INSTRUCTIONS FOR
NATIONAL SPECIALTY LIGHTING
LOW VOLTAGE LIGHTING TRANSFORMER

National Specialty Lighting Transformers are shipped completely assembled and are ready to place into service. However, the following precautions must be taken.

1) SHIPMENT DAMAGE
If the transformer has been damaged during shipment, file a claim immediately with the transportation company.

2) PRECAUTIONS BEFORE INSTALLING:
Check the label to be sure the transformer is the right voltage and wattage for the job.

3) INSTALLATION:
The transformer is to be installed in accordance with Article 450 of the National Electric Code (N.E.C.). The transformer must be installed in a well-ventilated area and free from:

Explosive gas vapors
Excessive dust and dirt

Proper operation requires the free flow of air in an ambient temperature not to exceed 40C (140°F). If mounted against a wall, provide sufficient clearance for free flow of air (to provide sufficient clearance for free flow of air) to provide adequate cooling and to eliminate fire hazard. Mount the raintight transformer at least one foot above ground level with the wire terminals facing down. (Mounting hardware not included.)

4) CONNECTION:
The transformer must not be subjected to high voltage transients caused by lightning, switching surges or other sources and should be protected by lightning arrestors and surge suppressors.

The transformer must be grounded in accordance with the National Electric Code.

A) Below are listed our transformers, the number of circuits per transformer, and the rated wattage for each circuit.

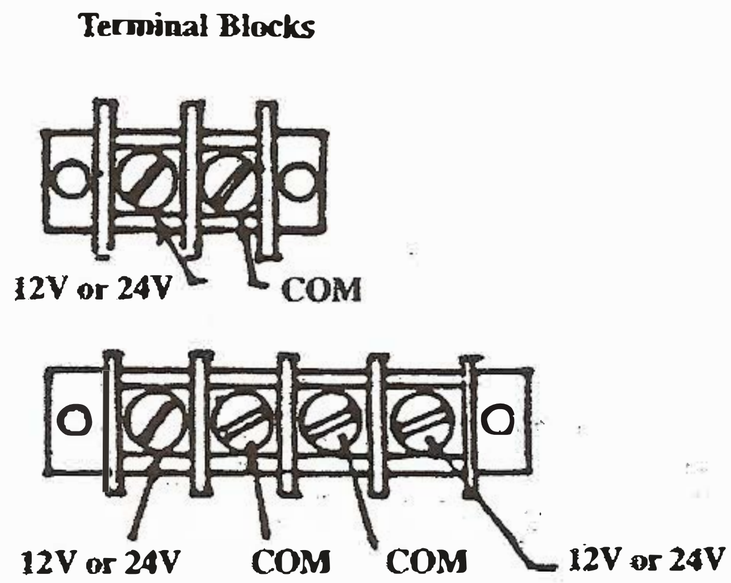
Transformer	Secondary Voltage	#of Circuits	Maximum Wattage Per Circuit
TR-12-75	12	1	75
TR-24-75	24	1	75
TR-24-100-2	24	1	100
TR-12-150	12	1	150
TR-24-150	24	1	150
TR-12-300-M	12	1	300
TR-12-300	12	2	150
TR-24-300	24	1	300
TR-12-600	12	4	150
TR-24-600	24	2	300
TR-12-240	12	1	240
TR-12-480	12	2	240
TR-24-480	24	1	480
TR-12-960	12	4	240
TR-24-960	24	2	480

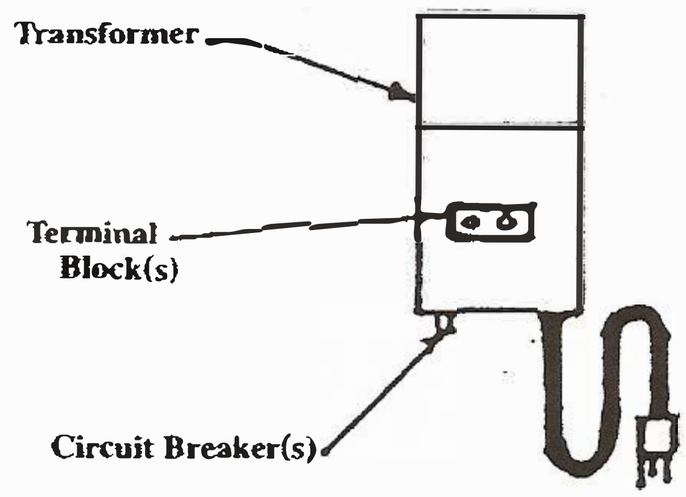
For each circuit there is one 12 or 24V terminal and one COM terminal (see figure #1). Do not exceed the maximum rated wattage per circuit. To calculate the wattage you have on a circuit use the formula below:

Number of Lamps X Wattage per Lamp = Wattage per Circuit

If you exceed the rated wattage per circuit, reduce the number of lamps or utilize additional transformers or additional circuits on the same transformer.

Always assure lamps are rated for the same voltage (i.e., 12V or 24V) as the transformer.





Energize the unit and check the secondary voltage to be sure that it is right for the load. Turn off the primary power and connect the secondary load as per following instructions below.

B) Be sure input wire is of the appropriate gauge for load amperage required. Note:

AMPERAGE - WATTAGE/VOLTAGE

Input Wire Gauge	Maximum Load (Amperage)
18	10 amps
16	13 amps
12	20 amps

C) Split input wire 3" and strip approximately 1/2" of the insulation off each wire. Insert one of the stripped ends under the terminal marked 12 or 24V on the terminal block. Place the other stripped wire under the terminal plated marked COM. Tighten the terminal screws securely (see figure 1). As long as you do not exceed 15 amps, you may install multiple input wire under terminal plates as practical.

D) For outdoor applications, or when the lighting system is in a moist environment (please assure lighting system is approved for moist environments), you must energize transformer through a ground fault interrupter (GFI) protected receptacle (115-120V only).

E) After checking for appropriate secondary voltage, correct amperage per terminal output, correct and secure connections, N.E.C. compliance, re-power transformer.

5) BREAKER TRIPPING

Should a problem occur, such as a short or overload, and the lights fail to work, first check the transformer circuit breaker to see if it has tripped (extended tab), or with switch type breaker, the (off) or ("o") is indicated on the handle. If it has tripped, de-energize transformer. Check the system from the transformer to the end of lighting run for short circuits or overloads. Repair problem and reset the breaker by pushing button or switch. Re-energize transformer. If procedure fails to correct the problem check fuse on primary household circuit and reset per manufacturers instructions.

6) TRANSFORMER CYCLING OFF:

This unit contains dual circuit protection. The primary 120 volt side of the transformer is thermally protected and will automatically shut off when overheated. If the total lamp wattage on the circuit exceeds the rated wattage of the transformer and as a result of this the transformer has been overheated, reduce the wattage by lowering the lamp wattage or reduce the number of fixtures on the circuit. If the unit continues to cycle on and off, have the unit inspected by a qualified electrician.

7) MAINTENANCE

Always de-energize the unit before removing the access plate. Check all connections for signs of looseness and deterioration and tighten, insulate or replace where necessary. Blow out dust and remove any foreign objects. Replace the access cover before energizing.

REMINDER, THIS IS AN AIR
COOLED TRANSFORMER AND
MUST HAVE UNRESTRICTED
AIR FLOW FOR PROPER OPERATION.

NSL
NATIONAL SPECIALTY LIGHTING
YOUR TRUSTED LIGHTING PARTNER

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