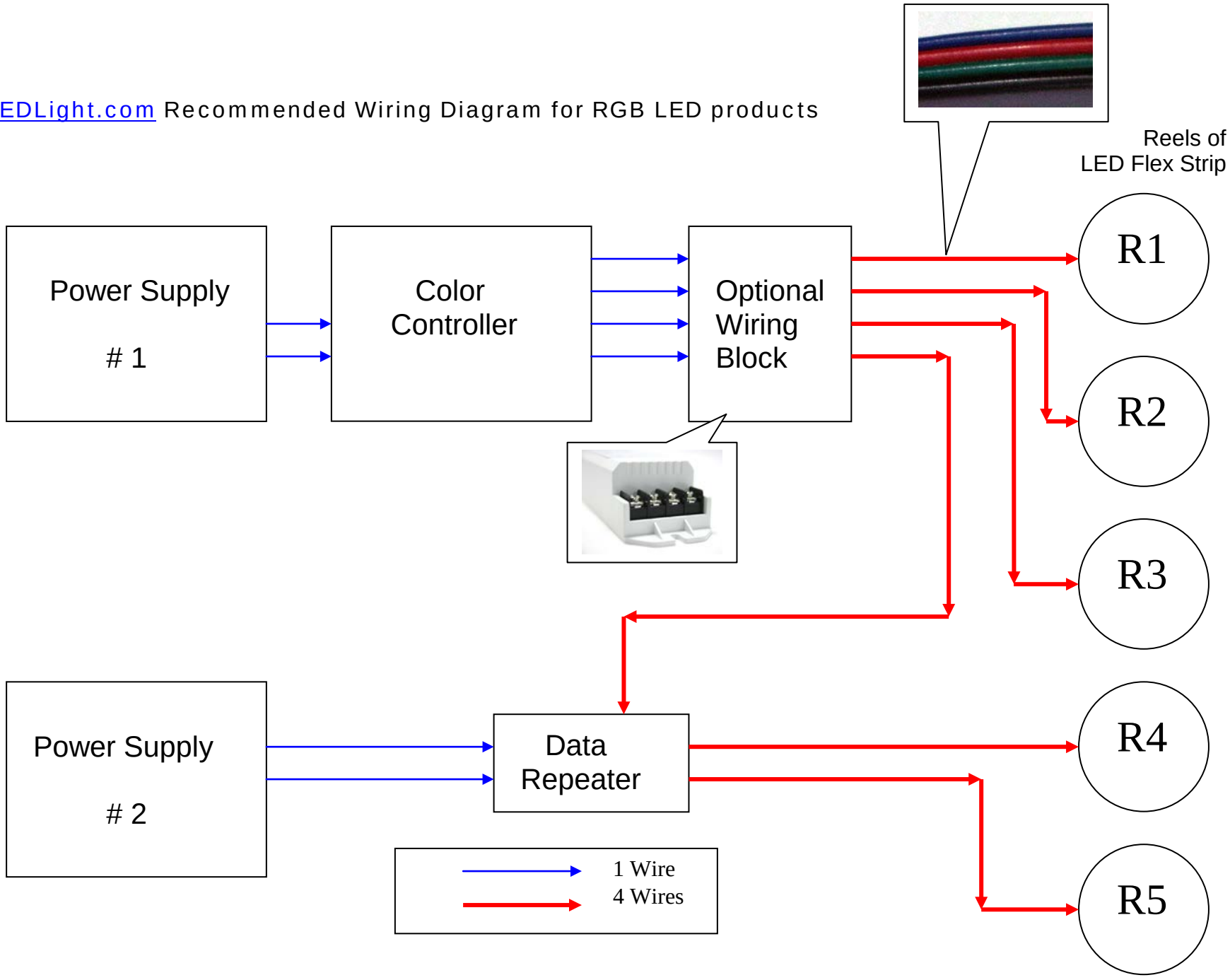
TheLEDLight.com Recommended Wiring Diagram for RGB LED products



Lighting projects can at times become complex, with multiple controls and wires, especially when working with RGB products. Our LED applications team at The LED Light, however, is here to help you untangle any confusion and make installation simple for you. To better understand the configuration of LED lighting installations, we have developed an example of what at first appears to be a 'hairy project'. You'll see how easy it is with the right understanding of the products and help from our professionals.

The wiring diagram above is for an installation of 5 reels of our flexible RGB LED strip. The same wiring diagram would apply to other linear products, such as boxes of LED sign modules which specify a maximum recommended 'home run'.

When working with multiple reels or lengths of LED lights, you can sometimes experience 'voltage drop'. "Voltage drop" means that the farther a LED light source is away from the transformer and color controller, the less voltage that lighting product receives. This can make your first length of LED strip look much brighter than your second, third, and so on.

There is an easy solution: "home run" your strips of LED lighting product. "Home run" simply means to connect each light reel to the transformer and color controller directly rather than connecting reels to each other in series.

In our diagram above we have 5 reels of RGB flexible LED strip connected to one color controller with intent to control all of the reels from that one controller. In order to keep all the reels performing the same, we've included a data repeater for the reels farthest from the controller. This keeps all reels performing without delay as might happen without a repeater. In our diagram we also connected the 4th and 5th RGB reels to their own power supply. This keeps the first power supply from overload.

It is important to protect all of your installation from overload. Not doing so can result in damage to the power supply, the color controller and even the LED lights. We can help you to properly calculate the electrical load and customize a wiring diagram specifically for your project.

LED Lighting specialists at TheLEDLight.com are standing by, ready and able to help you with your project, large or small. Give us a call at 775-841-4490 (Monday through Friday 7:30 AM to 4 PM Pacific Time) or email us for help at Sales@TheLEDLight.com