



**PROFESSIONAL  
OUTDOOR LIGHTING**

**ITT**

**12V SERIES**

**In-Grade Transformer**

## INSTALLATION INSTRUCTIONS

**ATTENTION:**

**FAILURE TO FOLLOW THESE INTALLATION INSTRUCTIONS AS WELL AS ALL APPLICABLE ELECTRICAL CODES WILL VOID THE PRODUCT WARRANTY**

**WARNING:** Composite In-Grade transformer must be installed and grounded in accordance with the National Electrical Code (NEC) and local codes. Failure to do so will void the warranty and may result in serious injury and/or damage to the transformer.

**MAINTENANCE:** To assure proper operation and efficiency and to prevent transformer overheating, lens must be kept clean and free of dirt, dust, leaves, trash and mineral deposits from water. A regular schedule maintenance program is recommended.

**NOTE:** Always use UL recognized wire connectors for connections.

**NOTE:** Save these instructions for future reference.

**THIS TRANSFORMER IS UL LISTED FOR BELOW GRADE INSTALLATION ONLY.**



### In-Grade Soil Installation:

**PRECAUTION:** Transformer is not submersible and adequate drainage must be provided during installation. It is recommended that the transformer be surrounded by 3" to 4" of pea gravel or sand to assure proper drainage. Top of transformer must be above grade so rain and irrigation water can not accumulate for long periods of time.

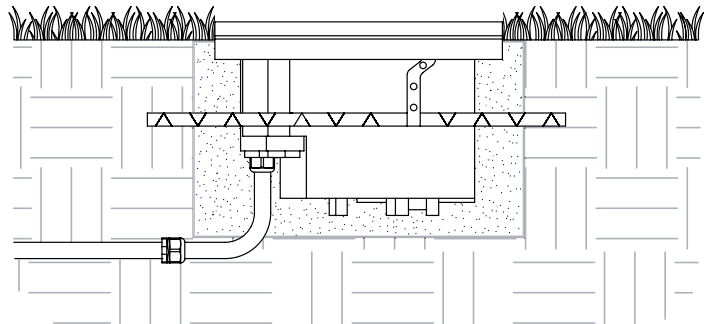
1. To prevent electrical shock, disconnect transformer from electrical supply before installation or service.
2. Dig hole approximately 12" diameter by 14" deep. This allows approximately 3" of pea gravel or sand to surround the transformer housing.
3. Install conduit through the appropriate NPT holes in bottom of transformer using Teflon tape or other thread sealant. Using plug (provided), seal unused conduit entry if required.

**NOTE:** UL listed flexible conduit is recommended for in and out connections to ease transformer position and adjustment during installation.

4. Seat transformer in hole so that top the of the fixture is flush to 1/8" above grade. Pea gravel or sand is recommended for seating and positioning the transformer housing.

**NOTE:** For a more secure installation, rebar bracing is recommended. Attach perforated strap (plumber's tape), to holes under lip of transformer with 1/4-20 self tapping screw (by others), and attach to rebar.

5. Pull supply wires (line in), through conduit into transformer wire compartment.
6. Pull run cables (line out), through the appropriate NPT hole in bottom of transformer using conduit or a strain relief (use Teflon tape or other thread sealant to tighten).



**NOTE:** Do not route low voltage cables through the same conduit as the line voltage supply cables.

7. Wire transformer as specified in the **Cable Connection Detail** using silicone filled safety connectors (provided).
  8. Check wiring for possible shorts or opens, then provide power to transformer and check for proper operation using an AC voltmeter.
  9. Seal wiring compartment as specified in the **Sealing Wiring Compartment** section.
  10. Replace silicone gasket and cover and tighten screws evenly.
- NOTE:** Failure to remove all dirt and debris from gasket sealing surface may cause leakage and void the warranty.
11. Backfill hole after installation with pea gravel or sand.

### Concrete Pour Installation:

1. To prevent electrical shock, disconnect transformer from electrical supply before installation or service.
2. Dig hole approximately 10" diameter to a depth suitable to make top of fixture flush to 1/8" above grade. Pea gravel or sand is recommended for seating and positioning the transformer housing.
3. Install CGB-150 concrete mounting guard making sure the

top edge of the ring lines up with the top edge of the lens cover. Secure side bands to the bottom of fixture with 1/4-20 screws provided. (Side bands of CGB-150 may be bent outward to adjust the fit of the top ring.)

4. Install conduit through appropriate NPT holes in bottom of transformer using Teflon tape or other thread sealant. **Conduit extending past the area of the concrete must be**

**used for low voltage output connections in order to have future access for adding or replacing existing cable runs.**

**NOTE:** UL listed flexible conduit is recommended for in and out connections to ease transformer position and adjustment during installation.

5. Support transformer in selected position using standard masonry procedures.

**NOTE:** CGB-150 must be flush to 1/8" above grade to promote water runoff.

6. Pull supply wires (line in), through conduit into transformer wire compartment.

7. Pull run cables (line out), through the appropriate conduit into transformer wire compartment.

**NOTE:** Do not route low voltage cables through the same

conduit as the line voltage supply cables.

8. Wire transformer as specified in the **Cable Connection Detail** using silicone filled safety connectors (provided).

9. Check wiring for possible shorts or opens, then provide power to transformer and check for proper operation using an AC voltmeter.

10. Seal wiring compartment as specified in the **Sealing Wiring Compartment** section.

11. Replace silicone gasket and cover and tighten screws evenly.

**NOTE:** Failure to remove all dirt and debris from gasket sealing surface may cause leakage and void the warranty.

12. Pour concrete at least 2" thick.

## Sealing Wiring Compartment:

**NOTE: FAILURE TO PROPERLY WIRE AND ENCAPSULATE WIRE COMPARTMENT WILL VOID PRODUCT WARRANTY.**

1. Use **Mastic (provided)**, to seal the conduit entries from inside wire compartment to ensure the **sealant** does not flow down into the conduit.

2. Push wire nut connections to the bottom of the wiring compartment.

3. Remove **Sealant Pouch (provided)**, from protective cover. Grasp both sides of the sealant pouch and pull until there is no barrier between both solutions in the pouch.

4. Mix the sealant by alternately squeezing each end of the sealant pouch, moving the sealant back and forth until the solutions are completely mixed together.

5. Cut off the corner of the sealant pouch and immediately pour into the wiring compartment covering the wire nuts, and allow sealant to dry for approximately 20 minutes.

6. Replace silicone rubber gasket and cover and tighten screws evenly.

7. Supply power to the transformer and check for proper operation.

## Cable Connection Detail:

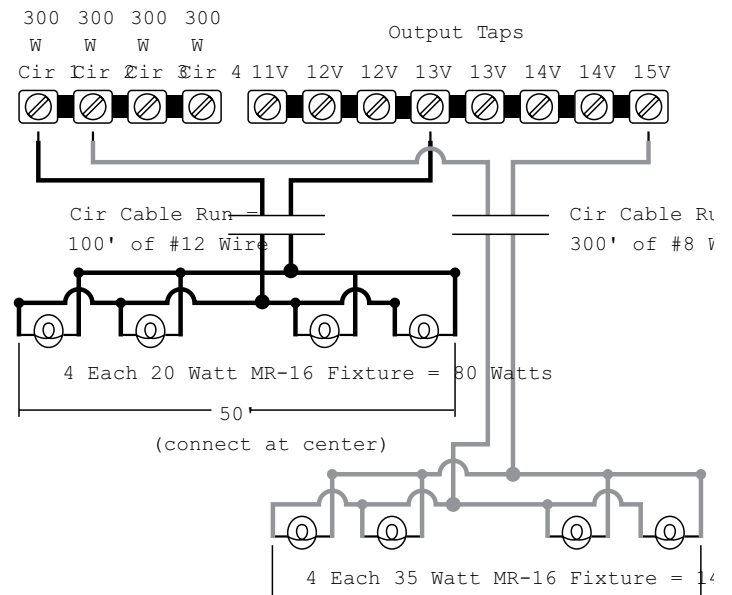
**TIP:** All transformers have one manual reset circuit protector per circuit. Multiple circuit units must be equally loaded between circuits.

**TIP:** Tri-Tap transformers supply output voltage which exceeds 12 volts. Extreme care must be taken during installation to avoid premature lamp burnout due to high voltage. Use of a voltmeter during installation is the only way to ensure a proper voltage at the fixture. As a guide when designing your job, expect a 2 volt drop for every 100 feet of 12-2 cable to which 200 Watts of evenly spaced fixtures are connected.

Refer to sample diagram. Connect one side of fixtures (up to 300 watts per circuit) to the common lead, using 12 gauge or larger direct burial cable. Strip 3/4" of cable insulation and twist wire strands tightly using silicone filled safety connectors (provided). Connect remaining side of fixtures to output lead according to your voltage needs. It is always best to connect your fixtures to the 12-volt tap first, then use a voltmeter to measure the AC voltage of the fixture nearest to the transformer. Subtract the measured voltage from 12 and add the result to determine if you need to move to a higher or lower lead. Example: With fixtures connected to 12-volt tap, measured voltage at first equals 11. 12 volts required at fixture minus 11 volts measured equals a 1-volt difference. Add the difference to 12 in order to determine the appropriate lead to be used. (1 + 12 = 13)

**NOTE:** Timers and photocells may be used with the ITT

Common Terminals



transformer. Timers and photocells must be installed in a remote location to the transformer, in line with the input supply wiring.