INSTALLATION INSTRUCTION

Magnetic Transformer

9075-TRN-SS / 9150-TRN-SS / 9300-TRN-SS

WAC LANDSCAPE LIGHTING

IMPORTANT:
Read all instructions before installing.

- Read all instructions before proceeding with the installation.
- This power supply complies with the requirements of UL1838. This power supply should be installed in compliance with the National Electrical Code and local electrical codes. This unit is for use with landscape lighting systems only.
- WARNING –Risk of Electric Shock. Install power unit 5 feet (1.5 m) or more from a pool or spa and 10 feet (3.05 m) or more from a fountain. Where the power unit is installed within 10 feet (3.05 m) of a pool or spa connect power unit to a GFCI protected branch circuit.
- Do not modify or change the product in any way. This product is to be installed by a qualified electrician only. Failure to do so will void the warranty and may result in serious injury and/or damage to the transformer.
- Connect directly to an outlet; do not use an extension cord with this product. For 120 Volt AC operation only. Be sure that the supply circuit is energized. If this occurs, the circuit breaker can be replaced with a breaker rated for high in-rush currents and should only be done by a qualified electrician.
- To avoid risk of fire do not use a fixture or a combinations of fixtures where the total watts exceed the rating of the power supply.

IMPORTANTE:
Lea todas las instrucciones antes de instalar.

- No conecte este temporizador en un cable de extensión u otro adaptador de corriente. Conecte directamente a una toma eléctrica.
- No conecte el contador a los aparatos que contienen
- elementos de calefacción (de aparatos de cocina, calentadores, planchas, etc.)
- El fallo del temporizador para apagar dicho dispositivo puede provocar un sobrecalentamiento y un posible incendio.
- No conecte este temporizador si está húmedo.
- No limpie este temporizador cuando está enchufado int.
- No exceder los valores máximos del temporizador.
- Posible riesgo de descarga:
  Mantener fuera del alcance de los niños.

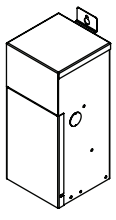
IMPORTANT:
Lisez toutes les instructions avant de l'installer.

- Ne branchez pas ce temporisateur dans une rallonge ou un autre adaptateur électrique. Brancher directement dans une prise électrique.
- Ne pas relier cette minuterie pour les appareils qui contiennent
- éléments de chauffage (appareils de cuisson, chauffe, un fer à repasser, etc.)
- L'échec de l'horloge pour éteindre tel dispositif peut entraîner une surchauffe et un incendie.
- Ne branchez pas cette minuterie si elle est mouillée.
- Ne nettoyez pas ce temporisateur quand il est branché int.
- Ne pas dépasser les évaluations maximales de la minuterie.
- Risque d'électrocution:
  Conserver hors de la portée des enfants.

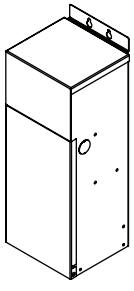
INSTALLATION GUIDELINES

- One or more circuit breakers are included with each transformer. To reset, turn breaker to on position. If circuit breakers trip repeatedly, have the system inspected by a qualified electrician.
- The transformer includes an internal thermal protector and will run the transformer off if the unit over-heats. The thermal protector will also automatically reset.
- Where possible, it is best to install the transformer in the center of the lighting installation to minimize long runs reducing voltage drop.

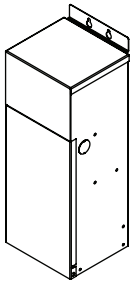
THIS INSTRUCTIONS APPLY TO THE MODEL BELOW:



9075-TRN-SS



9150-TRN-SS



9300-TRN-SS

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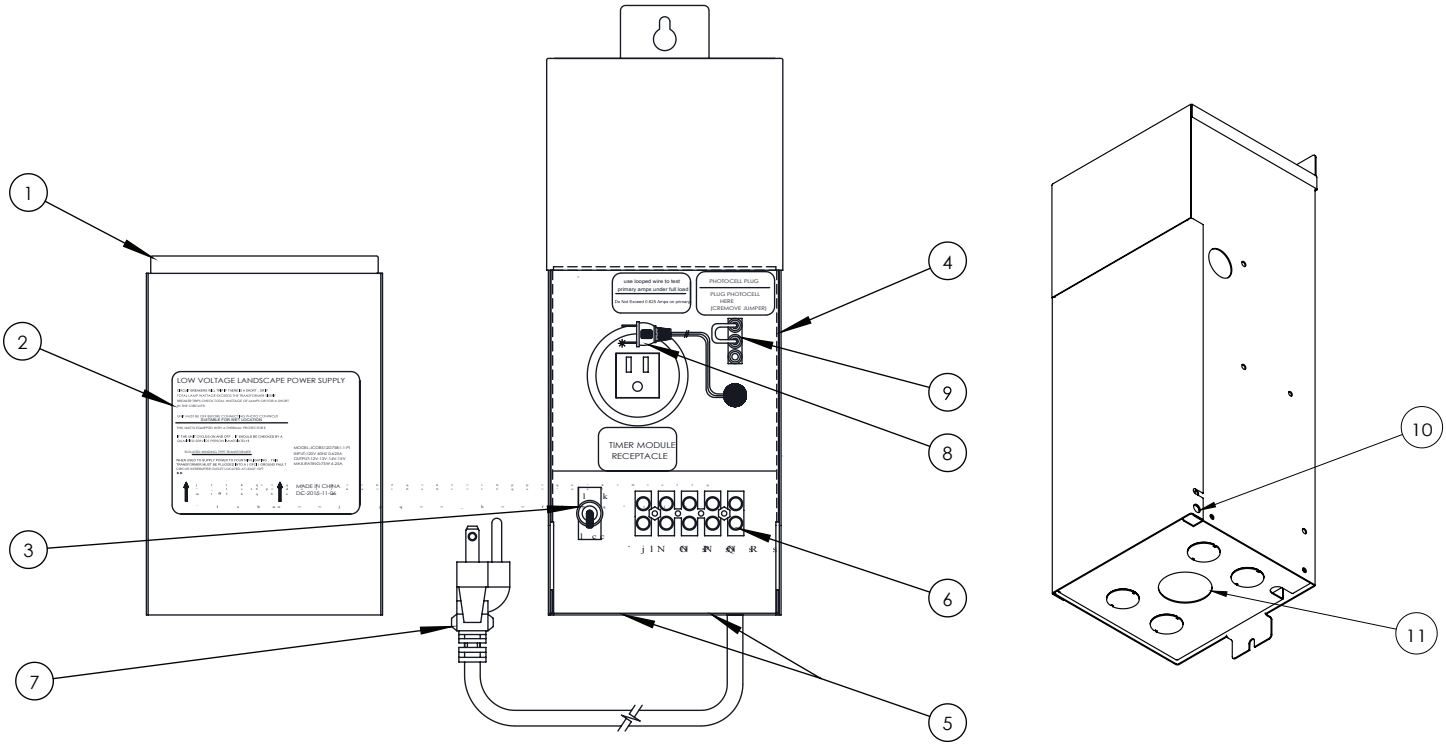
INSTALLATION INSTRUCTION

Magnetic Transformer

9075-TRN-SS / 9150-TRN-SS / 9300-TRN-SS

WAC LANDSCAPE LIGHTING



FEATURES AND CONTROLS:

1. Take-apart stainless cover
   The cover can be removed for greater access to wiring compartment during installation.
   To remove, open the cover by unscrewing the four screws from the sides.

2. Operating instructions on the cover
   Refer to these instructions for additional information on specifications of the product

3. Overload circuit breakers
   For reliable automatic secondary circuit protection. Circuit breakers may also be used as on/off rocker switches.

4. 1/2" – 3/4" Knockouts
   For conduit and accessory mounting

5. 1/2" – 3/4" Knockouts
   For conduit and accessory mounting

6. Terminal strip
   For multiple low voltage cable connections

7. Power cord
   Heavy-gauge, grounded, water-resistant power cord with integrally molded plug.

8. 120-volt timer module receptacle
   For use with optional, removable multi-setting mechanical 24-hour timer or electronic/digital 7-day timer.

9. Photocell plug
   For use with photocell, remove jumper and plug photocell here.

10. Locking Hole (for model 9150-TRN-SS and 9300-TRN-SS)
    Can be secured to prevent tampering

11. Conduit cover (for model 9150-TRN-SS and 9300-TRN-SS)
    Remove the conduit cover and use Trade Size 1-1/4 inch conduit

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INSTALLATION INSTRUCTION

Magnetic Transformer

9075-TRN-SS / 9150-TRN-SS / 9300-TRN-SS

WAC LANDSCAPE LIGHTING

MOUNTING INSTRUCTIONS:

1. Carefully locate and install the power supply so that it is not in contact with insulation or combustible materials. Provide minimum of 12 inches of airspace around the power supply. Transformer must also be mounted a minimum of 12 inches above grade. (**Fig. 1**)

2. Securely mount the power supply using the mounting brackets on the power supply enclosure. Drill screw holes at the right locations (see dimensions in **Fig. 1**) and make sure use appropriate screws for the selected mounting surface.

3. Hang transformer case securely over the screws.

4. Plug in the power cord to a GFCI protected outlet with a cover that complies with the National Electrical Code for the location.

5. Use appropriate and approved wiring methods to connect the power supply and the lighting fixtures.

6. When using this power supply, the voltage will be reduced and the current will be significantly increased.

7. When complete, use the loop on the photocell terminal to verify that the input current does not exceed the rating of the transformer.

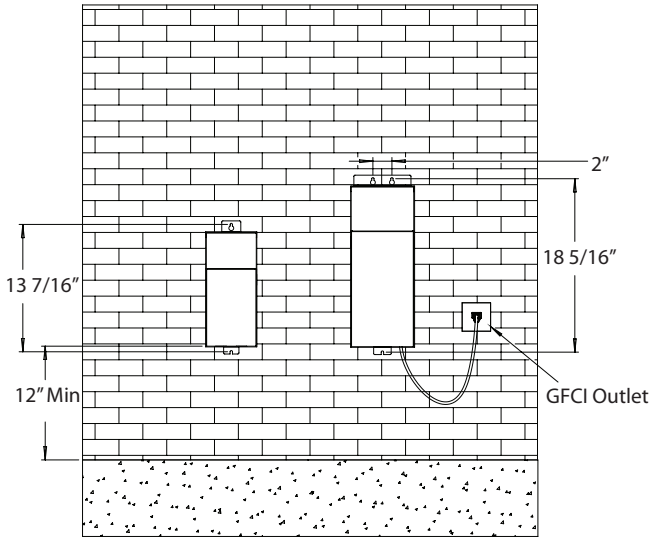

Fig. 1

TRANSFORMER SIZING - VA VALUE

Low voltage lighting systems require the use of a transformer to reduce the standard 120 volt power from ordinary household electricity to the 12 volt needed to power low voltage lamps. Transformers vary in size of capacity. The total lamp VA (load) of all fixtures connected to one transformer must not exceed the VA capacity of the transformer. Therefore, to determine the transformer size needed, simply add up the VA of all lamps you plan to use.

TRANSFORMER SIZE > TOTAL FIXTURE VA

Select a transformer that matches as closely as possible to your total lamp VA. If you total VA is too great, either divide the total load between two transformers or use a more powerful model. Selecting a transformer with about 20% higher capacity than you total lamp VA will allow for adding a fixture or two later.

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LOW VOLTAGE CABLE LENGTH

In planning a low voltage system, it is necessary to consider the impact of voltage drop. Because of cable's inherent resistance, voltage drops along its length: the end-of-run lamps will be dimmer than those at the beginning. Since voltage drop is a function of cable length and cable size and total fixture wattage, voltage drop can be minimized in several different ways:

- Use multiple cable runs
- Use heavier gauge cable(8 or 10 gauge)
- Shorten cable lengths or runs
- Reduce VA of individual fixtures
- Reduce the total number of fixtures on a run
- Use multiple transformers in different locations

Cable is measured by gauge. The lower the number, the thicker the cable and the more current it carries. Common cable size for low voltage lighting is available in three gauges: #12-2, #10-2, and #8-2. To calculate maximum cable length, use the formula below:

$$V_d = \frac{L \times VA \times 2}{K_c}$$

V_d = Voltage drop in the section of cable, in volts
L = Length of the section of the cable (one way distance), in feet
VA = Total VA values carried by the section of cable for the fixtures it supplies
K_c = Cable Constant as follow:

Cable Size	K_c
12	7500
10	11920
8	18960

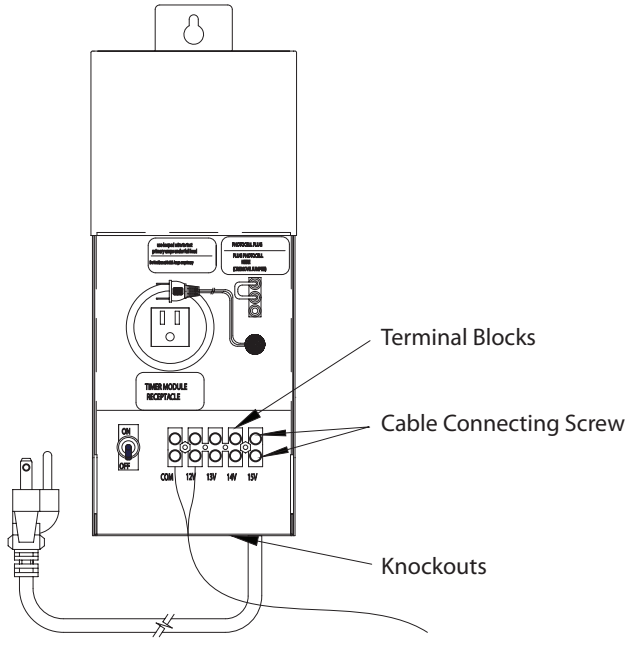
Please refer to WAC Lighting website for voltage drop calculator.

CABLE CONNECTION DETAIL

1. Open the cover of the transformer and remove the Knockouts at the bottom of the transformer as necessary.

2. Run lighting cables through Knockouts from the bottom of the transformer.

3. Connect the low voltage cables to the COMs and low voltage taps labeled on the Terminal Blocks. Make sure that all Cable Connecting Screws are secure and tight.



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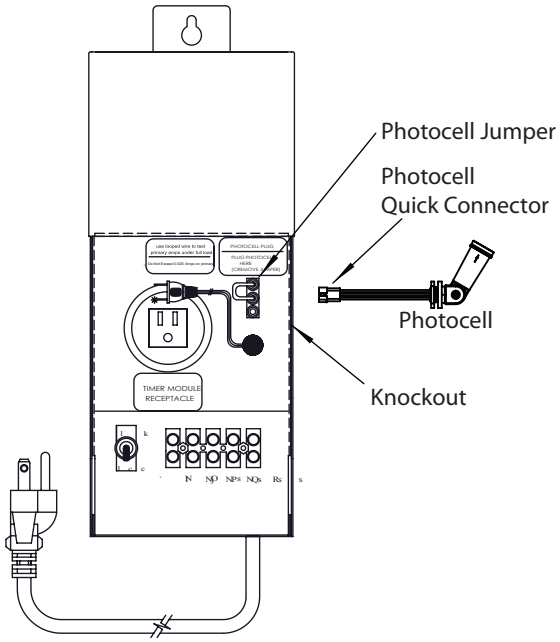
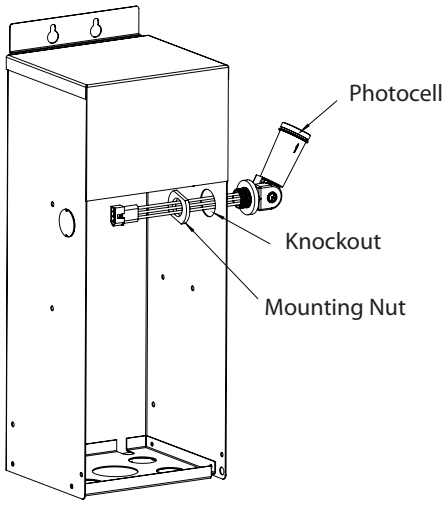
INSTALLING A PHOTOCELL

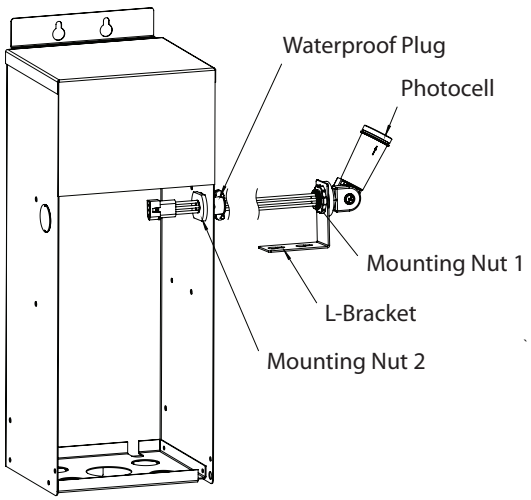
1. Unplug the transformer from the outlet, open the enclosure
2. Remove a knockout from the side of the enclosure, and install the photocell
3. Remove the jumper, plug the photocell into the socket
4. Position the photocell so that the operation is not affected by any light fixture.
5. Note: For remote installation, the L-Bracket can be used to mount the photocell in desired position.



On - Board Installation
9000-PCH-GY

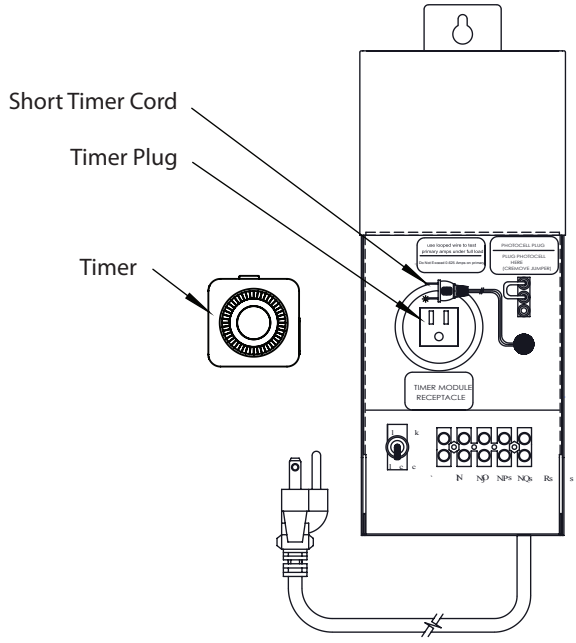


Remote Installation
9000-PCR-GY



INSTALLING A TIMER

1. Unplug the transformer from the outlet, open the enclosure
2. Unplug the short timer cord inside the enclosure
3. Plug in the timer, plug the short timer cord into the timer
4. Set the timer according to the instructions provided with the time



CHECK THE SYSTEM

After installing the entire low voltage system, operate the system for five minutes. On the low voltage side, all electrical connection spots should be cool to touch. If a connection is hot to the touch, retighten the connection and check to ensure that the temperature decreases.

Place the transformer cover back and tighten all four provided screws on both sides.

If there's any irregularities, email or call WAC Lighting "Technical Support" at Sales@waclighting.com, (800)526.2588.

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INSTALLATION INSTRUCTION

Magnetic Transformer

9600-TRN-SS

WAC LANDSCAPE LIGHTING

IMPORTANT:
Read all instructions before installing.

- Read all instructions before proceeding with the installation.
- This power supply complies with the requirements of UL1838. This power supply should be installed in compliance with the National Electrical Code and local electrical codes. This unit is for use with landscape lighting systems only.
- WARNING –Risk of Electric Shock. Install power unit 5 feet (1.5 m) or more from a pool or spa and 10 feet (3.05 m) or more from a fountain. Where the power unit is installed within 10 feet (3.05 m) of a pool or spa connect power unit to a GFCI protected branch circuit.
- Do not modify or change the product in any way. This product is to be installed by a qualified electrician only. Failure to do so will void the warranty and may result in serious injury and/or damage to the transformer.
- Connect directly to an outlet; do not use an extension cord with this product. For 120 Volt AC operation only. Be sure that the supply circuit is energized. If this occurs, the circuit breaker can be replaced with a breaker rated for high in-rush currents and should only be done by a qualified electrician.
- To avoid risk of fire do not use a fixture or a combinations of fixtures where the total watts exceed the rating of the power supply.

IMPORTANTE:
Lea todas las instrucciones antes de instalar.

- No conecte este temporizador en un cable de extensión u otro adaptador de corriente. Conecte directamente a una toma eléctrica.
- No conecte el contador a los aparatos que contienen
- elementos de calefacción (de aparatos de cocina, calentadores, planchas, etc.)
- El fallo del temporizador para apagar dicho dispositivo puede provocar un sobrecalentamiento y un posible incendio.
- No conecte este temporizador si está húmedo.
- No limpie este temporizador cuando está enchufado int.
- No exceder los valores máximos del temporizador.
- Posible riesgo de descarga:
  Mantener fuera del alcance de los niños.

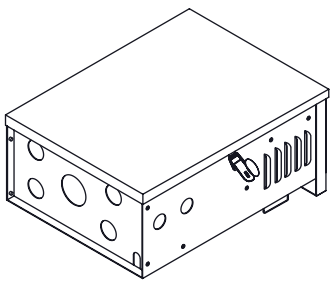
IMPORTANT:
Lisez toutes les instructions avant de l'installer.

- Ne branchez pas ce temporisateur dans une rallonge ou un autre adaptateur électrique. Brancher directement dans une prise électrique.
- Ne pas relier cette minuterie pour les appareils qui contiennent
- éléments de chauffage (appareils de cuisson, chauffe, un fer à repasser, etc.)
- L'échec de l'horloge pour éteindre tel dispositif peut entraîner une surchauffe et un incendie.
- Ne branchez pas cette minuterie si elle est mouillée.
- Ne nettoyez pas ce temporisateur quand il est branché int.
- Ne pas dépasser les évaluations maximales de la minuterie.
- Risque d'électrocution:
  Conserver hors de la portée des enfants.

INSTALLATION GUIDELINES

- One or more circuit breakers are included with each transformer. To reset, turn breaker to on position. If circuit breakers trip repeatedly, have the system inspected by a qualified electrician.
- The transformer includes an internal thermal protector and will run the transformer off if the unit over-heats. The thermal protector will also automatically reset.
- Where possible, it is best to install the transformer in the center of the lighting installation to minimize long runs reducing voltage drop.

THIS INSTRUCTIONS APPLY TO THE MODEL BELOW:



9600-TRN-SS

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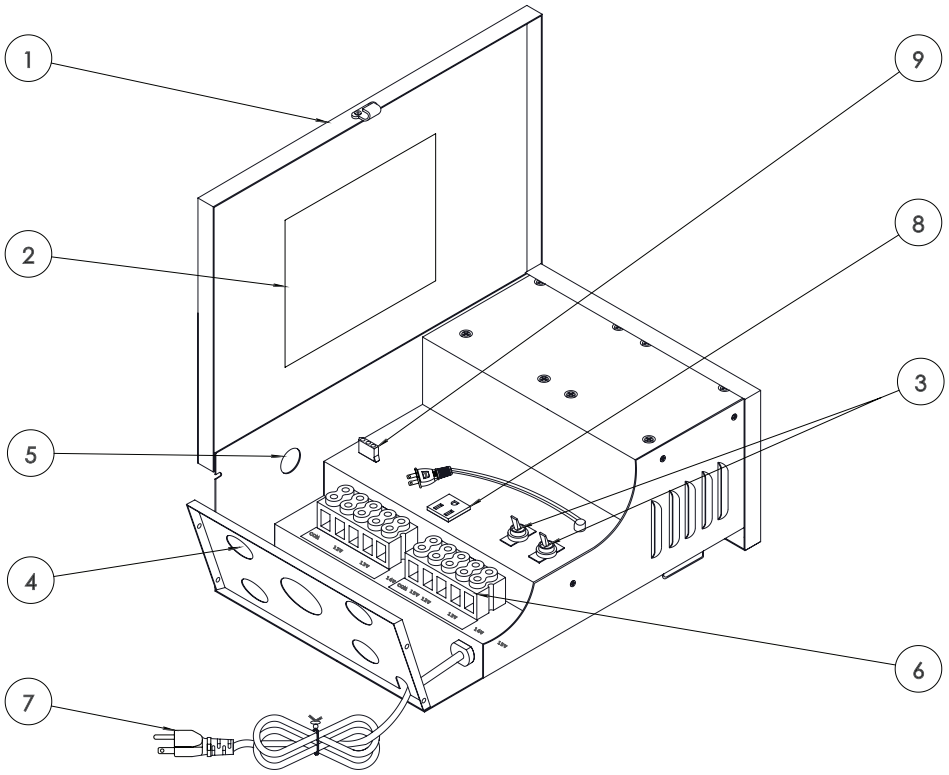
INSTALLATION INSTRUCTION

Magnetic Transformer

9600-TRN-SS

WAC LANDSCAPE LIGHTING



FEATURES AND CONTROLS:

1. Take-apart Stainless steel hinged cover
   The cover can be removed for greater access to wiring compartment during installation. To remove, open the door and lift straight up and off of hinges.

2. Operating instructions on the cover
   Refer to these instructions for additional information on specifications of the product.

3. Overload circuit breakers
   For reliable automatic secondary circuit protection. Circuit breakers may also be used as on/off rocker switches.

4. 1/2" – 3/4" Knockouts
   For conduit and accessory mounting.

5. 1/2" – 3/4" Knockouts
   For conduit and accessory mounting.

6. Terminal strip
   For multiple low voltage cable connections. This transformer is equipped with two circuit breakers that are connected to the COM. Each circuit can be loaded up to a maximum of 300 watts. You may use one, two, three or all taps at once.

7. Power cord
   Heavy-gauge, grounded, water-resistant power cord with integrally molded plug.

8. 120-volt timer module receptacle
   For use with optional, removable multi-setting mechanical 24-hour timer or electronic/digital 7-day timer.

9. Photocell plug
   For use with photocell, remove jumper and plug photocell here.

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INSTALLATION INSTRUCTION

Magnetic Transformer

9600-TRN-SS

WAC LANDSCAPE LIGHTING

MOUNTING INSTRUCTIONS:

1. Carefully locate and install the power supply so that it is not in contact with insulation or combustible materials. Provide minimum of 12 inches of airspace around the power supply. Transformer must also be mounted a minimum of 12 inches above grade.

2. Securely mount the power supply to a solid surface using keyhole slots in the mounting bracket. Drill screw holes at the right locations and make sure use appropriate screws for the selected mounting surface.

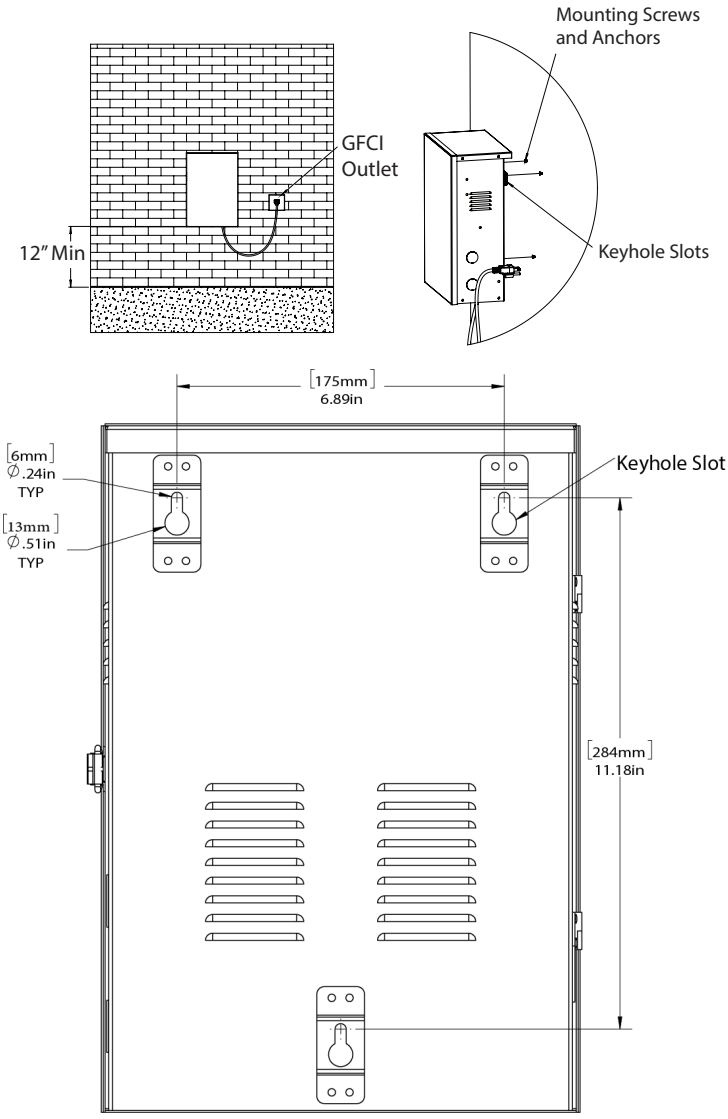
3. Hang transformer case securely over the screws.

4. Plug in the power cord to a GFCI protected outlet with a cover that complies with the National Electrical Code for the location.

5. Use appropriate and approved wiring methods to connect the power supply and the lighting fixtures.

6. When using this power supply, the voltage will be reduced and the current will be significantly increased.

7. When complete, use the loop on the photocell terminal to verify that the input current does not exceed the rating of the transformer.



TRANSFORMER SIZING - VA VALUE

Low voltage lighting systems require the use of a transformer to reduce the standard 120 volt power from ordinary household electricity to the 12 volt needed to power low voltage lamps. Transformers vary in size of capacity. The total lamp VA (load) of all fixtures connected to one transformer must not exceed the VA capacity of the transformer. Therefore, to determine the transformer size needed, simply add up the VA of all lamps you plan to use.

TRANSFORMER SIZE > TOTAL FIXTURE VA

Select a transformer that matches as closely as possible to your total lamp VA. If you total VA is too great, either divide the total load between two transformers or use a more powerful model. Selecting a transformer with about 20% higher capacity than you total lamp VA will allow for adding a fixture or two later.

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LOW VOLTAGE CABLE LENGTH

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- Use multiple cable runs
- Use heavier gauge cable(8 or 10 gauge)
- Shorten cable lengths or runs
- Reduce VA of individual fixtures
- Reduce the total number of fixtures on a run
- Use multiple transformers in different locations

Cable is measured by gauge. The lower the number, the thicker the cable and the more current it carries. Common cable size for low voltage lighting is available in three gauges: #12-2, #10-2, and #8-2. To calculate maximum cable length, use the formula below:

$$V_d = \frac{L \times VA \times 2}{K_c}$$

V_d = Voltage drop in the section of cable, in volts
L = Length of the section of the cable (one way distance), in feet
VA = Total VA values carried by the section of cable for the fixtures it supplies
K_c = Cable Constant as follow:

Cable Size	K_c
12	7500
10	11920
8	18960

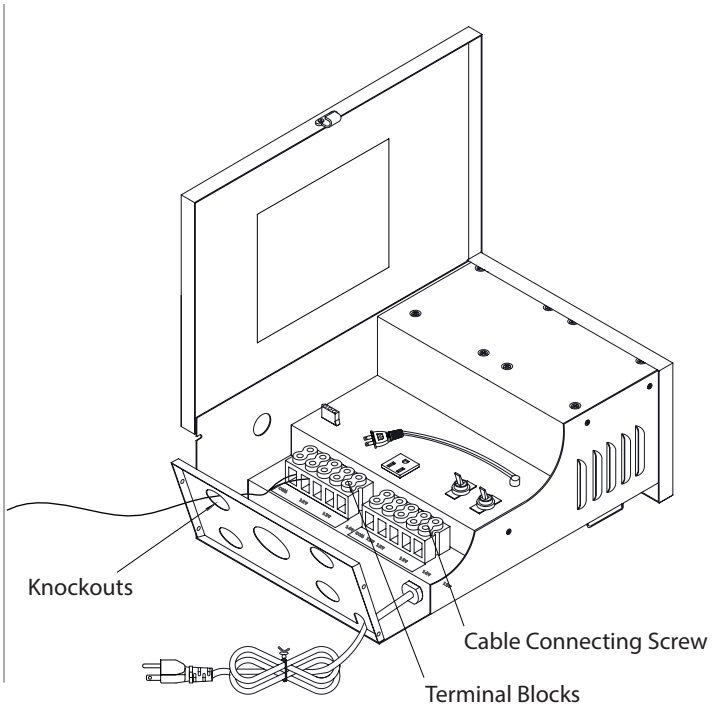
Please refer to WAC Lighting website for voltage drop calculator.

CABLE CONNECTION DETAIL

1. Open the cover of the transformer and remove the Knockouts at the bottom of the transformer as necessary.

2. Run lighting cables through Knockouts from the bottom of the transformer.

3. Connect the low voltage cables to the COMs and low voltage taps labeled on the Terminal Blocks. Make sure that all Cable Connecting Screws are secure and tight.

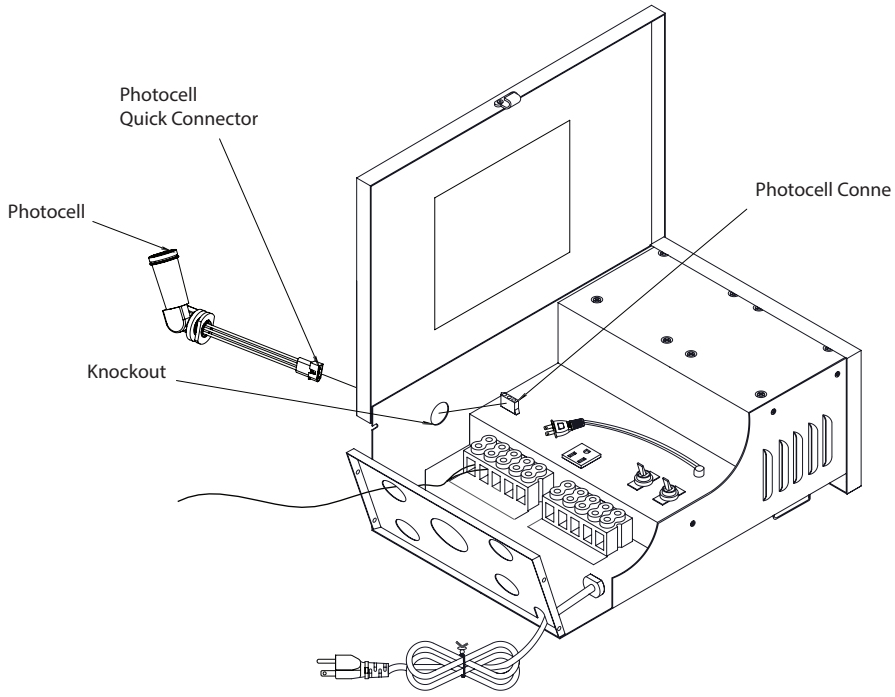


INSTALLATION INSTRUCTION
Magnetic Transformer
9600-TRN-SS

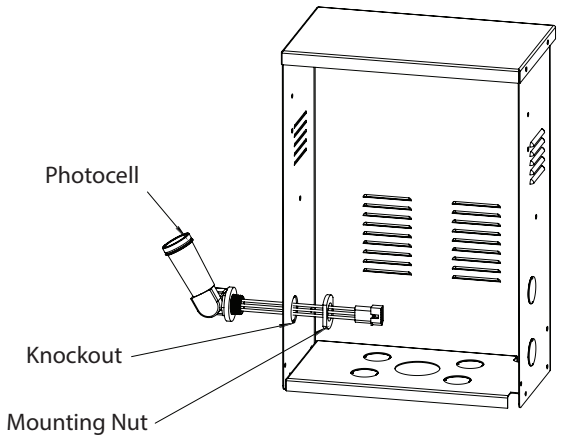
WAC
LANDSCAPE LIGHTING

INSTALLING A PHOTOCELL

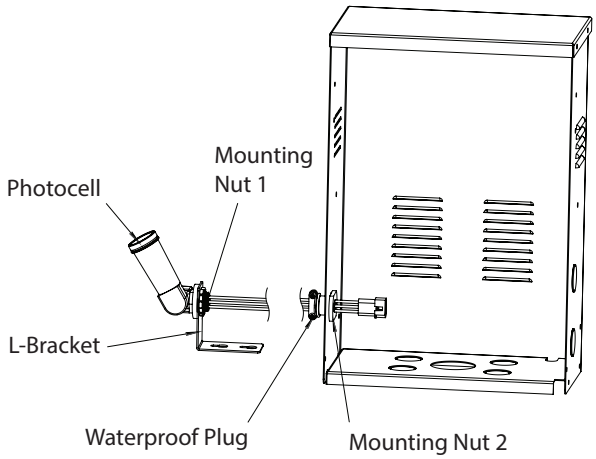
1. Unplug the transformer from the outlet, open the enclosure
2. Remove a knockout from the side of the enclosure, and install the photocell
3. Remove the jumper, plug the photocell into the socket
4. Position the photocell so that the operation is not affected by any light fixture.
5. Note: For remote installation, the L-Bracket can be used to mount the photocell in desired position.



On - Board Installation
9000-PCH-GY



Remote Installation
9000-PCR-GY



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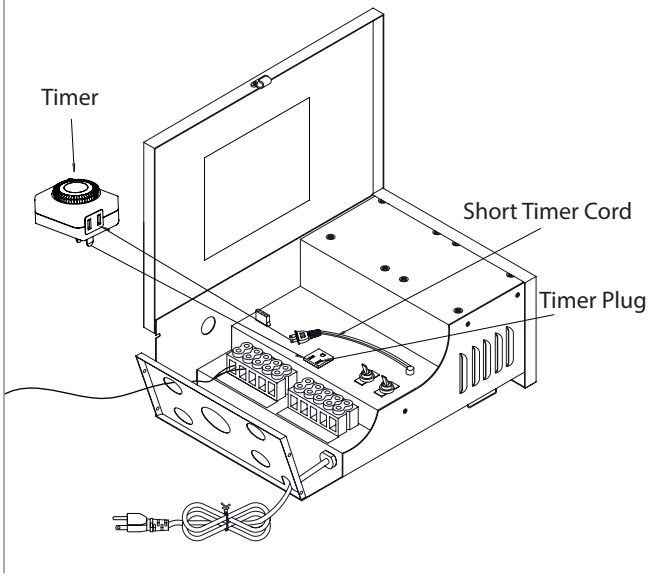
INSTALLATION INSTRUCTION
Magnetic Transformer
9600-TRN-SS

WAC
LANDSCAPE LIGHTING

INSTALLING A TIMER

1. Unplug the transformer from the outlet, open the enclosure
2. Unplug the short timer cord inside the enclosure
3. Plug in the timer, plug the short timer cord into the timer
4. Set the timer according to the instructions provided with the time



CHECK THE SYSTEM

After installing the entire low voltage system, operate the system for five minutes. On the low voltage side, all electrical connection spots should be cool to touch. If a connection is hot to the touch, retighten the connection and check to ensure that the temperature decreases.

Place the transformer cover back and tighten all four provided screws on both sides.

If there's any irregularities, email or call WAC Lighting "Technical Support" at Sales@waclighting.com, (800)526.2588.

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