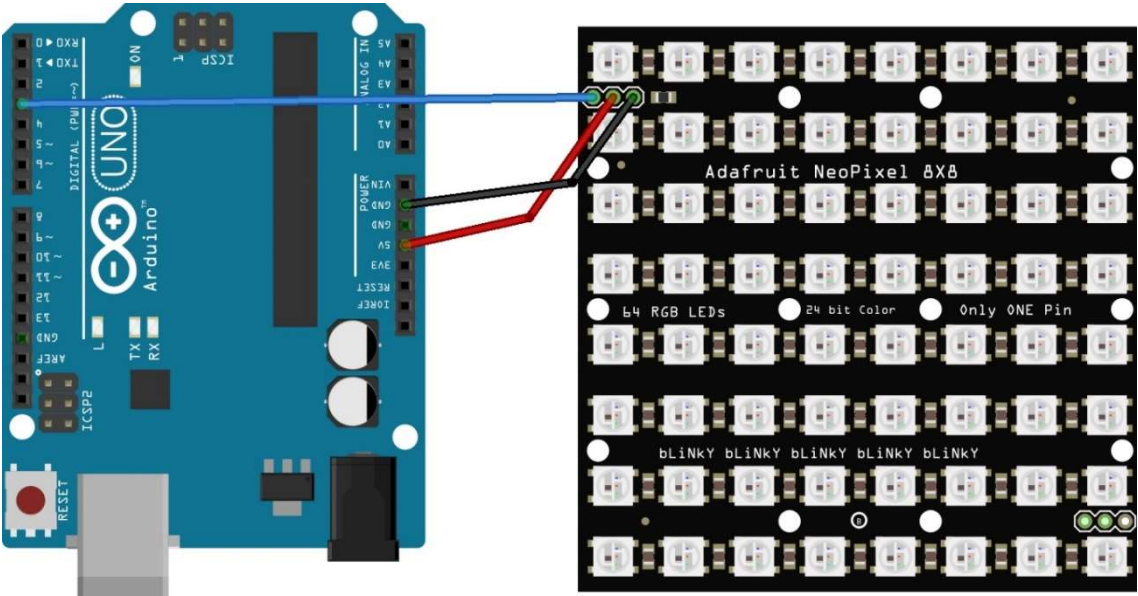
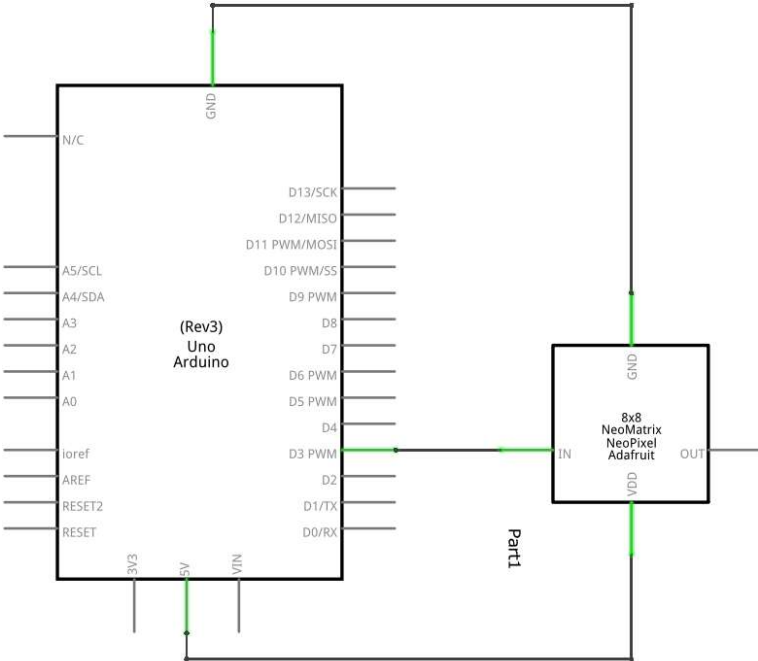
I like the WS2812 Neopixel boards, modules and LEDs you can buy and have been looking at some of the variants but coming at over \$35 for some of these I balked at buying them, recently I found compatible boards for a fraction of the price and decided to buy them. The first is an WS2812 8×8 64 LED Matrix LED 5050 module



Warning: Each LED is capable of drawing as much as 60mA (at peak brightness the matrix can draw just over 3.5 Amps at 5 Volts), this adds up so it is suggested to use a 5V 2A power supply. For most uses, you'll see about 1-2A of current per panel. I tend to use the lower values in the code examples you will see later

Solder wires or a header to the input port and supply power to the +5V and ground pins, then connect the DIN pin to a pin of your microcontroller

Schematics & layout



Code Examples

Example 1

```
#include <Adafruit_NeoPixel.h>

// Which pin on the Arduino is connected to the NeoPixels?
// On a Trinket or Gemma we suggest changing this to 1
#define PIN      3

// How many NeoPixels are attached to the Arduino?
#define NUMPIXELS 64

Adafruit_NeoPixel pixels = Adafruit_NeoPixel(NUMPIXELS, PIN, NEO_GRB + NEO_KHZ800);

int delayval = 10; // delay for half a second

void setup()
{
  pixels.begin(); // This initializes the NeoPixel library.
}

void loop() {

  // For a set of NeoPixels the first NeoPixel is 0, second is 1, all the way up to the count of pixels
  minus one.

  for(int i=0;i<NUMPIXELS;i++)
  {
    // pixels.Color takes RGB values, from 0,0,0 up to 255,255,255
    pixels.setPixelColor(i, pixels.Color(1,0,0)); // Moderately bright green color.
    pixels.show(); // This sends the updated pixel color to the hardware.
    //delay(delayval);
  }
  delay(1000);
  for(int i=0;i<NUMPIXELS;i++)
  {
    // pixels.Color takes RGB values, from 0,0,0 up to 255,255,255
    pixels.setPixelColor(i, pixels.Color(0,1,0)); // Moderately bright green color.
    pixels.show(); // This sends the updated pixel color to the hardware.
    //delay(delayval);
  }
  delay(1000);
  for(int i=0;i<NUMPIXELS;i++)
  {
    // pixels.Color takes RGB values, from 0,0,0 up to 255,255,255
    pixels.setPixelColor(i, pixels.Color(0,0,1)); // Moderately bright green color.
    pixels.show(); // This sends the updated pixel color to the hardware.
    //delay(delayval);
  }
  delay(1000);
}
```

Example 2

```
#include <Adafruit_NeoPixel.h>

// Which pin on the Arduino is connected to the NeoPixels?
// On a Trinket or Gemma we suggest changing this to 1
#define PIN      3

// How many NeoPixels are attached to the Arduino?
#define NUMPIXELS 64

Adafruit_NeoPixel pixels = Adafruit_NeoPixel(NUMPIXELS, PIN, NEO_GRB + NEO_KHZ800);

int delayval = 10; // delay for half a second

void setup()
{
  pixels.begin(); // This initializes the NeoPixel library.
}

void loop() {

  // For a set of NeoPixels the first NeoPixel is 0, second is 1, all the way up to the count of pixels
  // minus one.

  for(int i=0;i<16;i++)
  {
    // pixels.Color takes RGB values, from 0,0,0 up to 255,255,255
    pixels.setPixelColor(i, pixels.Color(1,0,0)); // Moderately bright green color.
    pixels.show(); // This sends the updated pixel color to the hardware.
    //delay(delayval);
  }
  //delay(1000);
  for(int i=16;i<32;i++)
  {
    // pixels.Color takes RGB values, from 0,0,0 up to 255,255,255
    pixels.setPixelColor(i, pixels.Color(0,1,0)); // Moderately bright green color.
    pixels.show(); // This sends the updated pixel color to the hardware.
    //delay(delayval);
  }
  //delay(1000);
  for(int i=32;i<64;i++)
  {
    // pixels.Color takes RGB values, from 0,0,0 up to 255,255,255
    pixels.setPixelColor(i, pixels.Color(0,0,1)); // Moderately bright green color.
    pixels.show(); // This sends the updated pixel color to the hardware.
    //delay(delayval);
  }
  //delay(1000);
}
```

Example 3

```
include <Adafruit_NeoPixel.h>

// Which pin on the Arduino is connected to the NeoPixels?
#define PIN      3
// How many NeoPixels are attached to the Arduino?
#define NUMPIXELS 64

Adafruit_NeoPixel pixels = Adafruit_NeoPixel(NUMPIXELS, PIN, NEO_GRB + NEO_KHZ800);

int delayval = 10; // delay for half a second

void setup()
{
  pixels.begin(); // This initializes the NeoPixel library.
  randomSeed(analogRead(0));
}

void loop() {

  // For a set of NeoPixels the first NeoPixel is 0, second is 1, all the way up to the count of pixels
  // minus one.
  int rndRedValue = random(0,5);
  int rndGreenValue = random(0,5);
  int rndBlueValue = random(0,5);
  for(int i=0;i<NUMPIXELS;i++)
  {
    // pixels.Color takes RGB values, from 0,0,0 up to 255,255,255
    pixels.setPixelColor(i, pixels.Color(rndRedValue,rndGreenValue,rndBlueValue)); // Moderately
    // bright green color.
    pixels.show(); // This sends the updated pixel color to the hardware.
    //delay(delayval);
  }
  delay(1000);
}
```

Example 4

```
#include <Adafruit_NeoPixel.h>

// Which pin on the Arduino is connected to the NeoPixels?
#define PIN      3
// How many NeoPixels are attached to the Arduino?
#define NUMPIXELS 64

Adafruit_NeoPixel pixels = Adafruit_NeoPixel(NUMPIXELS, PIN, NEO_GRB + NEO_KHZ800);

int delayval = 10; // delay for half a second

void setup()
{
  pixels.begin(); // This initializes the NeoPixel library.
  randomSeed(analogRead(0));
}

void loop() {

  // For a set of NeoPixels the first NeoPixel is 0, second is 1, all the way up to the count of pixels
  // minus one.
  int rndRedValue = random(0,5);
  int rndGreenValue = random(0,5);
  int rndBlueValue = random(0,5);
  int rndLED = random(0,64);
  for(int i=0;i<rndLED;i++)
  {
    // pixels.Color takes RGB values, from 0,0,0 up to 255,255,255
    pixels.setPixelColor(i, pixels.Color(rndRedValue,rndGreenValue,rndBlueValue)); // Moderately
    // bright green color.
    pixels.show(); // This sends the updated pixel color to the hardware.
    //delay(delayval);
  }
  delay(1000);
}
```

Links

[WS2812 LED 5050 RGB 8x8 64 LED Matrix for Arduino](#)