



# POWER INJECTION GUIDE



# Before & After Power Injection



# What is power injection and why do I need it?

- Injecting power means to add power at any point along a string of LED lights to boost the voltage back up to 24v or whatever the required voltage is.
- For longer runs of lights (over 40ft) there is a substantial voltage drop that occurs which causes the lights to dim, flicker and not show colors properly the further you get from the power source.
- To solve this, we inject power roughly every 30-40ft to ensure the lights are boosted back to 24V and that will make them brighter and look better.
- You can do this by running an extra cable inside the track to inject power as you go, or to use a separate power supply somewhere else on the house to inject power.

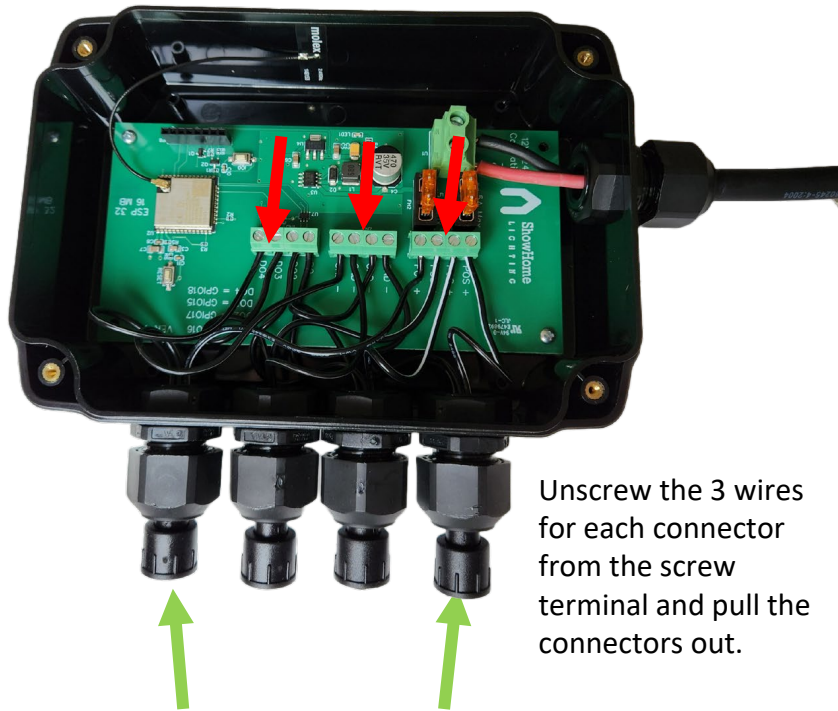
# What type of power injection works for your house?

- We know there are no two houses that are the same. There are plugins in different spots, two story or single story, where you put the controller are all different from house to house.
- That's why we supply everything to make it possible to power inject effectively in every scenario.
- Follow this guide to help select the power injection setup that will work best on your house and if your still confused please reach out to [steve@showhomelighting.com](mailto:steve@showhomelighting.com) or fill out our online form to get a layout designed for your home. [Click here](#)

Scenario #1  
100Ft of lights  
Controller in the middle of the house with only  
one available plugin.



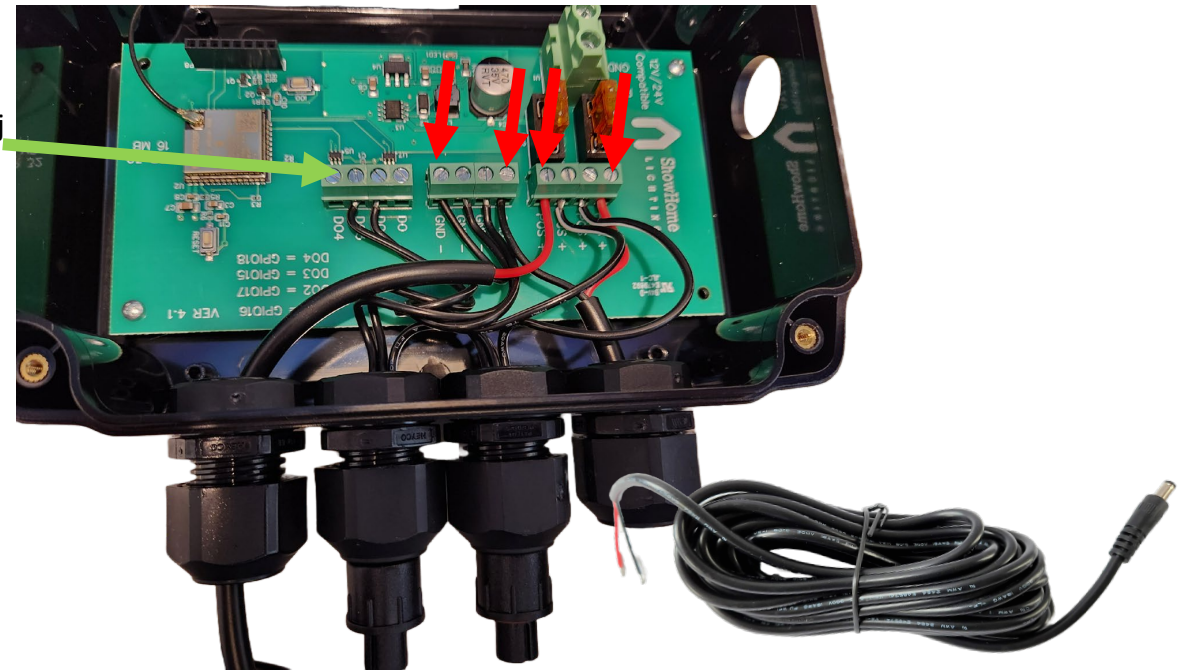
- Here we will use the power from the controller and place the controller in the middle of the house and branch out right to left.
- We will remove 2 led plugs from the controller and add the power injection cables to run inside of each track going right and left.



No wire goes here because these pwr inj cables do not have a data wire.

Unscrew the 3 wires for each connector from the screw terminal and pull the connectors out.

Remove these two connectors by loosening the nut on the cable gland



Insert the power injection cable through the cable gland and connect the red wire to the + screw terminal and the black wire to the - screw terminal. Tighten the cable gland to secure the wire.

After you have installed the PWR INJ cables your set up should look like this. You can now boost power up to 100ft each direction (200ft total) from the single 300w power supply. More than that and you will need to add additional power supplies along the line.

PWR supply will go here



20ft PWR INJ cable runs inside of track



Lights heading down the left side of the house

Power and data to lights

Lights heading down the right side of the house



Once you get to the first PWR INJ point at 30-40ft, you can follow these steps to inject the power and continue installing more lights



20Ft PWR INJ extension



T-power inj cable for LED's with DC connector

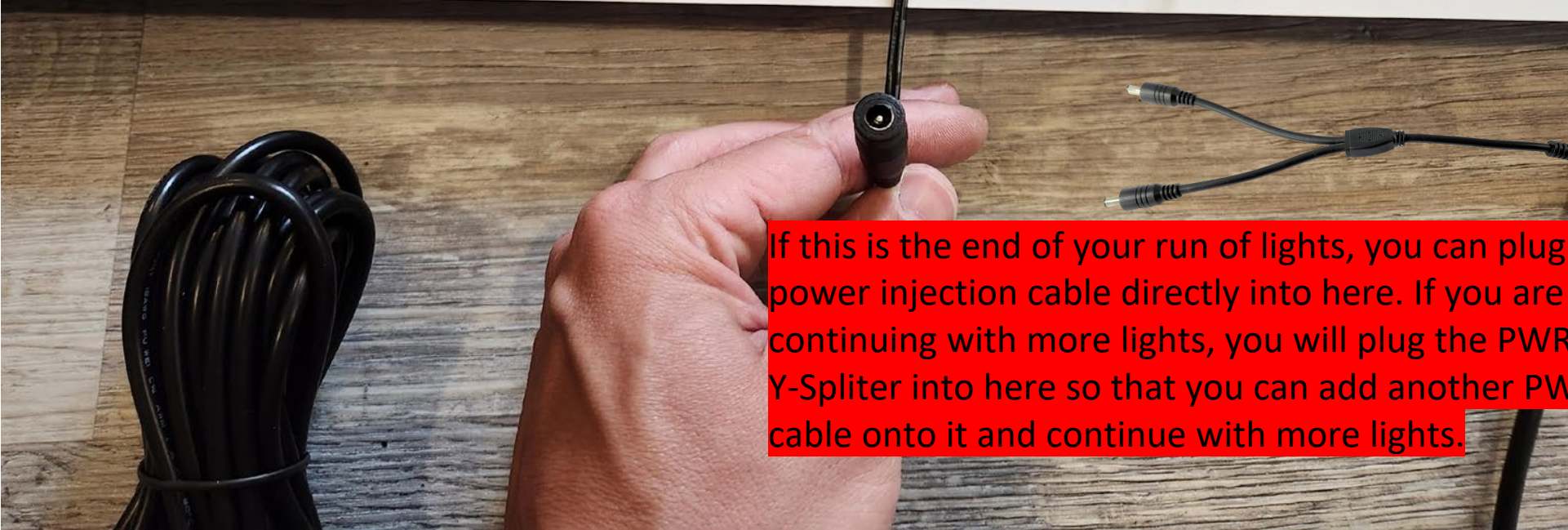


PWR INJ Y-splitter

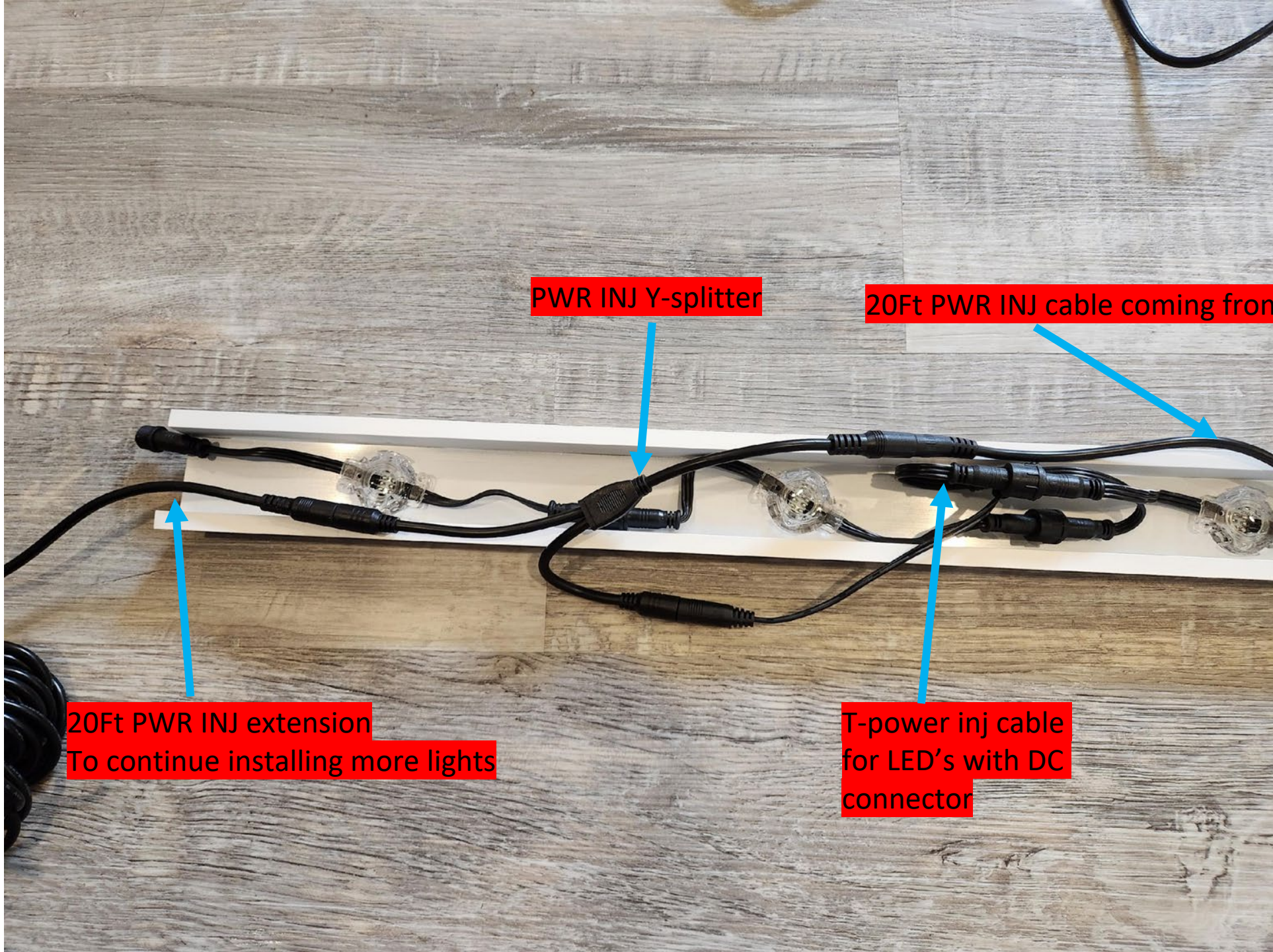




Connect the LED PWR INJ cable between any two lights by unplugging the lights and screwing the connector in between them



If this is the end of your run of lights, you can plug your power injection cable directly into here. If you are continuing with more lights, you will plug the PWR INJ Y-Splitter into here so that you can add another PWR INJ cable onto it and continue with more lights.



PWR INJ Y-splitter

20Ft PWR INJ cable coming from controller

20Ft PWR INJ extension  
To continue installing more lights

T-power inj cable  
for LED's with DC  
connector

Tuck all the wires inside the track and attach the track to the soffit and continue installing more lights.



Scenario #2  
~200ft of lights

Controller at the far-left side of the house but there is an extra plugin at the garage for power injection. Using the plug on the garage saves you from running power INJ cable inside the track. This is by far the easiest method to inject power

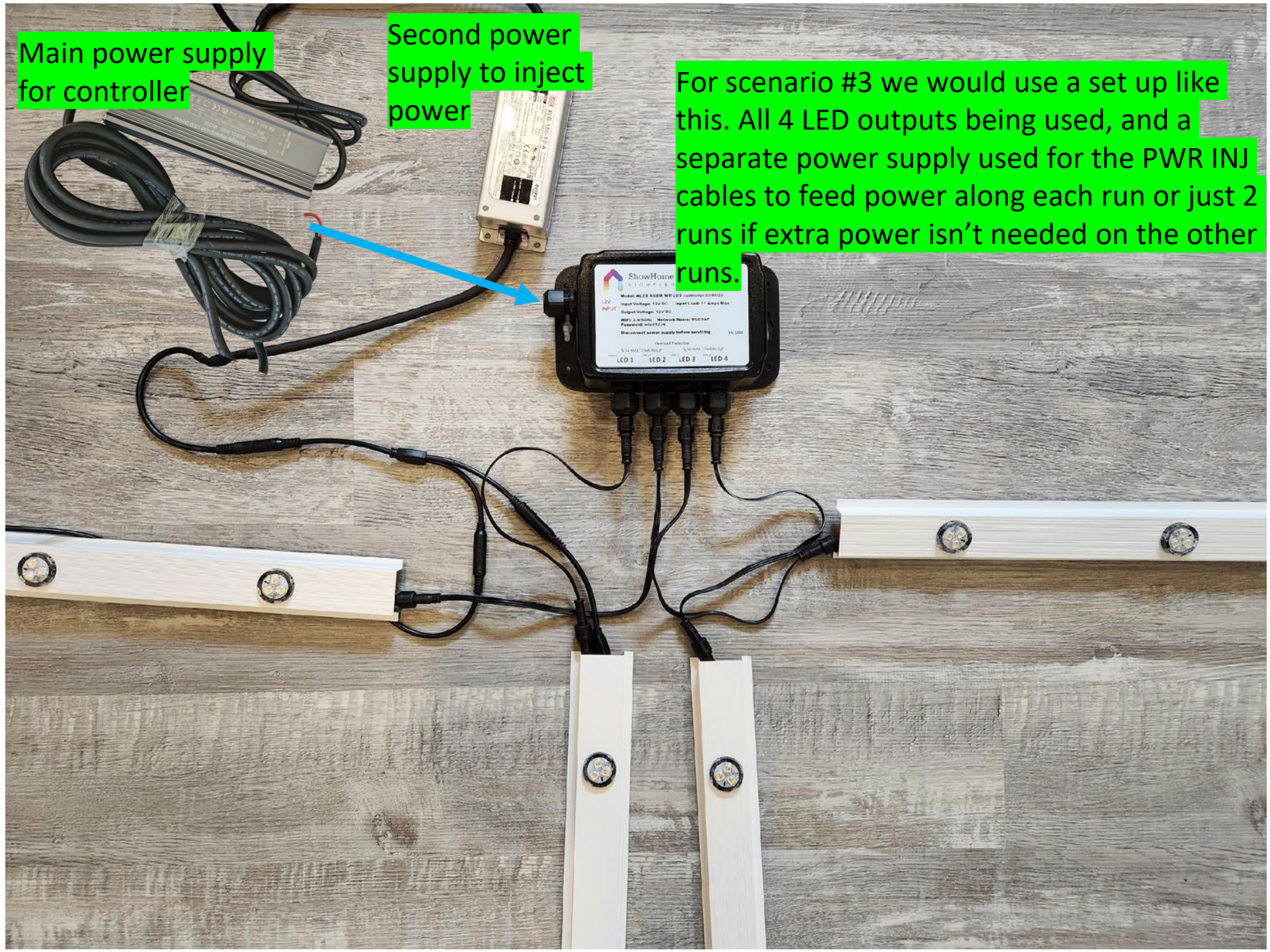




Main power supply for controller

Second power supply to inject power

For scenario #3 we would use a set up like this. All 4 LED outputs being used, and a separate power supply used for the PWR INJ cables to feed power along each run or just 2 runs if extra power isn't needed on the other runs.



Side note



If you had 4 small runs of lights, you can do up to 45ft off each output without adding any power.



35Ft



35Ft



35Ft

35Ft



# SHL Track Lighting Kits



Each kit comes with everything needed to do most homes in the 3 scenarios. If you have a house like in scenario 3 is best to reach out to [asksteve@showhomelighting.com](mailto:asksteve@showhomelighting.com) and make sure you don't need extra items. In Scenario #3 one extra small power supply would be needed by the garage, that item would need to be added on top of the kit to give you 2 total. Custom kits can also be made if your house doesn't fit one of these scenarios.