

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 more information, visit: fxl.com

TYPICAL INSTALLATION:

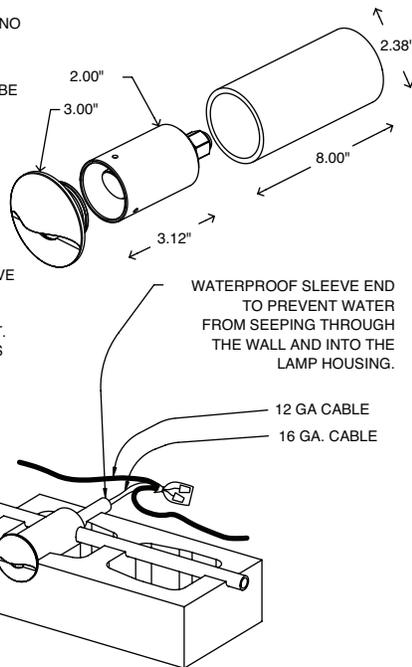
INSTALL FX LUMINAIRE CUSTODE GRADINO AS SHOWN USING 16 GAUGE CABLE AND PROVIDED WIRE NUTS

PLASTIC 2" DIAMETER EMT TUBING CAN BE DRILLED FOR 1/2 CONDUIT TUBING USING A 7/8" HOLE SAW

FIXTURE INCORPORATES A REMOVABLE CAP FOR LAMP REPLACEMENT, AND SOLID BRASS BODY THAT SLIDES INSIDE A 2" DIAMETER PLASTIC EMT SLEEVE

USED FOR PRE-INSTALLATION ALIGNMENT. THIS INSTALLATION MAKES ADJUSTMENTS TO THE WALL A PERFECT MATCH.

BLUE OR GRAY EMT CONDUIT WITH STRANDED THHN WIRE SIZED TO MATCH WATTAGE LOAD



Mount fixture in a level position only. Do not use as an upright. Do not use in step riser.

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

INSTALLATION GUIDELINES:

DO NOT EXCEED 20 WATTS IN THIS FIXTURE

On stairways, best effect is achieved when the CG is installed in an adjacent wall perpendicular to view. Install at least one CG for every three steps on stairways. On wide steps mount on opposing walls to cross over. Center of fixture must be mounted above highest step being illuminated. On landings mount on wall facing uphill steps. For maximum beam projection and minimum glare fixture should be located about 12" off finished grade. The main secondary wiring is intended for shallow burial- less than 6 inches (152mm). Should not be installed within 10 feet (1.42 m) of a pool, spa or fountain. Unique lamp mount is adjustable both vertically and horizontally to allow installer to focus center beam short and steep or long and low. Combining this adjustability with the 2 available beam spreads (broad & narrow), makes this a very versatile wall light. Light projection isn't contingent on mounted height. Use a standard #2 Phillips screwdriver to loosen lamp mount nut to adjust socket height. **DON'T OVERTIGHTEN!**

To relamp CG use clear suction cup included with lamp. This fixture is rated for 20 WATTS MAXIMUM. Gently push pins into socket. For high performance and predictable lamp life, supply fixture with between 10.50-11.5 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. Do not exceed 11.5 volts at lamp! To order connectors or additional lengths of wire for connection, contact your local distributor.

SAVE THESE INSTRUCTIONS:

WARNING - To reduce the risk of FIRE OR INJURY TO PERSON:

- Turn off/unplug and allow to cool before replacing lamp.
- Lamp gets HOT quickly. Contact only switch/plug when turning on.
- Do not touch hot lens, guard, or enclosure.
- Keep lamp away from materials that may burn.
- Do not touch the lamp at any time. Use a soft cloth.
- Oil from skin may damage lamp.
- Do not operate the luminaire fitting with a missing or damaged shield.

WARNING - Risk of Electric Shock

- Install all luminaires 10 feet (3.05 m) or more from a pool, spa, or fountain.
- A luminaire shall not use tungsten halogen lamps unless the luminaire is marked for such lamps.

LOW VOLTAGE CABLE SHALL:

1. Be protected by routing in close proximity to the luminaire or fitting, or next to a building structure such as a house or deck;
2. Not be buried except for a maximum 6 inches (15.2 cm) in order to connect to the main low voltage cable; and
3. Have the length cut off so that it is connected to a connector within 6 inches (15.2 cm) from a building structure, a luminaire, or fitting.

If using corrosion protection gel, then pump about two squeezes of gel into a baggie and insert both Listed 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 low voltage connection. 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.

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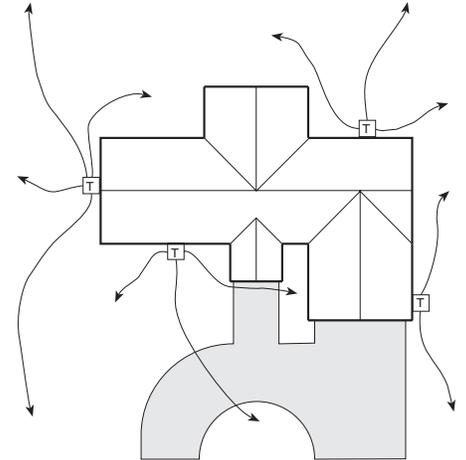
TRANSFORMERS

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 transformer 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 voltage drop.

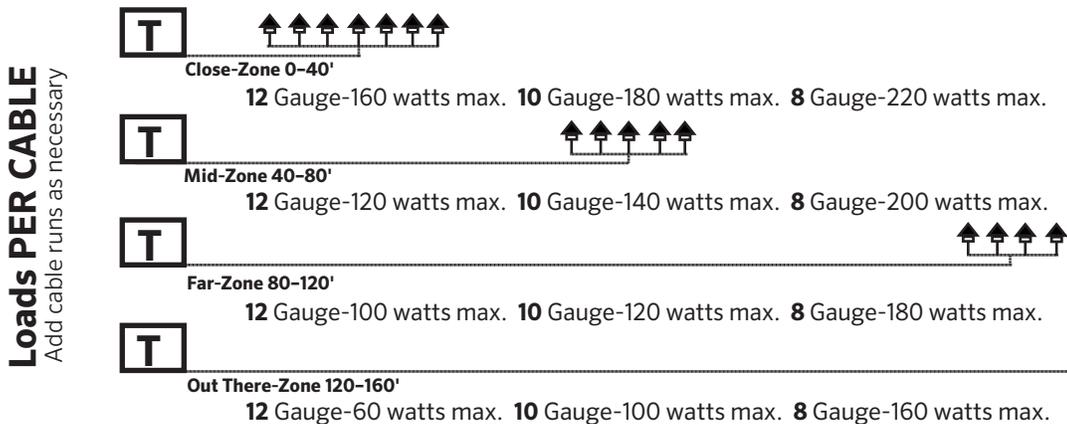
Multiple Transformers

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



LAMP LIFE

- Lamp life is rated in hours of operation. If lamps are rated for 4,000 hours at 12 volts it means that at 4,000 hours, 50% of the lamps are still working 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.

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

* This voltage is not recommended