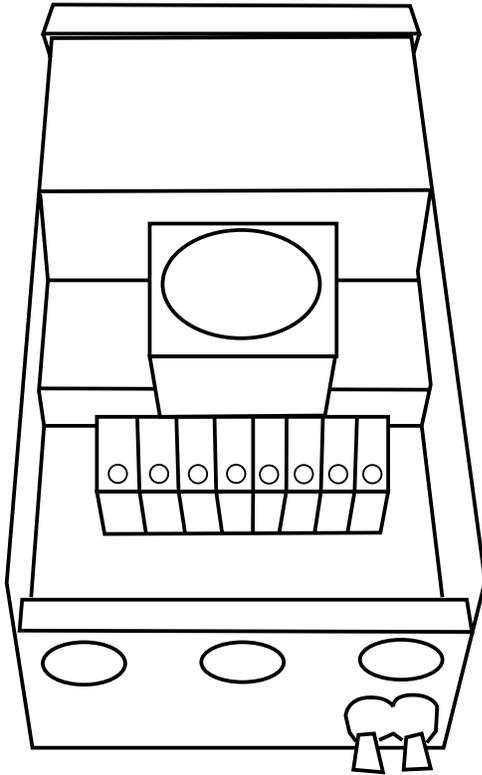


# LOW VOLTAGE POWER MODULE INSTALLATION GUIDE

300W | 600W | 900W | 1200W

by TECHLIGHT



## 1. UNPACK THE UNIT

OPEN SHIPPING CARTON, AND CAREFULLY REMOVE THE TRANSFORMER. INSPECT SHIPPING CARTON CONTENTS FOR ANY DAMAGE THAT MAY HAVE OCCURRED DURING SHIPMENT.

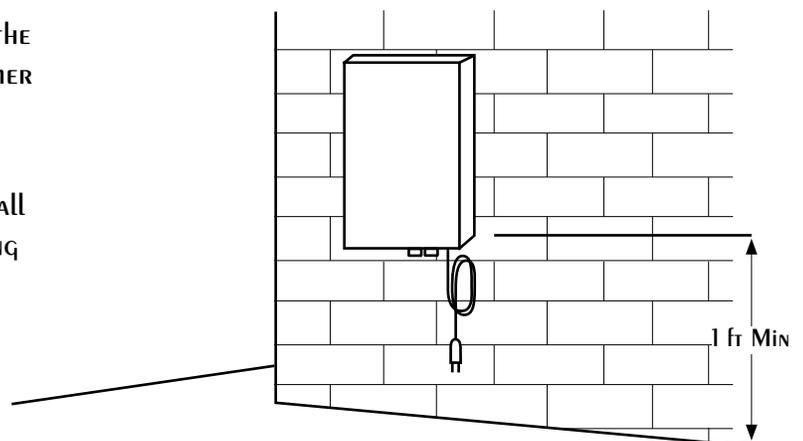
OUR BOTTOM PLATES FEATURE (4) 7/8" KNOCK-OUTS AS WELL AS A 1-3/4" DIAMETER ACCESS HOLE TO ALLOW FOR A LARGER CENTRALLY LOCATED CONDUIT FOR A CLEANER MORE PROFESSIONAL LOOKING INSTALLATION.

## 2. MOUNTING THE UNIT

MOUNT THE TRANSFORMER TO A SOLID SURFACE USING THE SLOTS IN THE BACK OF THE LID. (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.)

### MOUNTING THE UNIT:



**!!ATTENTION!!**

PLEASE READ AND UNDERSTAND THOROUGHLY THIS INSTALLATION GUIDE TO ENSURE SAFE AND EFFICIENT OPERATION OF THIS POWER MODULE.

### 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.

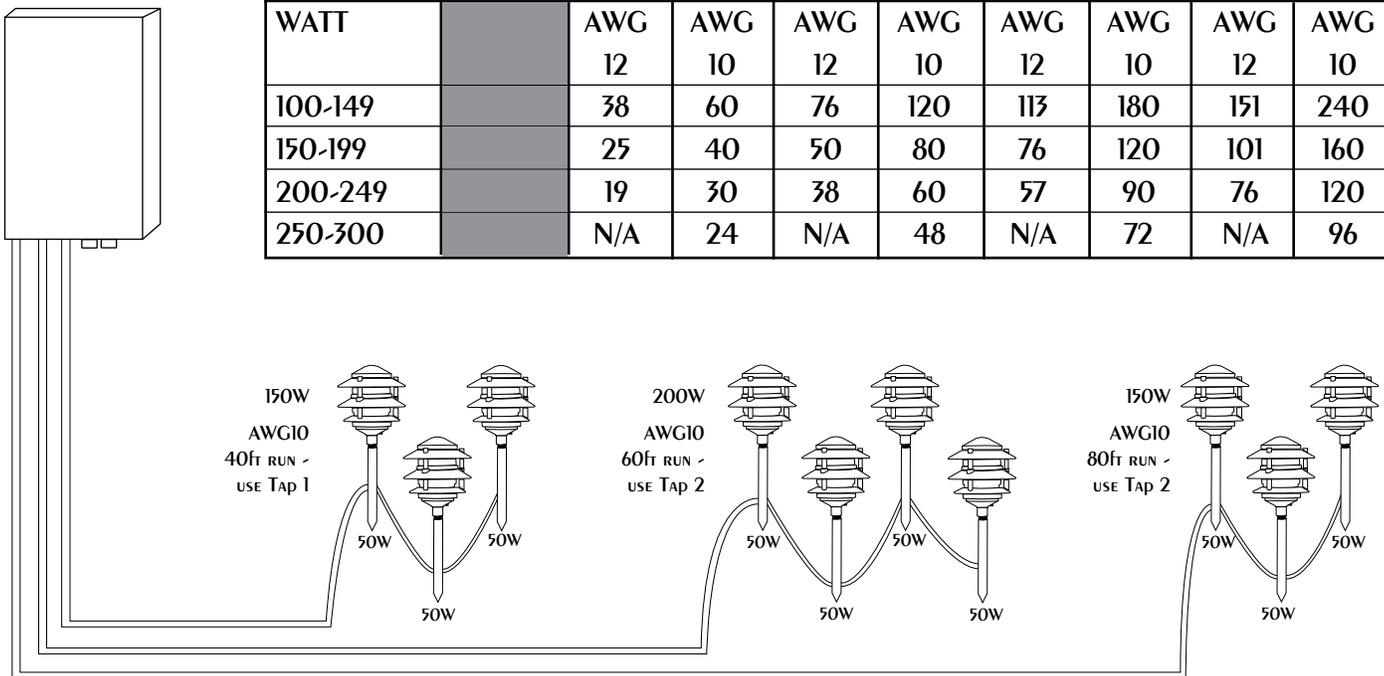
A) Add up your fixture's wattage. Divide your load into 300W MAX. PER WIRE RUN. DO NOT EXCEED 300W PER RUN!!

B) MEASURE THE APPROX. distance from the transformer to the last 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.

**CHART 1 (WIRE RUNS IN FEET)**

|         | 11V<br>PURPLE | TAP1<br>12V BLACK |     | TAP2<br>13V BLUE |     | TAP3<br>14V YELLOW |     | TAP4<br>15V RED |     |
|---------|---------------|-------------------|-----|------------------|-----|--------------------|-----|-----------------|-----|
| WATT    |               | AWG               | AWG | AWG              | AWG | AWG                | AWG | AWG             | AWG |
| 100-149 |               | 12                | 10  | 12               | 10  | 12                 | 10  | 12              | 10  |
| 150-199 |               | 38                | 60  | 76               | 120 | 113                | 180 | 151             | 240 |
| 200-249 |               | 25                | 40  | 50               | 80  | 76                 | 120 | 101             | 160 |
| 250-300 |               | 19                | 30  | 38               | 60  | 57                 | 90  | 76              | 120 |
|         |               | N/A               | 24  | N/A              | 48  | N/A                | 72  | N/A             | 96  |

**EXAMPLE:**



C) ONCE YOU FIND THE CORRECT TAP FOR EACH RUN, SEE CHART 2 TO CALCULATE THE CABLE LOSSES.

$$\begin{aligned}
 \text{CABLE LOSS} &= (\text{loss per foot} \times \text{distance}) \\
 &= (0.293 \times 40\text{ft}) + (0.537 \times 60\text{ft}) + (0.293 \times 80\text{ft}) \\
 &= (11.72) + (32.22) + (23.44) \\
 &= 67.38 \text{ WATT LOSSES TOTAL}
 \end{aligned}$$

D) DETERMINING MAXIMUM LAMP LOAD: All of our TRANSFORMERS ARE DESIGNED TO PROVIDE UP TO A MAXIMUM WATTAGE RATING. HOWEVER, YOU MUST TAKE INTO ACCOUNT THE CABLE LOSSES.

**CHART 2 (WATTAGE LOSSES PER FOOT)**

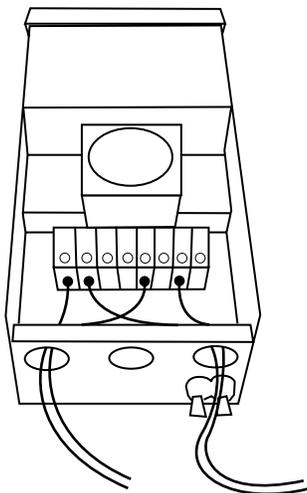
| AWG | 100W  | 150W  | 200W  | 300W |
|-----|-------|-------|-------|------|
| 12  | 0.210 | 0.461 | 0.855 | N/A  |
| 10  | 0.131 | 0.293 | 0.537 | 1.2  |

**EXAMPLE:**

$$\begin{aligned}
 \text{Maximum Lamp Load} &= (\text{TRANSFORMER RATING}) - (\text{cable losses}) \\
 &= (600\text{W}) - (67.38) \\
 &= \text{approximately } 530\text{W Lamp Load}
 \end{aligned}$$

\*\*YOUR MAXIMUM LAMP LOAD SHOULD NOT EXCEED APPROXIMATELY 530W.\*\*

## 4. CONNECTING THE CABLES:



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.

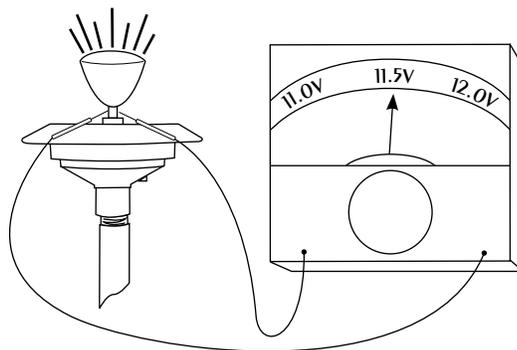
**REMEMBER!! MAXIMUM 300W PER CIRCUIT!!**

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 TABLE 1, 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.

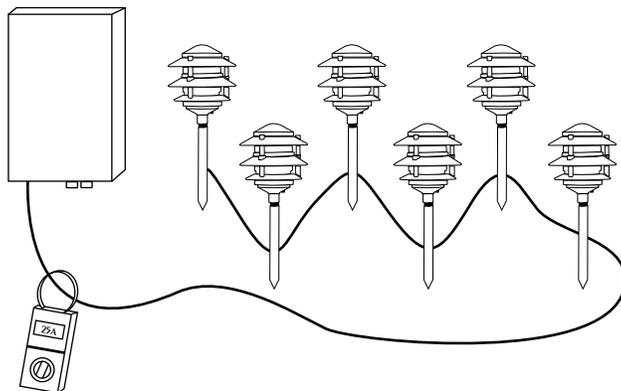
The correct voltage should be between 11.0 Volts and 12.0 Volts.



### CHECKING THE OUTPUT AMPS:

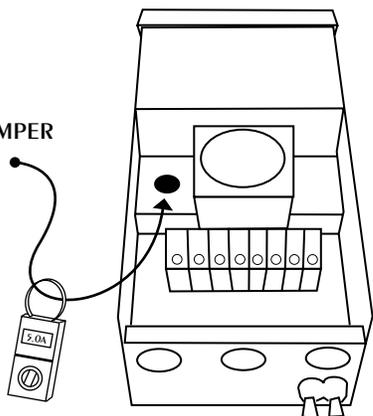
Once you have checked all the runs for correct voltages, use a clamp-on Amp Meter and check the output current on the low-voltage cable at the transformer.

**REMEMBER!! MAXIMUM 25 AMP PER CIRCUIT!!**



### CHECKING THE INPUT AMPS:

PHOTOCELL JUMPER  
(Example: 600W)



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!!**

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

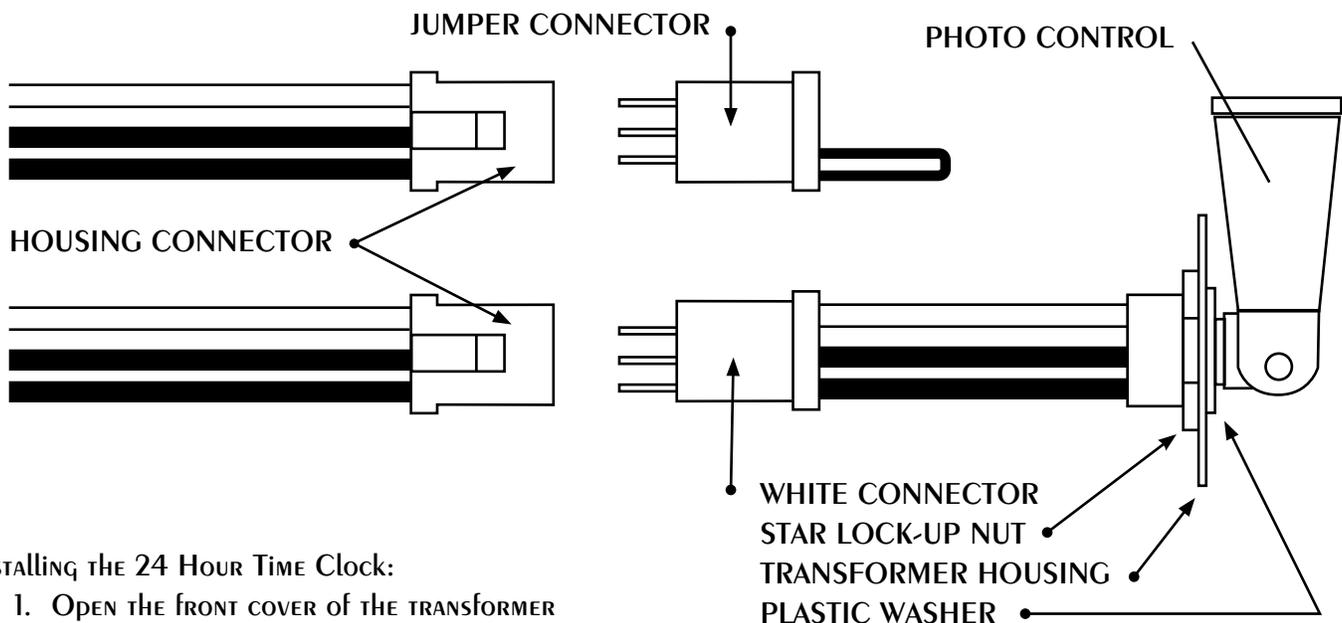
CHART 3 (INPUT CURRENT)

|      | 300W | 600W | 900W | 1200W |
|------|------|------|------|-------|
| AMPS | 3.0A | 5.0A | 8.0A | 10.0A |

## ADDED FEATURES INSTALLATION INSTRUCTIONS

### INSTALLING THE PHOTO-CONTROL:

1. MAKE SURE POWER IS OFF AND 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.
3. LOCATE AND DISCONNECT THE WHITE JUMPER CONNECTOR INSIDE THE HOUSING. \*SAVE THE JUMPER CONNECTOR WITH THESE INSTRUCTIONS FOR FUTURE USE.
4. REMOVE ONE (1) OF THE 7/8" DIAMETER KNOCKOUTS ON THE SIDE OF THE ENCLOSURE AND PUSH THE PHOTO-CONTROL WHITE CONNECTOR THROUGH THE KNOCKOUT HOLE. INSIDE THE HOUSING, SLIDE THE SPACER AND STAR NUT OVER THE WHITE CONNECTOR AND THREAD IT ONTO THE PHOTO-CONTROL AND TIGHTEN.
5. PLUG PHOTO-CONTROL WHITE CONNECTOR INTO THE INSIDE PANEL CONNECTOR. ENSURE THAT THE SIDE LATCH LOCKS THE CONNECTORS. ARRANGE WIRES CAREFULLY INSIDE THE HOUSING. CLOSE THE LID AND SECURE. TURN ON THE POWER.
6. LOCATE TRANSFORMER AND POSITION PHOTO-CONTROL SO THAT NO ARTIFICIAL LIGHT WILL CAUSE THE PHOTO-CONTROL TO CYCLE ON AND OFF. \*IN THE UNLIKELY EVENT THAT THE PHOTO-CONTROL SHOULD FAIL, THE LIGHTING FIXTURES WILL REMAIN ON, EVEN IN THE DAYTIME. IF THIS SHOULD HAPPEN, FOLLOW THESE INSTRUCTIONS AND REMOVE THE DEFECTIVE PHOTO-CONTROL AND PLACE THE JUMPER CONNECTOR IN ITS PLACE. CONTACT YOUR LOCAL DISTRIBUTOR TO ORDER REPLACEMENT PHOTO-CONTROL.



### INSTALLING THE 24 HOUR TIME CLOCK:

1. OPEN THE FRONT COVER OF THE TRANSFORMER HOUSING.
2. UNPLUG THE CORD FROM THE RECEPTACLE.
3. PLUG THE CORD INTO THE 24 HOUR TIME CLOCK.
4. PLUG THE 24 HOUR TIME CLOCK INTO THE TRANSFORMER RECEPTACLE.
5. SET THE TIME ON THE 24 HOUR TIME CLOCK PER THE INSTRUCTIONS PROVIDED WITH THE TIME CLOCK.



**TECHLIGHT**

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