

LED Frequently Asked Questions

How can I tell what voltage my LEDs are?

If you look at where the cut line is (splitting the solder pads), they'll typically be grouped by 1 LED for 5 volt, 3 LEDs for 12 volt, 6 LEDs for 24 volts. There are also higher voltage strips including 120 volts, so consult the manufacturer and labels. It should also be printed on the strip by the solder pads, but not all manufacturers do this on all sides.

How can I tell if my LED strip is RGB, RGBW, RGBwWcW?

Looking at the solder pads, they will be labeled. One of the pads is Power+. The remaining pads will be labeled with R for Red, G for Green, B for Blue, WW for Warm White (3000k), CW for Cool White (5000k). Some strips may have other color variations including Amber or Indigo (UV). Note not all strips are created equal, so the color order may differ depending on manufacturer and need to be considered when connecting to control device(s).

How can I tell if my LED strip can chase or not?

If there aren't any other markings showing the manufacturer you can look at the solder pad labels. Smart pixel that can chase individually will have 3 or 4 pads labeled with Power+, Data In/Out, Clock In/Out, Ground. Dumb pixels where only the whole strip can change color together will be labeled Power+, and some sequence of GRBW.

How do I know if I can put my strip outside?

All electronics have an IP rating. LED strips with no coverings are IP20 rated and only for use in dry locations. If the LED has a silicon bead over the top of it only, it is IP65 rated and can be used in both dry and slightly damp locations. This means that the strip can get splashed by light rain and should still work, but not appropriate for wet environments. IP67 and IP68 rated LED will be encased in a silicon jacket. It's suitable for wet environments and can be used around ponds and pools. Even though it is fully wrapped it shouldn't be used in a fully submerged capacity without taking other precautions.



If I'm using the IR remote and the colors don't correspond to the button I'm pressing, how do I fix it?

Turn off the strip using the remote control. Press the bottom right button [smooth or fade depending on remote control]. Strip should flash. Turn on the strip and try the color buttons. If they are still incorrect. Turn off strip again. Press the bottom right button. Strip should flash. Turn on strip and attempt colors again. Repeat the process 1-3 more times until they match. Then turn it on and off as normal.

How long a strip can I run?

There's a lot of variables in this answer. What color or combination you want it to be. You can run just red further than green or white before you see drop off. What voltage strip you are planning to use. 5-volt strip will drop off a lot quicker than 12 and 24 volts. How far away the strip is from the controller (more wire = more voltage drop). The general rule of thumb is about 5-7 meters or 16.4-23 feet for 12 volts, and 7-15 meters 23-50 feet for 24 volts. You can add power into your run with repeaters and straight power with smart pixel strip (power is bi-directional) to extend these runs. One way to run without a repeater is getting a power supply and controller that can handle the amount of strip you want to run and split it in the middle.

How many pixels can I program on a single universe of DMX?

You can run 170 RGB pixels on a single universe of DMX. You can get strip that have LED grouped into multiple pixels per channel for longer runs. There are several options to run more pixels on one universe of DMX relying on memory and using DMX as playback.

I want to add more LEDs, but the manufacturer is out of stock, can I mix and match?

LED chips and quality can differ greatly between batches even by the same manufacturer. Several LED manufacturers that have stringent quality controls so that colors are the same from strip to strip are SBS Lighting, Environmental Lighting, BTF and Superbright LEDs. If you're going to buy from an unknown name on Amazon or Ali Express, buy enough strip in one order for your project and spares, but there's no guarantee that they will match.



How many LED strips can I fit on one power supply?

If you plan on adding LED strip(s) to your existing design, you'll most likely need to upgrade your power supply. Many off the shelf LEDs come with a small, low amp power supply. Look for the total wattage of your strip. Higher end strips will have this label on the packaging, or you may need to go to the manufacturer's website. For example, the LED strip may say 12-volt at 18 watts. More than likely, it came with a 12-volt 2-amp wall wart producing 24 watts. If you add strip in this example, you'll need to upgrade your power to a 12-volt 5-amp power supply producing 60 watts total or more. Power supplies can range from .25-100 amps or 3 watts to 1200 watts, depending on your budget and needs. However, a general rule of thumb is to not exceed 80% of your total power produced by the power supply. This serves 2 purposes. First, it allows for inrush current when the LEDs first turn on at full power. Second, it prevents your power supply from overheating due to excessive draw if everything is on at full for extended periods.

I removed some of the silicon on an IP65 to solder extending wires, how can I replace it to make it water resistant again?

It's common to have to remove the silicon over the solder pads for repair or extension. Once you have soldered the contacts, you can buy a bottle of silicon from the hardware store and recoat. Hot glue can also be used but be aware of the environment as in high heat it can get soft. You'll want to make sure the end has heat shrink as well as silicon to protect the wires and hold the new sealant in place.

I just added a bunch of LED strips to my project and now it flashes and then goes black and then flashes again. How do I fix this?

Your strip has a short in it somewhere. The power is touching a ground terminal or one of the colors. If you soldered in splices, check the splices for a bridge between the power and ground or nearest color. It could be the hair of a spliced wire or solder creating the short. If not easily found disconnect midway through and use a multimeter. Continue isolating sections until you find the short circuit.



I'm planning a big project, how much strip should I order?

It's easy to *try* to calculate the amount of strip you need by linear foot. However, due to cut lengths; estimated 3/8-9/16" for 5-volt, 2-4" for 12-volt, and 4-6" for 24-volt depending on the strip you use, you may want to overestimate your math so that you eliminate unnecessary splicing by dealing in full rolls. An example would be you have twelve 14-foot runs. 168 linear feet of LED strip tape. According to that math you'll need 10.2 rolls of strip, but one of your runs will be several sections of 2.4' sections soldered together. Depending on the cost of your strip, and labor it may make more sense to order 12 rolls and save the scraps for future repairs if they are ever needed.

I want to bend my strip to follow a curve but still have the light shine forward. What's the best way to accomplish this?

Traditional LED strip can only be bent one direction. If you need to bend strip to follow a curve, but still want the lights to shine forward you can look at several options. Side emitting LED strip, LED neon or zig-zag flexible strip that runs the copper conductors in a zig-zag or be wider spaced to allow for bending around corners.