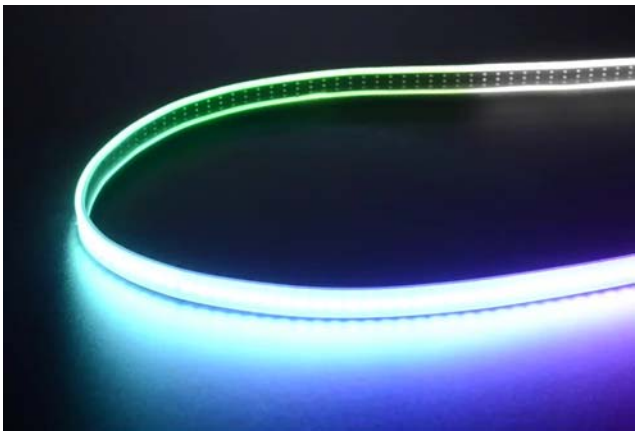
NeoPixel Digital RGBW LED Strip - Black PCB 144 LED/m - 1m

PRODUCT ID: 2848



Description

What is better than smart RGB LEDs? Smart RGB+White LEDs! These NeoPixels now have 4 LEDs in them (red, green, blue *and* white) for excellent lighting effects. These LED strips are fun and glowy, and you can control each LED individually!

This is the 144 LED/m RGBW strip with a clear casing and Black Flex PCB! We also have RGBW NeoPixel strips of 30 LED/m and 60 LED/m.

The NeoPixel is 'split', one half is the RGB you know and love, the other half is a white LED with a yellow phosphor. Unlit, it resembles an egg yolk. Lit up these are insanely bright (like ow my eye hurts) and can be controlled with 8-bit PWM per channel (8 x 4 channels = 32-bit color overall). Great for adding lots of colorful + white dots to your project!

NeoPixel LEDs use 800 KHz protocol so specific timing is required. On NeoPixels, the PWM rate is 400 Hz, which works well but is noticable if the LED is moving. In comparison, DotStars have a 20 KHz PWM rate, so even when moving the LED around, you won't see the pixelation, the blending is very smooth. (we recommend DotStars if you can use them)

NeoPixels are 5050-sized LEDs with an embedded microcontroller **inside the LED**. You can set the brightness and color of each R/G/B/W with 8-bit PWM precision (so 32-bit color per pixel). The LEDs are controlled by shift-registers that are chained up down the strip so you can shorten or lengthen the strip. Only 1 digital output pin are required to send data down. The PWM is built into each LED-chip so once you set the color you can stop talking to the strip and it will continue to PWM all the LEDs for you.

The strip is made of flexible PCB material, and comes with a weatherproof sheathing. You can cut this stuff pretty easily with wire cutters, there are cut-lines every 0.65"/1.7cm (1 LED each). Solder to the 0.1" copper pads and you're good to go. Of course, you can also connect strips together to make them longer, just watch how much current you need! We have a 5V/2A supply that should be able to drive 1 meter (depending on use) and a 5V/10A supply that can drive up to 4 meters (depending on use) **You must use a 5V DC power supply to power these strips, do not use higher than 6V or you can destroy the entire strip.**

We have a tutorial showing wiring, power usage calculations, example code for usage, etc. for NeoPixel Please check it out! Please note you will need a NeoPixel library with RGBW support which is not always available. If you try to control these with a plain 'RGB' NeoPixel library, you'll get very weird results. Our Adafruit NeoPixel library does support RGBW but if you're using something else, just be aware that it might require some hacking.

They come in 1 meter strips with a 2 or 3-pin JST SM connector on each end and separated power/ground wires. These strips are sold by the meter! There is a join in the middle of the strip and the LEDs are not perfectly spaced at that point - it's just a tradeoff with the ability of the flex PCB maker and density.

To wire up these strips we suggest picking up some JST SM plug and receptacle cables. You'll want one of each, one wire is for ground the other is for signal. For the power wire, you will also probably want a 2.1mm DC jack to wire in so you can connect one of our wall adapters to power it.

Our detailed NeoPixel Uberguide has everything you need to use NeoPixels in any shape and size. Including ready-to-go library & example code for the Arduino UNO/Duemilanove/Diecimila, Flora/Micro/Leonardo, Trinket/Gemma, Arduino Due & Arduino Mega/ADK (all versions)

Technical Details

LEDs per meter: 144 LEDs/m

Strip Length: 1m

Width of strip (w/ waterproofing): ~14.5mm / ~0.57"

Thickness of strip (w/ waterproofing): ~4.2mm / 0.16"

Removable IP65 weatherproof casing

Maximum 5V @ 80mA draw per LED (all LEDs on full brightness)

5VDC power requirement (do not exceed 6VDC) - no polarity protection

1 integrated RGB LEDs per segment, individually controllable

Neutral white color temperature: ~4000-4500K