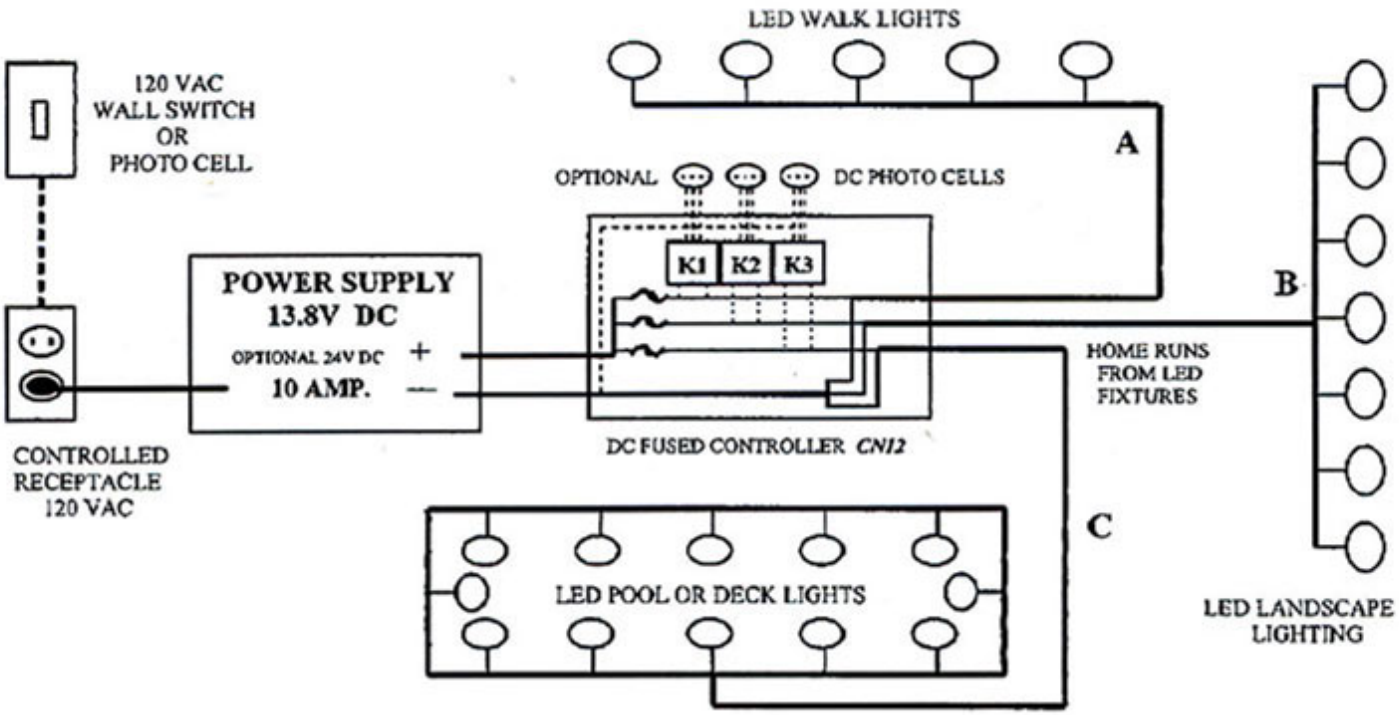
LED Fixture Wiring Diagram

Typical Wiring Diagram

This schematic does not show the Inline Voltage Regulator or LED Driver.
They are still a required installation component for all AcryLites, "Ice" products,
Sintralights and LED Clusters, for multiple fixture installations



This layout shows three wiring techniques. Home run **A** is suitable for short runs with only a few fixtures that are not far from each other. Home run **B** will handle longer runs with more fixtures by equally distributing the voltage from the center fixture to both wings. Home run **C** will handle the most fixtures by creating a parallel loop that is powered from the center or both sides.

As with any wiring, voltage and current loss will occur as home run lengths increase and led fixtures get further away from the power supply. The gauge of the wire used plays a major role in loss prevention. The further you go the thicker the wire should be. The amount of fixtures, their total current draw and distance are to be considered.

Using a 13.8v dc power supply will also help with voltage loss. The power supply should be rated for twice the current draw used. The wire should be rated for four times the total current (current draw times four plus one amp. per one hundred feet). **Never** use wire smaller than 18 awg.. Generally, most applications require a good 14 awg. multi conductor direct burial type sprinkler cable. The extra conductors come in handy if affordable. As an example we ran a 5 conductor 14 awg. Home run wire 800 ft. to light up around a Lagoon. The wire carried two home runs the 800 ft. then split and went two directions lighting up 42 fixtures each over the next 100 ft.. Our install report says 14 awg. Wire 900 ft. 42 fixtures @ 60mA. Total draw 3.5 amps. Last fixture in chain voltage reading 12.1v dc. First fixture in chain voltage reading 12.4v dc. **Always check voltage.** Should be 12v dc **min.** at fixture.
UL Wire Rating: 18 awg.— 10 amps./ 16 awg.— 13 amps./ 14 awg.— 16 amps./ 12 awg.— 20 amps.

All circuits to the power supply are to be fused at all times. Fuse rating should be no more than 20% over current load of that circuit. A three circuit fuse panel is available P/N ***CN12.*** Custom panels and controls built by request. The power supply should have thermal, short circuit and over load protection. A 10 amp. P/N ***P1210*** is available. This configuration is also available in 24V DC by special request. Larger systems will require two or more power supplies and /or fuse panels.