

# INSTALLATION NOTES

SAVE THESE INSTRUCTIONS

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 **800-688-1269** before proceeding. Follow all NEC guidelines and local electrical codes.

For further info, see our website: [www.FXL.com](http://www.FXL.com)

## MP: MetalloPesante

**FX**  
LUMINAIRE

### Standard Spike Mount

This product is an Uplight only. Do not use as a Downlight.

FX LUMINAIRE METALLO PESANTE FIXTURE. SEE PLAN LEGEND FOR WATTAGE, BEAM SPREAD, COLOR, AND ACCESSORIES.

AIM FIXTURE A MINIMUM OF 10° OFF VERTICAL TO ALLOW WATER AND DIRT TO DRAIN OFF LENS CAP.

FINISHED GRADE

SECTION/ELEVATION

LOW VOLTAGE CABLE WITH FX LITESPLICE. LEAVE 18" MIN. LOOP COILED BELOW FIXTURE FOR SERVICE.

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METALLO PESANTE (MP)  
FX LUMINAIRE - SPIKEMOUNT

SCALE: NOT TO SCALE

∅1.63"

5.00"

6.50"

For a complete listing of installation details go to [www.fxl.com/learning/installation\\_notes.htm](http://www.fxl.com/learning/installation_notes.htm)

#### RISK OF FIRE WARNING:

DO NOT USE FX FIXTURES WITH ANY STYLE OF TRANSFORMER THAT EXCEEDS 14 VOLTS ON THE SECONDARY.

### Why use the LiteSplice?

Without a waterproof splice connection any system will develop voltage loss and low grade shorts making your lighting professional life hell. Below is our proven method of insuring 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 will rot out creating resistance and shorts. A little more time spent during installation is repaid handsomely in reduced service calls.**

#### Step 1

Begin with a 12, 10 or 8 gauge direct burial low voltage cable mainline. (Use stranded 12 gauge THHN (120v style) wire for conduit runs such as wall lights or trellis lights).

#### Step 2

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

#### Step 3

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 were a good boy and followed the Circuiting Guidelines included with the FX MultiTap Transformer you should be able to provide each fixture with between 10.5 - 11.5 volts with all lamps installed and operating. Test now before you install the SpliceGel because it's easier to stick the VoltMeter's probes inside the wirenuts to get a reading.

#### Step 4

Pump about two squeezes of SpliceGel into the 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 the most cost effective permanent waterproof low voltage connection known to man. The Gel will set-up rock hard in about 3 days. It's best to leave 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.

## Installation Guidelines:

### DO NOT EXCEED 20 WATTS IN THIS FIXTURE

To relamp, turn lens cap as if it is threaded, remove lamp and carefully insert new one. Do not touch the actual lamp bud with fingers as this will shorten lamp life. If you do touch lamp bud, clean off with cloth and alcohol. Apply hi-temp dielectric grease into socket to prevent moisture damage to lamp base. To install cap, start it on an angle so it's halfway on, then twist and push down as if it was threaded. Lens cap can be lubricated on inside to ease installation. To minimize clean-up, keep plastic shipping bag on fixture until just before system testing.

For high performance and predictable lamp life, supply fixture with between 11-11.5 volts with all lamps installed and operating. USE FX LUMINAIRE TRANSFORMERS ONLY — FX WILL NOT WARRANTY OR REPLACE ANY COMPONENTS DAMAGED BY OTHER MANUFACTURER'S EQUIPMENT. The FX transformer is specifically designed for the high tech lamps used in our fixtures — the use of inferior power supplies can cause premature lamp failure and other problems including the risk of fire.

**Important Safety Instructions For MP-20:** Lighted lamp is HOT!

**WARNING - TO REDUCE THE RISK OF INJURY TO PERSONS:** Turn off/unplug and allow to cool before replacing the lamp. Lamp gets HOT quickly! Contact only switch/plug when turning on. Do not touch hot lens, guard or enclosure. Keep away from materials that may burn.

Do not touch the lamp at any time. Use soft cloth. Oil from skin may damage lamp. Do not operate the luminaire fitting with a missing or damaged shield.

#### Step 3

#### Step 4



## SYSTEM LAYOUT

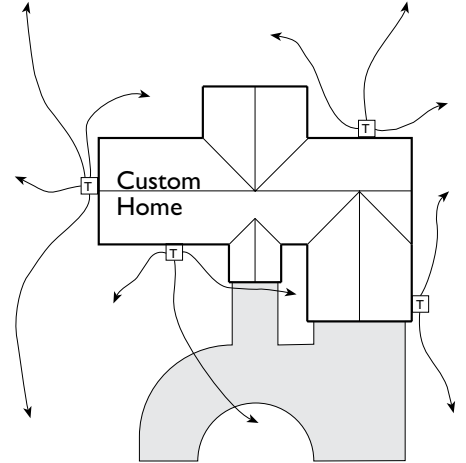
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### Single Transformer:

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 of the negative effect voltage drop has on lamp output performance.

### Multiple Transformers:

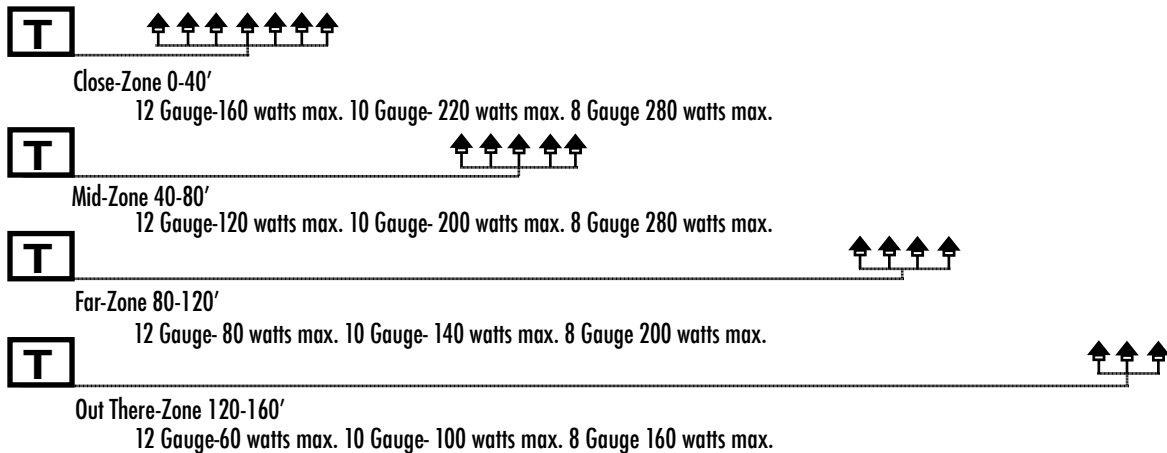
A common mistake in laying out multiple transformer circuits is to group several transformers in one location because of utility or visual considerations only. As with any low voltage layout, the prime directive should be to locate the transformers as close to the fixtures as possible in order to minimize cable runs and resulting voltage drop. 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:

**Loads PER CABLE**  
Add cable runs as necessary



### Lamp Life:

- Lamp life is rated in hours of operation. If lamps are rated for 4000 hours at 12 volts it means that at 4000 hours, 50% of the lamps are still work ing and 50% are not.
- For maximum light output, tune lighting circuits to provide between 11.5 and 12.0 volts as measured at lamp terminals when all of the lamps on the circuit are operating.
- For longer lamp life, adjust voltage down so lamps receive between 10.5 and 11.5 volts at the lamp terminals.
- Voltage can be regulated by adjusting circuit load/run by using FX Po tenxaX Transformers.
- To determine circuit voltage, use FX Digital Voltmeter.

Volts at Lamp	Lamp Life of Rate	Lumen Output of Rated
13.0*	50%	350%
12.5*	75%	175%
12.0	100%	100%
11.5	200%	80%
11.0	300%	75%
10.5	500%	65%
10.0	900%	50%

\*This voltage is not recommended