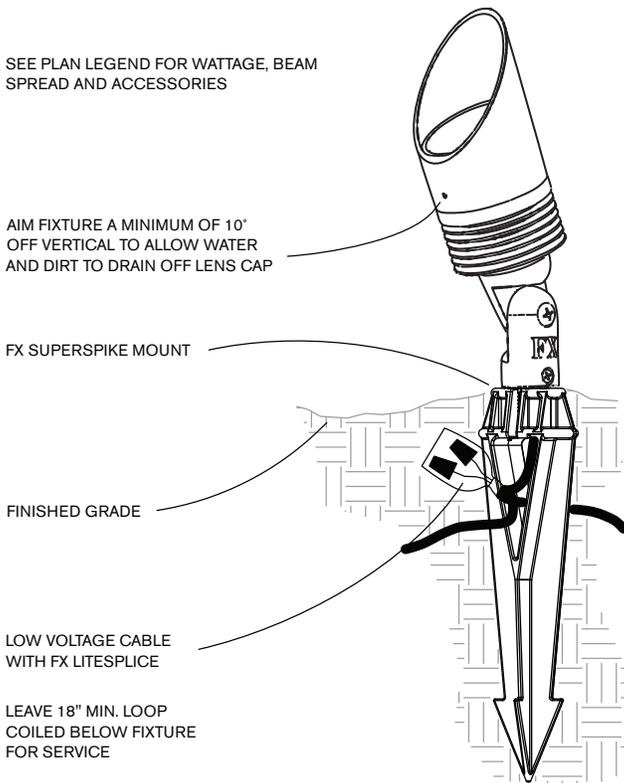


We have developed this series of field installation guidelines to assist you in correctly installing fixtures and transformers, ensuring customer satisfaction and trouble-free service. If you have any questions, please call your local distributor or the FX TechLine at 800-733-2823 before proceeding. Follow all NEC guidelines and local electrical codes. For further information, see our website: [www.FXL.com](http://www.FXL.com)



### TYPICAL INSTALLATION:



### INSTALLATION GUIDELINES:

#### DO NOT EXCEED 15 VOLTS IN THIS FIXTURE

The LEDs in this product function ideally when the incoming voltage is between 10–15 volts. Voltages outside of this range may damage the LEDs, shorten their life, and cause unsatisfactory performance. **The use of improper voltage voids the product warranty. Only use a UL 1838 approved power supply such as the FX Luminaire PX transformer series.**

#### Changing or removing the color filter:

To remove, add, or change a color filter, turn the shield as if it is threaded and pull up. Once the shield has been removed, twist the frosted lens holder 1/4 turn counterclockwise to release the bayonet and lift the lens holder off. The color lens snaps in place under the frosted lens. Once changed, simply reattach the lens holder by lining up the bayonet mount and twisting clockwise 1/4 turn while gently pressing down. Reinstall the shield by firmly pressing it past the double O-rings while turning the shield. The shield may be twisted from side to side to orient it as desired. The attached set screw may be tightened when the fixture is used as a down light or as added security.

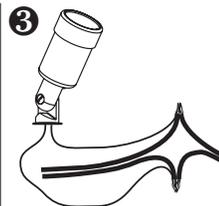
The LED board in this product is designed to offer years of use without replacement. Should you have a need to replace the LED board, please contact your local FX distributor for a board replacement and the necessary instructions.

**RISK OF FIRE WARNING: DO NOT USE FX FIXTURES WITH ANY STYLE OF TRANSFORMER THAT EXCEEDS 15 VOLTS ON THE SECONDARY.**

### WHY USE THE LITESPLICE?

Without a waterproof splice connection, any system will develop voltage loss and low grade shorts. Below is our proven method of ensuring you and your client years of trouble-free high performance from the FX System.

**FX does NOT recommend the use of Quick Clip style connectors or pre-filled wirenuts because they are not waterproof and can rot out creating resistance and shorts.**



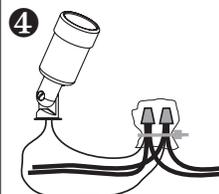
Join one of the fixture's conductors to each side of the mainline as shown in the diagram. Since there is no polarity in low voltage, it doesn't matter which side is which when joining the conductors together. Install a wirenut on each side. Now is the time to test the individual circuits (cables) for voltage drop. If you followed the Circuiting Guidelines included with the FX MultiTap Transformer, you should be able to provide each fixture with between 10–15 volts with all lamps installed and operating. Test now before you install the SpliceGel because it is easier to insert the VoltMeter's probes inside the wirenuts to get a reading.



1  
Begin with a 14, 12, or 10 gauge direct burial low voltage cable mainline. (Use stranded 12 gauge THHN 120 V style wire for conduit runs such as wall lights or trellis lights.)



2  
Cut the mainline cable in half and strip back 3/4" of the insulation from each side to expose the multi-strand copper conductor.



4  
Pump about two squeezes of SpliceGel into a baggie, and insert both wirenut connections into it. Push out the air, and work the Gel into the bottom of the wirenut assuring a waterproof connection. Install the cable tie as shown and cinch down to complete connection. The Gel will become hard in about 3 days. We recommend leaving 12–18" of slack at each fixture to allow for relocation or if you need to splice in additional cables in the future. Since this is a permanent splice solution, you will need to cut it off and start from scratch to add cables to the splice.

# LUMENEUX LED System Layout

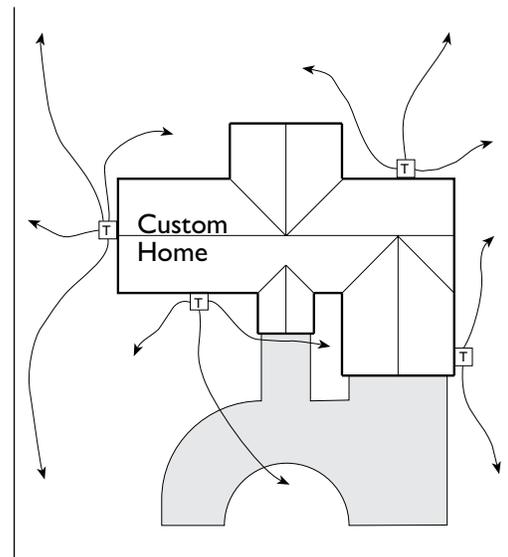
We have developed this series of field installation guidelines to assist you in correctly installing fixtures and transformers ensuring customer satisfaction and trouble-free service. If you have any questions, please call your local distributor or the FX TechLine at 800-733-2823 before proceeding. Follow all NEC guidelines and local electrical codes. For further information, see our website: [www.FXL.com](http://www.FXL.com)

## SINGLE TRANSFORMER

When using only one transformer, it is very important to center the transformer on the wattage load. If the project calls for 135 watts in both front and back yard, the PX-300 or PX-600 should be centered on the side of the house that will receive the most lighting. A common mistake is to locate the single transformer on the service side of the house or in the garage, which might result in excessively long cable runs to reach lighted areas. The primary goal in laying out low voltage systems is to minimize cable runs because voltage drop.

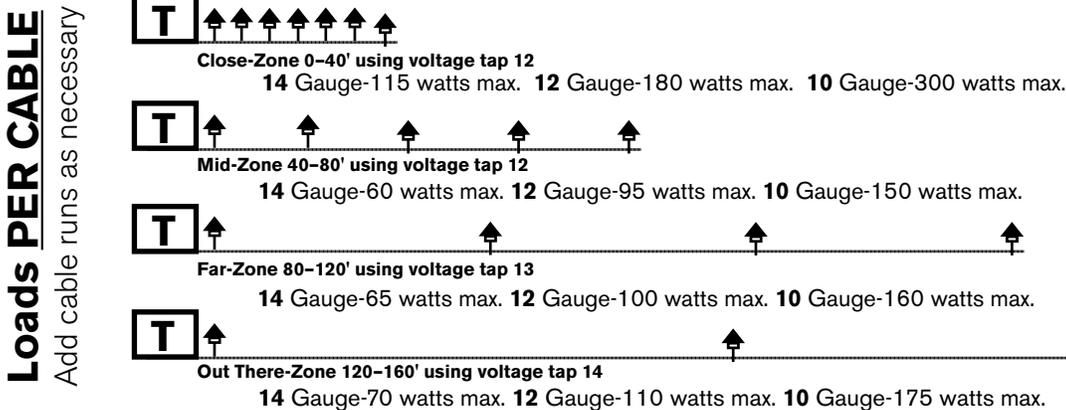
## MULTIPLE TRANSFORMERS

A common mistake in laying out multiple transformer circuits is to group several transformers in one location because of utility or visual considerations only. As with any low voltage layout, the prime directive should be to locate the transformers as close to the fixtures as possible in order to minimize cable runs. The other multi-transformer layout consideration is "use zoning". Having several transformers allows the client to selectively control light in separate areas. This approach is similar to irrigation design in that the goal is to individually control areas that have similar needs. In lighting, a recreation area has different lighting needs than does a front entry. Therefore, the lights that serve these different lighting use areas need to be on separate transformers and switch controls.



Sample diagram of home with transformer and lamp placement

## CIRCUITING GUIDELINES



For maximum efficiency, input voltage to LED fixtures should be between 10 and 15 volts.

## LED LIFE

- LED manufacturers define useful life based on the estimated time at which LED light output will depreciate to 70% of its initial rating.
- On board driver converts alternating currents between 10 and 15 volts to the correct direct current. Voltage should be measured at lamp terminals when all of the LEDs on the circuit are operating.
- The on board driver also acts as a voltage regulator, automatically adjusting the outgoing voltage based on ambient temperature to assure LEDs last through their estimated useful life.
- Voltage can be regulated by adjusting circuit load/run by using FX PotenxaX Transformers.
- To determine circuit voltage, use a digital voltmeter.