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# Low Voltage Power Module Installation Guide

300W 600W 900W 1200W

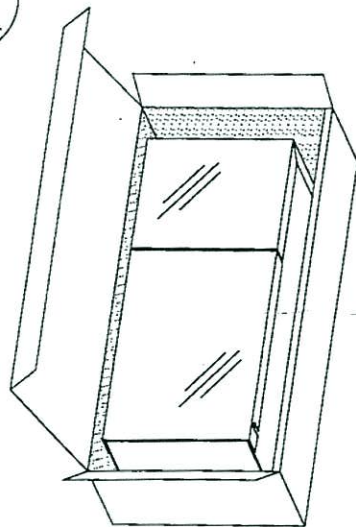
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**!! ATTENTION !!**

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

**1**

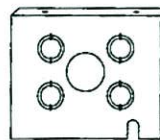


Open shipping carton, and carefully remove the transformer.

Open the side flap inside of shipping carton and remove the mounting hardware and landscape wire connection hardware bags that are supplied with the unit.

Inspect shipping carton contents 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

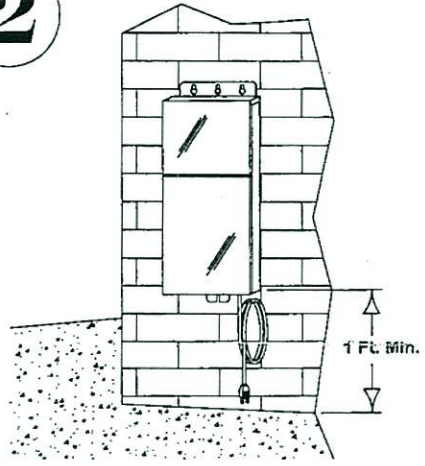


Example:  
Bottom Plate  
Hardware Bag

504-0105

2

**MOUNTING THE UNIT:**



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.)

3

**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.

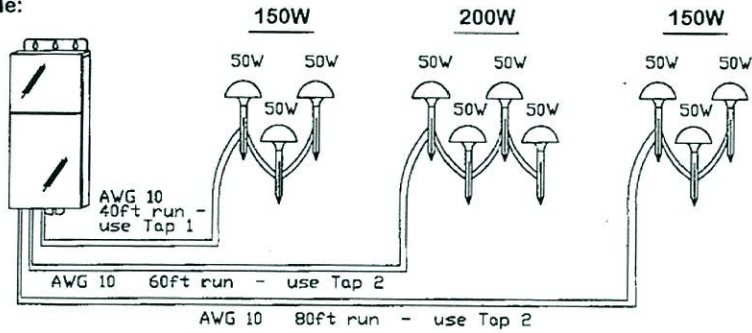
A) Add up your fixture's wattage. Divide your load into 300W max. per wire run. DO NOT EXCEED 300W PER RUN!!

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.

WATT	TAP 1 12V		TAP 2 13V		TAP 3 14V		TAP 4 15V	
	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
150-199	25	40	50	80	76	120	101	160
200-249	19	30	38	60	57	90	76	120
250-300	N/A	24	N/A	48	N/A	72	N/A	96

**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.

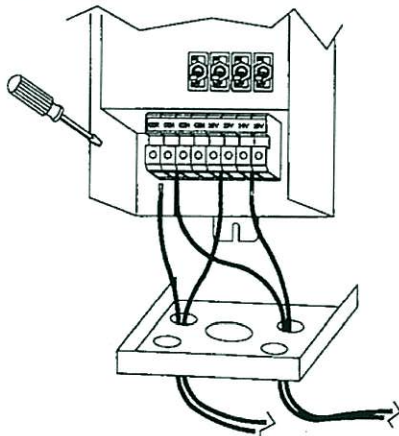
Example:

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

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

## 4

### 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.

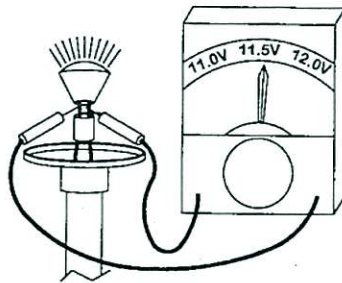
Make sure that all connecting screws are secure and tight.

**REMEMBER!! Maximum 300W per circuit!!**

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 TABLE1, and to ensure that there are not any short circuits.

# 5

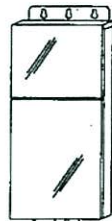
## CHECKING LAMP VOLTAGES:



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

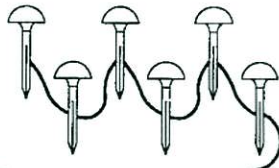
The correct voltage should be between 11.0 Volts and 12.0 Volts.

## 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.

PHOTOCELL JUMPER  
(Example:600W)

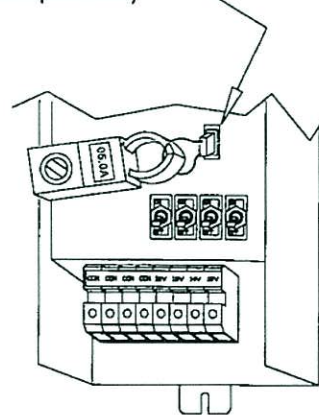


CHART 3 (INPUT CURRENT)

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

## TIMER WITH PHOTOCELL OPERATION INSTRUCTIONS

### OPERATING INSTRUCTIONS FOR: MANUAL PLUG-IN TIMER WITH PHOTOCELL

#### TIMER ON/OFF ONLY:

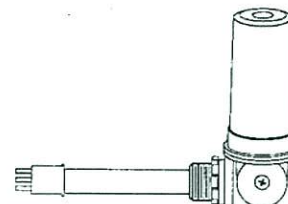
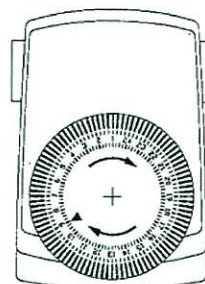
To control the lights set the timer to turn On before dark at your desired On time. The lights can be turned Off by the timer at a pre set time by setting your desired Off time.

#### PHOTOCELL ON/OFF ONLY:

Remove the black nylon cap from photocell. To control the lights set the timer by pushing all the timer tabs out to the On position. The photocell will activate the lights when it gets dark and turn Off the lights at dawn.

#### PHOTOCELL AND TIMER ON/OFF:

Remove the black nylon cap from photocell. To control the lights set the timer to turn On before dark between 12:00 – 4:00 PM. The photocell will activate the lights when it gets dark. The lights can be turned Off by the timer at a pre set time by setting your desired Off time.



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### OPERATING INSTRUCTIONS FOR: DIGITAL PLUG-IN TIMER WITH PHOTOCELL

#### TIMER ON/OFF ONLY:

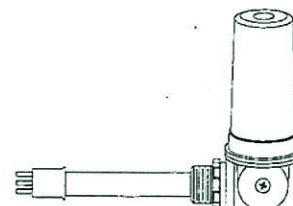
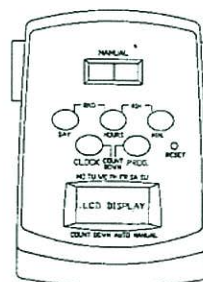
To control the lights program the timer to turn On before dark at your desired On time. The lights can be turned Off by the timer at a pre set time by programming the timer to your desired Off time. Refer to the timer instruction sheet supplied with the timer for programming information.

#### PHOTOCELL ON/OFF ONLY:

Remove the black nylon cap from photocell. To control the lights Program the timer to stay On. The photocell will activate the lights when it gets dark and turn Off the lights at dawn.

#### PHOTOCELL AND TIMER ON/OFF:

Remove the black nylon cap from photocell. To control the lights program the timer to turn On before dark between 12:00 – 4:00 PM. The photocell will activate the lights when it gets dark. The lights can be turned Off by the timer at a pre set time by programming the timer to your desired Off time. Refer to the timer instruction sheet supplied with the timer for programming information.



IMPORTANT SAVE THESE INSTRUCTIONS: INSTALL AND MAINTAIN TO MEET APPLICABLE CODES.

This power supply is for use with landscape lighting systems only. Do not connect two or more power supplies in parallel. Transformer should be mounted close to power supply. Extension cords should not be used with this unit. This power unit shall be connected to a grounded 115/120 volt covered GFCI receptacle marked "Wet Location" while in use. Mount transformer at least one foot above ground level with the wire terminals facing down. Landscape wiring is intended for shallow burial, less than 6 inches (152mm) below the surface. NOTE: If more wire is needed, contact your local landscape lighting distributor. All field installed conduits, both primary and secondary, shall have insulation suitable for the highest voltage potential of the equipment. NOTE: Do not energize transformer until installation of system is complete.

ADDED FEATURES INSTALLATION INSTRUCTIONS

INSTALLING THE 24 HOUR TIMER:

1. Open the front cover of the transformer housing.
2. Unplug the cord from the receptacle.
3. Plug the cord into the 24 Hour Timer.
4. Plug the 24 Hour Timer into the transformer receptacle.
5. Set the time on the 24 Hour Timer per the instructions provided with the Timer.

INSTALLING THE PHOTOCELL:

1. Make sure the power is off and the transformer is NOT plugged into an electrical outlet. NOTE: No splice or wiring is required if transformer is equipped with jumper connector.
  2. Open front cover of the transformer case by lifting the cover up.
  3. Remove the 7/8" diameter knockouts on the side of the enclosure and push the photocell white connector through the knockout hole. Inside the housing, slide the spacer and star nut over the white connector and thread it onto the photocell.
  4. Locate on the inside panel the jumper connector and disconnect jumper from the panel housing connector..
  5. Plug the photocell white connector into the panel housing connector. Ensure that the connectors plug together correctly.
  6. Replace outer cover and plug transformer into the electrical outlet.
  7. Turn on power. Position photocell so that no artificial light will cause the photocell to cycle on and off.
- \* In the unlikely event that the photocell should fail, the lighting fixtures will remain on, even in the daytime. If this should happen, follow these instructions and remove the defective photocell and replace the jumper connector in its place. Contact your local distributor to order a replacement photocell.*

