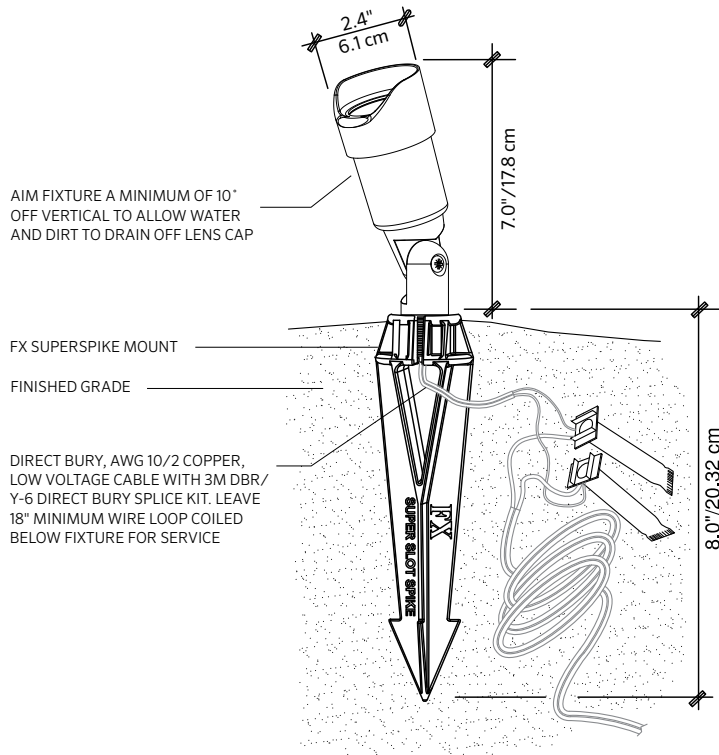


INSTALL NOTES: INCANDESCENT UP LIGHTS

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TYPICAL INSTALLATION:



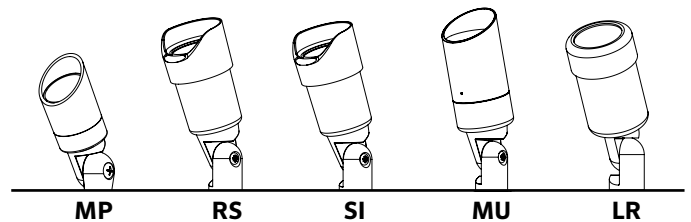
INSTALLATION GUIDELINES:

DO NOT EXCEED 20 WATTS IN THIS FIXTURE

To relamp, twist lens cap back and forth while pulling outward to remove lens cap. Do not touch the actual lamp bud with fingers as this will shorten lamp life. Clean off lamp with cloth and alcohol if bare hands come in contact with the lamp. To reinstall cap, start it on an angle so it's partially 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. **FX WILL NOT WARRANTY OR REPLACE ANY COMPONENTS USED WITH A NON-UL 1838 POWER SUPPLY.** 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.

THIS SET OF INSTRUCTIONS APPLIES TO THE FOLLOWING FIXTURES:



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

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.
- Supply connection and electrical components are located above ground level, except for secondary cord that is suitable for wet locations.

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.
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.

CONSERVEZ SOIGNEUSEMENT CES INSTRUCTIONS:

AVERTISSEMENT - Pour réduire le risque D'INCENDIE OU DE BLESSURE:

- Éteignez/débranchez la lampe et laissez-la refroidir avant de la remplacer.
- La lampe devient rapidement BRÛLANTE. Ne touchez que l'interrupteur/la prise lors de la mise sous tension.
- Ne touchez pas la lentille, le dispositif de sécurité ni le boîtier lorsqu'ils sont chauds.
- N'approchez pas la lampe de matériaux pouvant s'enflammer.
- Ne touchez jamais la lampe. Utilisez un chiffon doux.
- La graisse de la peau peut endommager la lampe.
- N'utilisez pas le raccord du luminaire si le bouclier est absent ou endommagé.

AVERTISSEMENT - Risque d'électrocution

- Installez tous les luminaires à 3,05 m (10 pieds) ou plus d'une piscine, d'un spa ou d'une fontaine.
- Les luminaires ne doivent pas utiliser de lampes tungstène-halogène à moins que le luminaire soit prévu pour ce type de lampe.
- Le raccordement au réseau électrique et les différents matériels électriques doivent être installés au-dessus du niveau du sol, exception faite pour les fils ou réseaux secondaires qui conviennent aux lieux humides

LE CÂBLE BASSE TENSION DEVRA:

1. Être protégé en le faisant passer à proximité du luminaire ou du raccord, ou à côté d'une construction comme une maison ou une terrasse.
2. Ne pas être enterré sauf à un maximum de 15,2 cm (6 pouces) pour être branché au câble basse tension principal.
3. Être raccourci de manière à être branché à un connecteur situé à moins de 15,2 cm (6 pouces) d'une construction, d'un luminaire ou d'un raccord.

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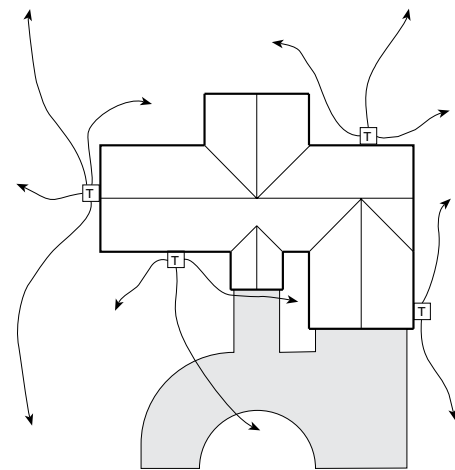
TRANSFORMERS

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

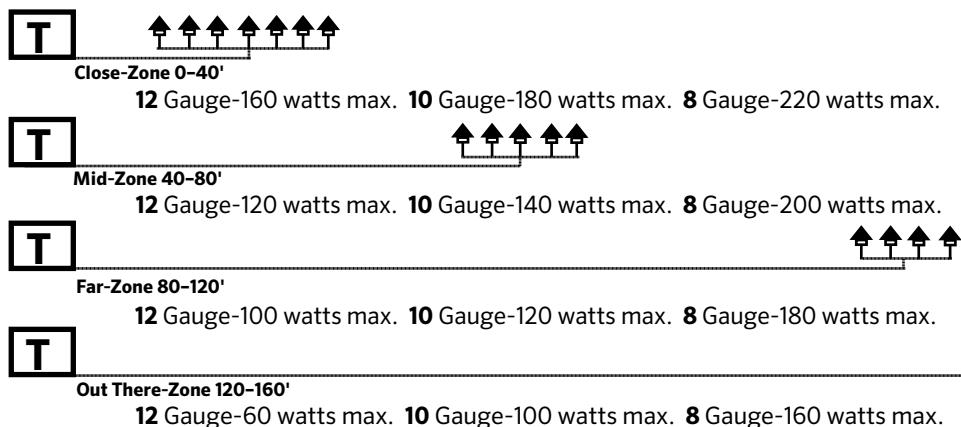
A common mistake in laying out multiple transformer circuits is to group several transformers in one location because of utility or visual considerations only. As with any low voltage layout, the prime directive should be to locate the transformers as close to the fixtures as possible in order to minimize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

- 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*	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