Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!
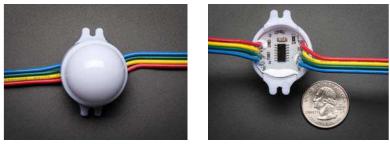

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30mm Dots - 12V Digital RGB LED Pixels (Strand of 20) - WS2801

PRODUCT ID: 1547

- # Description

RGB Pixels are digitally-controllable lights you can set to any color, or animate. Each round 'pixel cluster' contains 3 RGB LEDs and a controller chip soldered to a PCB. The pixel is then encased in a translucent white 'dot' to make it weatherproof. These are fairly large pixels but they are easy to mount, with two plastic flanges. They're typically used to make outdoor signs. Compared to our other LED dots, these are much bigger and much brighter, good for larger scale installations.

The pixels are connected by a 4-conductor cable. +12VDC, ground, data and clock. Data is shifted down from one pixel to the next so that you can easily cut the strand or attach more onto the end.

Each dot is digitally controlled, with an internal 8-bit PWM LED driver (24-bit color for 16 million different shades). The pixels must be clocked by a microcontroller, we have an example code linked below that works on an Arduino, it should be simple to adapt it to any other microcontroller.

The pixels use 3 x 5050 RGB LEDs, and the dot has full 180 degree color spread due to to the translucent nature. All of the LEDs are controlled at once so you cannot have one pixel with the three LEDs different colors. (Color control is per single dot 3-LED pixel only) The total max brightness of all LEDs is about 4000mcd. (Please note: mcd ratings of LEDs are notoriously inflated by most LED sellers, so be extra-skeptical when reviewing LED ratings!)

Sold by the strand, each strand has 20 pixels in series! Each strand has two JST SM 3-pin connectors so you can connect multiple strands in a row, as many as you wish, just watch for how much current they want. The two power wires are brought out separately to make wiring easier, a 2.1mm terminal block adapter is handy here to attach a DC power supply. We have a 12V/5A supply that should be able to drive 2 or more strands (depending on current use). The LEDs are constant-current driven so you'll have even colors through-out the strand as long as you have a stable 12V supply

You can drive these with an Arduino using any two microcontroller digital pins, check this library which also has example code to demonstrate the strands and **be sure to read our very detailed tutorial on usage!**. Since these are nearly identical in how they work to t he 36mm pixels, that guide will get you blinking

• Technical Details

- o 30mm diameter (1.4")
- o 75mm / 3" apart on the strand
- o Total length: 208cm / 82"
- o 20 pieces per strand
- o These pixels use a WS2801 chip for full 24 bit color, constant-current drive
- o 12VDC power, 60mA maximum per pixel (LED on full white)
- o 2-pin SPI-like protocol
- o WS2801 Datasheet for the chip inside each pixel
- o Brightness per pixel: 4000 mcd combined (we'll try to get a datasheet for the LEDs)

You can drive these with an Arduino using any two microcontroller digital pins, check this library which also has example code to demonstrate the strands and **be sure to read our very detailed tutorial on usage!** https://github.com/adafruit/Adafruit-WS2801-Libraryhttps://github.com/adafruit/Adafruit-WS2801-Library