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# Low Voltage Power Module Installation Guide

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300W    600W    900W    1200W    1500W

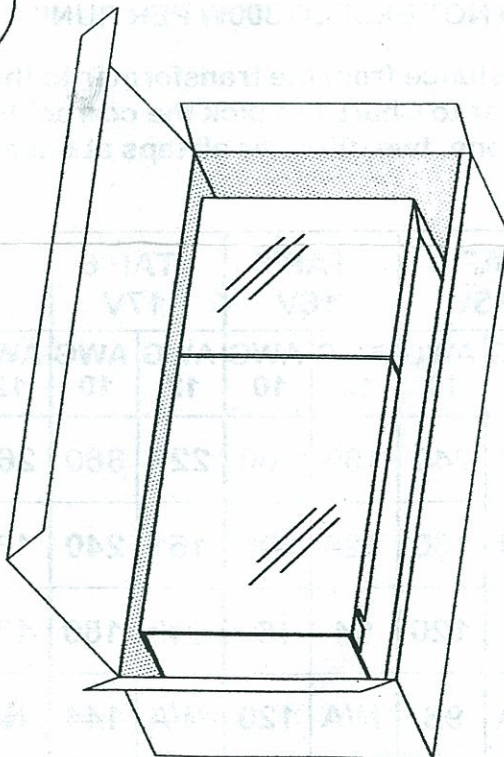
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**!! ATTENTION !!**

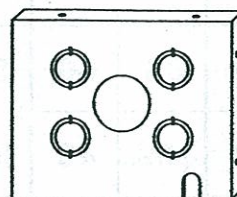
Please read and understand thoroughly this installation guide to ensure safe and efficient operation of this Power Module.

**1**

Carefully remove the transformer and inspect for any damage that may have been incurred during shipment.



Our Bottom Plates feature double knock-outs for adapting to standard conduit sizes, as well as a 1-5/8" diameter access hole to allow for a larger centrally located 1-1/2" conduit for a cleaner, more professional looking installation.

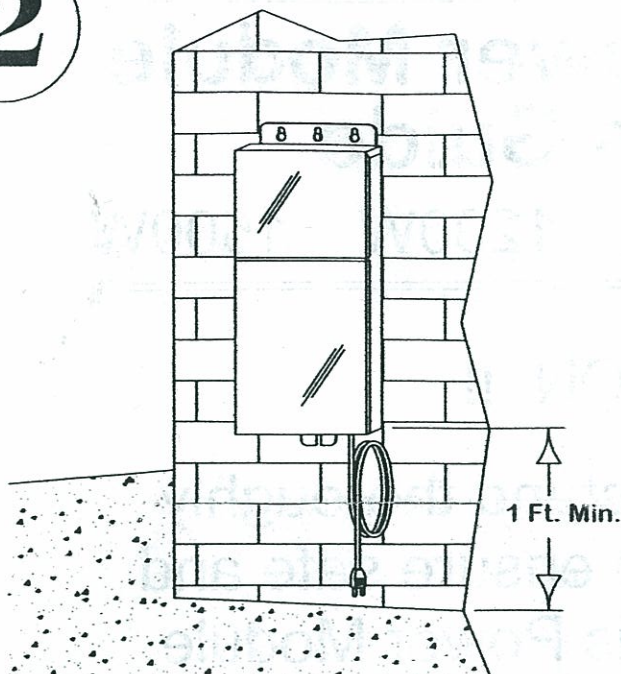


Example:  
Bottom Plate



## MOUNTING THE UNIT:

2



Mount the Transformer to a solid surface using keyhole slots in the mounting bracket. (NOTE: The transformer must be mounted at least one foot above ground level, with the wire terminals facing down.)

Secure the Transformer using the appropriate wall anchors for the wall surface used. (Wall mounting screws and anchors not supplied.)

## DETERMINE THE LOAD:

Our Multi-Tap transformers are equipped with secondary circuit breakers that are connected to the COM. Each circuit can be loaded up to a maximum of 300 watts.

3

A) Add up your fixture's wattage. Divide your load into 300W max. per wire run. **DO NOT EXCEED 300W PER RUN!!**

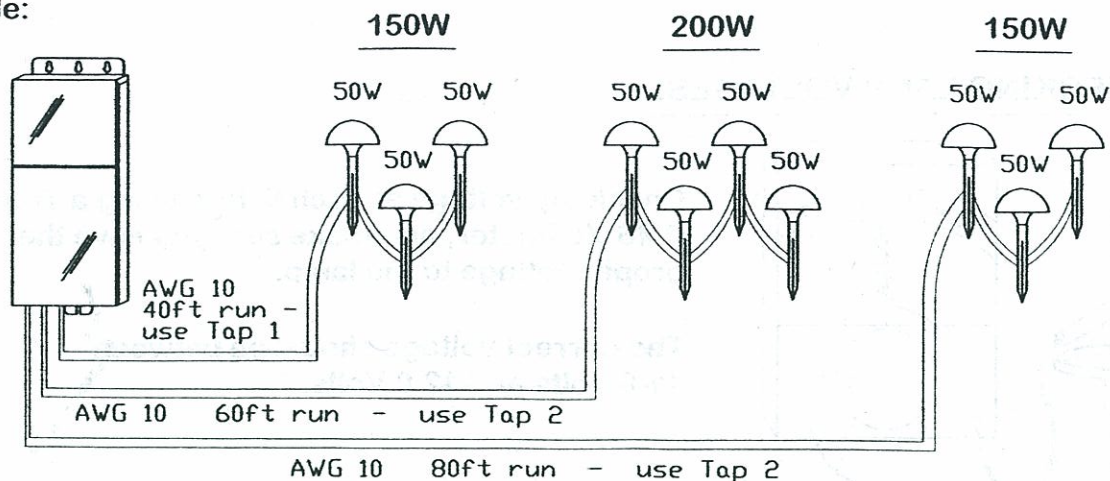
B) Measure the approx. distance from the transformer to the first fixture on each run. Refer to Chart 1 to pick the correct tap for each run. You may use one, two, three or all taps at once.

	TAP 1 12V		TAP 2 13V		TAP 3 14V		TAP 4 15V		TAP 5 16V		TAP 6 17V		TAP 7 18V	
WATT	AWG 12	AWG 10	AWG 12	AWG 10	AWG 12	AWG 10	AWG 12	AWG 10	AWG 12	AWG 10	AWG 12	AWG 10	AWG 12	AWG 10
100-149	38	60	76	120	113	180	151	240	189	300	227	360	264	420
150-199	25	40	50	80	76	120	101	160	126	200	151	240	176	280
200-249	19	30	38	60	57	90	76	120	94	150	113	180	132	210
250-300	N/A	24	N/A	48	N/A	72	N/A	96	N/A	120	N/A	144	N/A	168

CHART 1 (WIRE RUNS IN FEET)



Example:



C) Once you find the correct tap for each run, see Chart 2 to calculate the cable losses.

$$\begin{aligned} \text{Cable loss} &= (\text{loss per foot} \times \text{distance}) \\ &= (0.293 \times 40\text{ft}) + (0.537 \times 60\text{ft}) + (0.293 \times 80\text{ft}) \\ &= (11.72) + (32.22) + (23.44) \\ &= 67.38 \text{ watt losses total.} \end{aligned}$$

CHART 2 (WATTAGE LOSSES PER FOOT)

AWG	100W	150W	200W	300W
12	0.210	0.461	0.855	N/A
10	0.131	0.293	0.537	1.2

D) Determining Maximum Lamp Load:

All of our Transformers are designed to provide up to maximum wattage rating on any tap. However, you must take into account the cable losses.

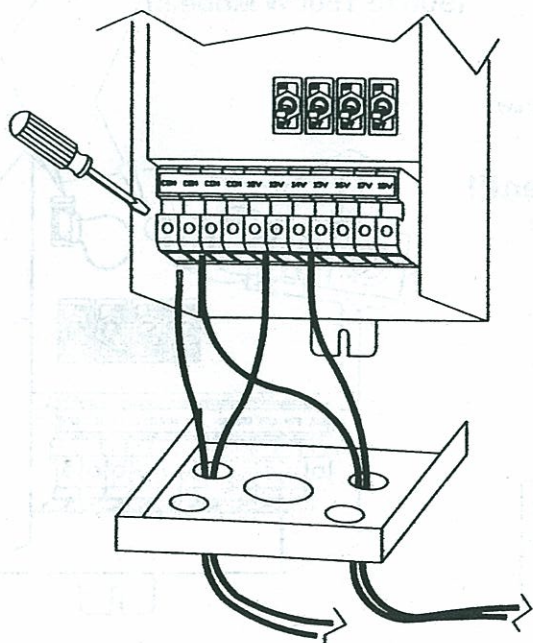
Example:

$$\begin{aligned} \text{Maximum Lamp Load} &= (\text{Transformer rating}) \text{ minus (cable losses).} \\ &= (600\text{W}) - (67.38) \\ &= \text{approximately } 530\text{W Lamp Load.} \end{aligned}$$

**\*\* Your maximum lamp load should not exceed approximately 530W. \*\***

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## CONNECTING THE CABLES:



Loosen the two screws that hold the unit cover in place, and remove cover.

Run lighting cables through knockouts in Bottom Plate.

Connect the low voltage cables to the COMs and low voltage taps labeled on the Terminal blocks.

Make sure that all connecting screws are secure and tight.

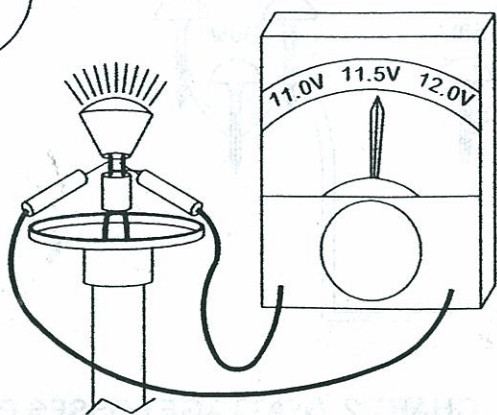
**REMEMBER!! Maximum 300W per circuit!! (Com)**

Turn off ALL the circuit breakers in the transformer unit. Plug the 120V line cord into a grounded 120V outlet. Turn on one breaker at a time to ensure that your low voltage cable runs are connected per CHART1, and to ensure that there are not any short circuits.



# 5

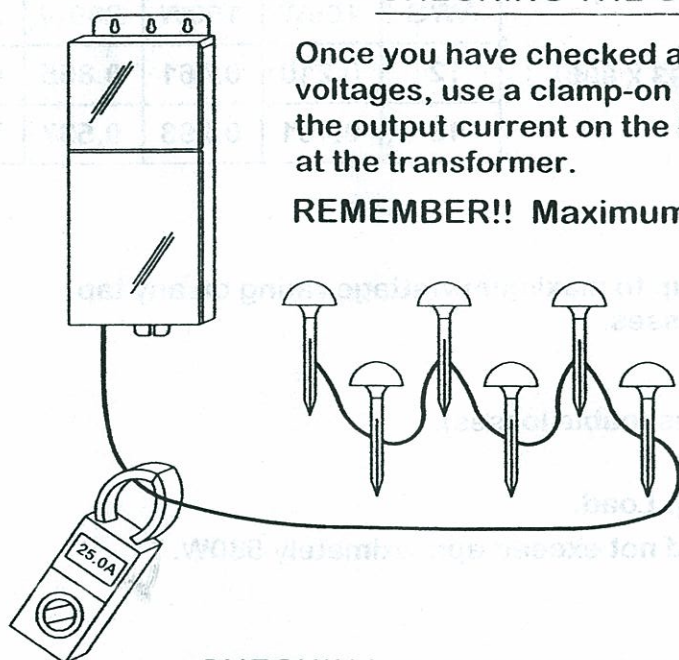
## CHECKING LAMP VOLTAGES:



Check the voltage at each fixture using a True RMS Voltmeter, and make sure you have the proper voltage to the lamp.

The correct voltage should be between 11.0 Volts and 12.0 Volts.

## CHECKING THE OUTPUT AMPS:



Once you have checked all the runs for correct voltages, use a clamp-on Amp Meter and check the output current on the low-voltage cable at the transformer.

**REMEMBER!! Maximum 25Amp per circuit!!**

## CHECKING THE INPUT AMPS:

Your Transformer is provided with a long loop in the optional photocell plug that you may utilize to measure the input current. Simply apply the clamp on the Amp Meter around the loop and measure the current. (See Chart 3)

**REMEMBER!! Do not exceed the maximum input current!!** If input current exceeds the max rating, either remove Fixtures or reduce lamp wattages in the Fixtures until input current is sufficiently reduced.

The Transformer is marked with a label showing the maximum input current.

CHART 3 (INPUT CURRENT)

	300W	600W	900W	1200W	1500W
AMPS	2.5A	5.0A	7.5A	10.0A	12.5A

PHOTOCELL JUMPER  
(300 or 600W Models)  
or  
LOOPED WIRE  
(900 to 1500W Models)

