600W TRANSFORMER
INSTALLATION INSTRUCTIONS

IMPORTANT SAFETY FEATURE:

In order for this Transformer to operate, a minimum load of 20 Watts MUST be installed before plugging the Transformer into the electrical outlet. For safety reasons when the main power is on and no fixtures are installed, the transformer will automatically shut off. If you are testing the output with a voltmeter and there are no fixtures installed, the read out will not be accurate even with the power on. Please turn off the main power and then install the fixtures before operating or testing the transformer.

ATTENTION!

This transformer is for use with landscape lighting systems only.
It is suitable for outdoor use and can be used with submersible fixtures.

WARNING – RISK OF FIRE OR ELECTRICAL SHOCK

-Do not repair or tamper with cord or plug.
-Do not use extension cords.
-Do not submerge transformer.
-Do not connect two or more transformers in parallel.
-Do not use with a dimmer.
-Do not install the transformer within 10ft of a pool or spa.
-Do not combine high output cables with low output cables, this could damage the unit.
-Do not remove the back panel of the transformer. This Product is not field repairable.

ONLY connect the transformer cord to a covered 120-volt GFCI (ground fault circuit interrupter) outlet that is marked "WET LOCATION".

Always bury the light connector and main cable about 4 inches (10 centimeters) underground. Do not bury the connector or main cable in combustible materials, such as wood chips, bark or dried leaves, or at depth greater than 6 inches.
Always disconnect the transformer from the electrical outlet when working on the lighting system.

CALCULATING LIGHTING CAPACITY

This 600 Watt transformer has two 300 watt circuits that will power up to 600 watts of light. (Terminal A and B).
To determine the maximum number of fixtures that can be safely connected to this transformer, add up the individual wattages of all the fixtures. The total wattage of your fixtures in a single circuit must not exceed the 300W output capacity of that circuit. For optimal and consistent light output it is recommended that you do not exceed 280W on either terminal allowing a 10% fluctuation.

INSTALL TRANSFORMER MOUNTING SCREWS

1. Select location near 120 volt covered GFCI outlet. (See Diagram 1).
2. Use template and mark holes. (Minimum 20" (50 cm) off the ground).
3. Install anchors and screws, leaving enough space for the transformer to hang on the screws by means of the keyhole slots located on the back of the Transformer.
4. Do not attach the transformer to the wall at this time. First, connect the low voltage cable to the transformer.

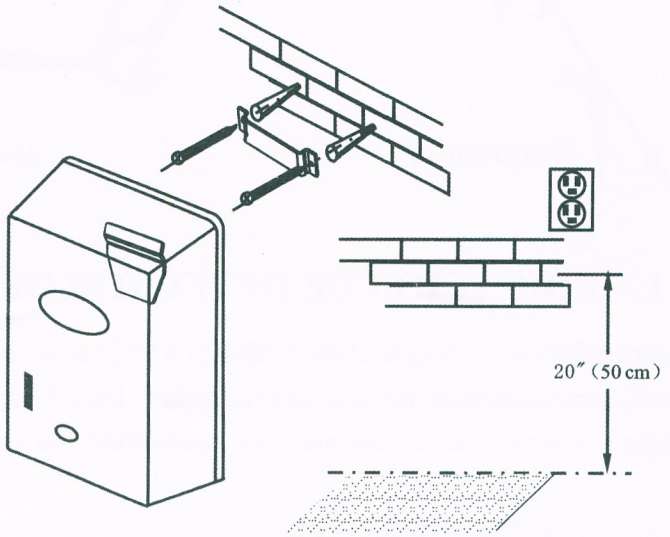

Diagram 1

CONNECT LOW VOLTAGE CABLE TO TRANSFORMER

For low voltage cable connection, split one end of cable approximately 3" to 5" and strip about 1" of insulation off each wire and twist strands tightly. (See Diagram 2)

NOTE: Using the correct gauge cable is essential for obtaining proper lighting performance. For use with SPT-3, underground low voltage cable (Minimum 4' length). See Chart.

IMPORTANT NOTE:

- Cable distance, total wattage and spacing of fixtures affects the light output of each fixture along the run.
- Higher gauge cable such as 12-gauge is recommended for all runs.
- Always make sure to use the cable required for the wattage load even on short runs. Please refer to the recommended installation configurations (see table below).
- Never exceed 300W for any run.
- It is common to expect voltage drop in runs that exceed 200 feet.

Recommended installation configurations for optimal output.

Combined Wattage of all fixtures	Recommended Cable Gauge	Using LOW Recommended Cable Length	Using HIGH Recommended Cable Length
150W to 300W	14	Less than 60'	Less than 80'
	12	Less than 80'	Less than 100'
For best results, use 12-gauge cable for all installations.			

Additional Tips:

1. Distribute the bulbs evenly along the cable.
2. Position the higher wattage bulbs closer to the transformer and lower wattage bulbs away from it.
3. If the run is long and there is an obvious drop in light level along the cable, use 2 output cables and connect one run to the HI terminal block for longer distance fixtures and connect the other run to the LOW terminal block for shorter distance fixtures. This will help increase the light level for fixtures at the further distance. (See Diagram a).
4. Another cable connection method, called "Looping", should be used to maintain even light output. (See Diagram b).

CABLE INSTALLATION

1. Loosen the cable port screws at the back of the transformer (Please note screws cannot be completely removed). (See Diagram 2)
2. Thread the pre-stripped cables into the cable ports in the bottom of transformer pushing firmly (See Diagram 2). Tighten screws securely. Do not have any copper wire exposed where cable is going into the cable ports.
3. Complete layout and test the system before hiding Low Voltage cable.
4. Mount the transformer to the wall using screw as shown in Diagram 1.

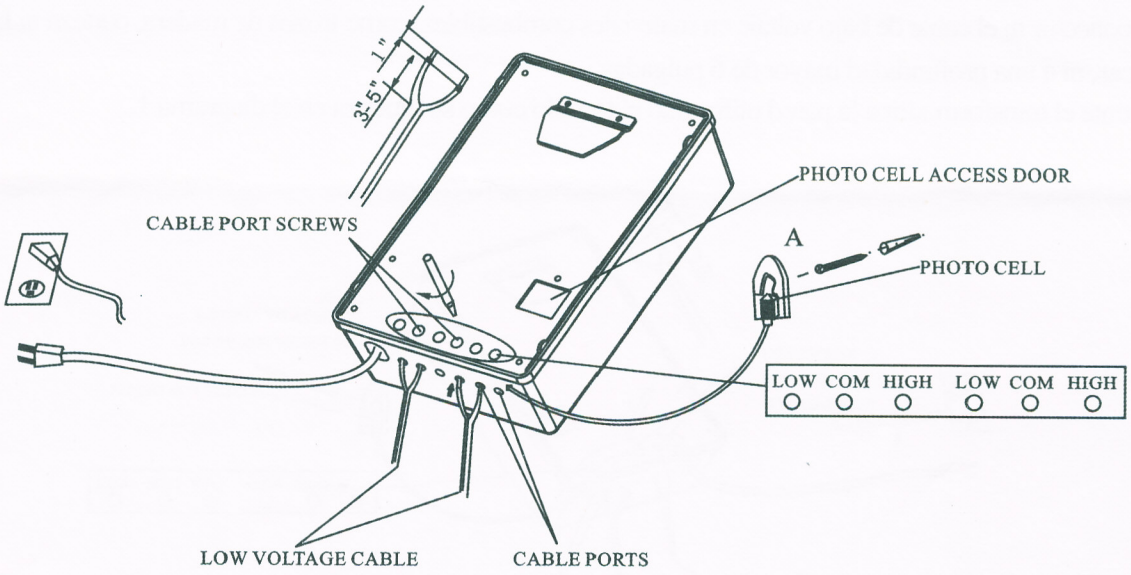

Diagram 2

LOOPING WIRE INSTALLATION (See Diagram b)

This method is especially good for distribution of lights on the perimeter of a garden in a closed loop.

- Decide the distribution of lights and calculate the total length of cable that is needed to go around and return to the transformer's terminal blocks.
- Make sure to not cross the wires when routing the wires back to the terminal blocks. The wire coming out from a particular terminal block must go back in the same terminal block. Note the wire has a smooth side and a ridged side for easy identification.
- Wrong wire connection will lead to protection mode. The fixtures will not light on the short run and the fixtures will be abnormally dim on the long run. Please check the circuit and re-connect.

SHORT/LONG RUN

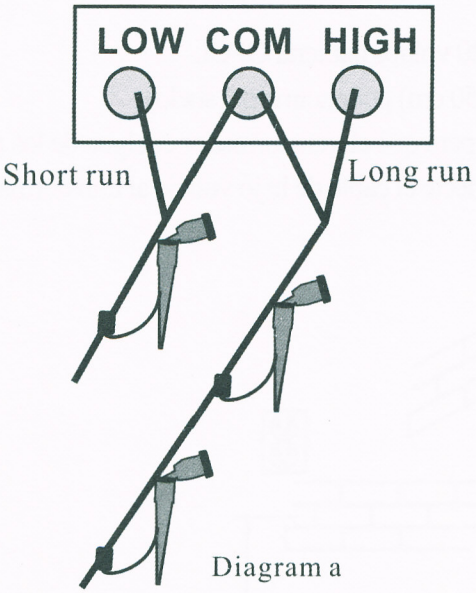

Diagram a

LOOPING

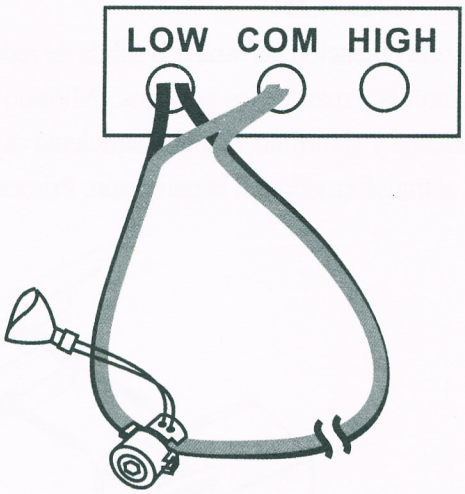

Diagram b

SELECTING LOCATION OF PHOTOCELL (Factory Installed)

1. Select location that will receive light during the day. IMPORTANT: Do not mount the photocell where it could sense artificial light, such as streetlight, porch lights or headlights. These artificial lights may cause the lighting system to shut off unexpectedly. The photocell must be installed outdoors!
2. Drill hole minimum 36" off the ground.
3. Install anchor and screw (See diagram 2).

NOTE: If you want to test the photocell during the day, plug the transformer into 120 volt covered GFCI outlet and use the black plastic cover provided to cover the photocell (make sure the photocell does not receive any light). Press the setting button to "AUTO", make sure the photocell is completely covered and your light fixtures will turn on. Remove the black plastic cover, and your lighting fixtures will shut off automatically.

In the event that your photocell needs replacing, follow these Steps.

PHOTOCELL REPLACEMENT

1. Unplug transformer from power outlet.
2. Remove the power pack from mounted surface.
3. Loosen screw on the access door.
4. Loosen screw on each terminal and remove the photocell wire.
5. Slide out the wire-retaining clip and pull out the photocell wire from the wire-retaining clip by sliding open the door on the clip.
6. Pull the photocell wire out through the square hole.
   Repeat these steps in reverse to install new photocell.

NOTE: The red wire of the photocell must connect to the terminal where the other red wire connects and the white wire of the photocell must connect to the terminal where the other white wire connects.

OPERATING THE LIGHTING SYSTEM

NOTE: This transformer has a "soft start" feature where the fixtures will gradually become brighter when the transformer powers on.

Select setting by pressing **SETTING-BUTTON** (See Diagram 4). Push repeatedly to move to the different selections:

ON – Lights stay on continuously.

AUTO – Lights on at dusk, off at dawn.

2 HOURS, 4 HOURS, 6 HOURS OR 8 HOURS – Lights on at dusk with photocell, and then they will go off after hours selected (2, 4, 6, 8 hours).

IMPORTANT:

If CHECK CIRCUIT illuminates GREEN there may be a potential problem at load Terminal A.

If CHECK CIRCUIT illuminates RED there may be a potential problem at load Terminal B. Immediately unplug the transformer from the electrical outlet and check the following:

a. Low voltage cable is correctly inserted in the cable ports at the bottom of the transformer.
b. Check for overload or short circuits (wires touching) along the low voltage cable.
c. Check that fixtures are correctly installed on the low voltage cable and that there are no short circuits. Make all repairs before operating the lighting system.
d. Check that wires at the end of the run are stripped and individually protected with waterproof wirenuts.

The indicator light will blink if there is no load or the load is less than 20 watts or the unit is over heating due to exposure to excess heat sources such as sun or equipment.

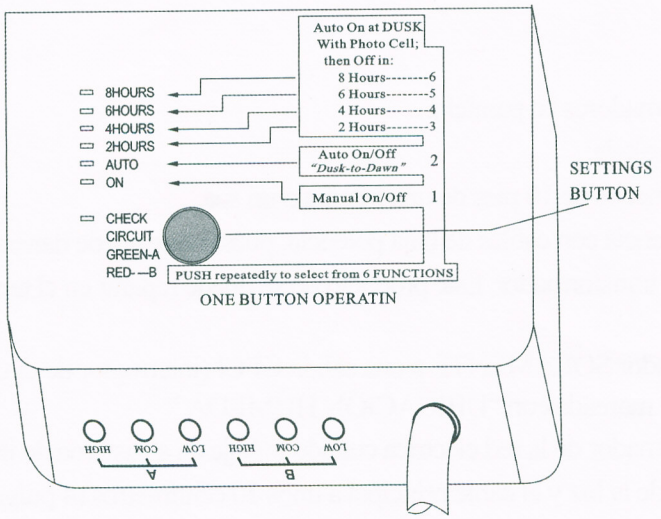

Diagram 4

USING A MECHANICAL TIMER

If using a mechanical timer (sold separately), make sure that the mechanical timer is plugged into the electrical outlet and the transformer is plugged into the mechanical timer. Cover the photocell with the black plastic cover provided.

Set the transformer to the "ON" position and follow the instructions included with the mechanical timer for settings.

Enjoy your new Hampton Bay Transformer!