



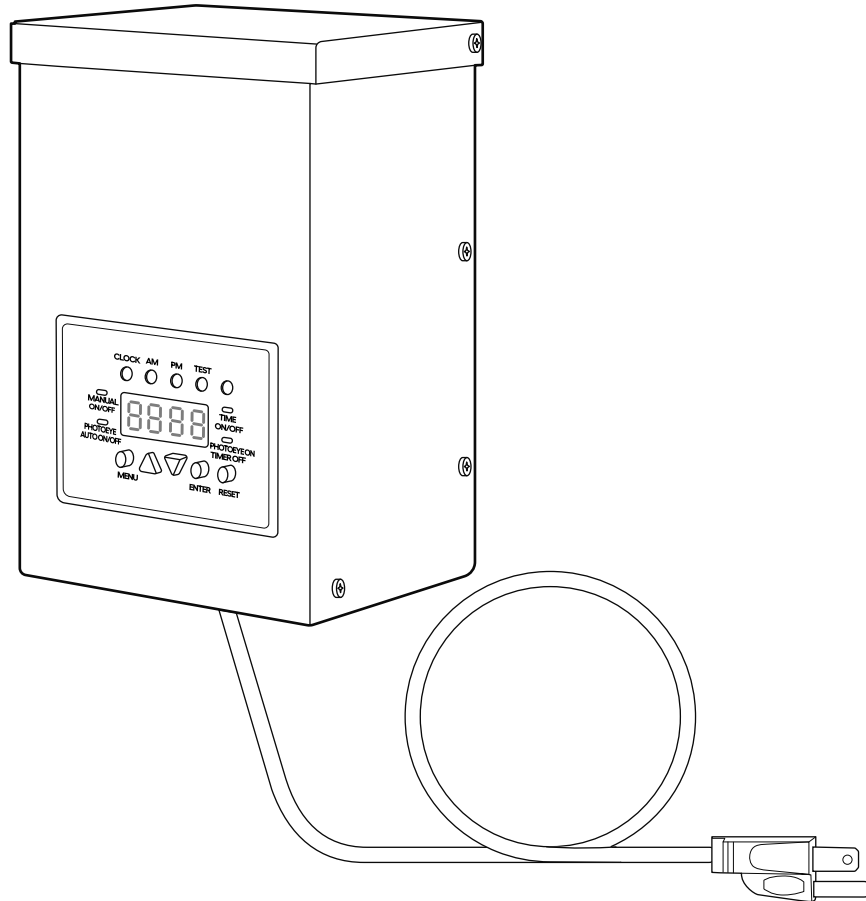
ITEM #1237385
MODEL #LVT300MBK

LOW VOLTAGE TRANSFORMER

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Español p. 16

ATTACH YOUR RECEIPT HERE



Purchase Date _____



Intertek

APPROVED FOR USE
IN WET LOCATIONS

Thank you for purchasing this HARBOR BREEZE product.
Questions, problems or missing parts?
Before returning, contact us on: **888-251-1003**, 8 a.m. - 8 p.m., EST,
Monday - Sunday.

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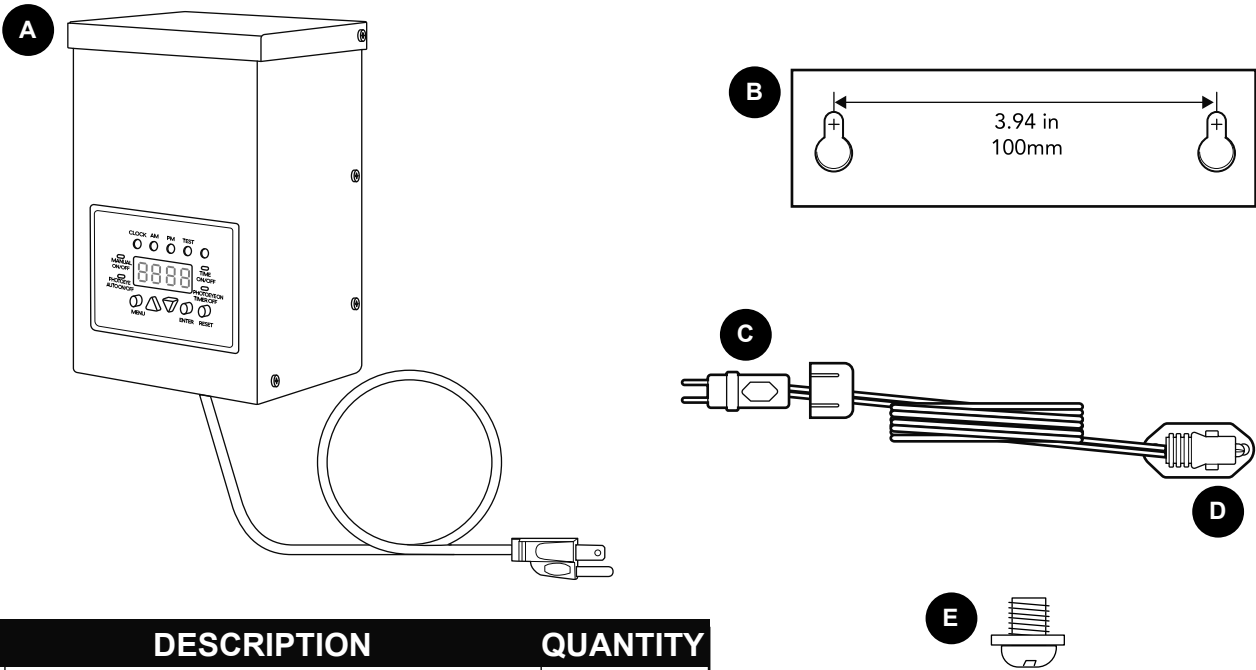
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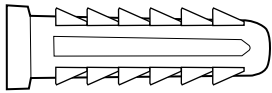
PACKAGE CONTENTS



PART	DESCRIPTION	QUANTITY
A	Transformer	1
B	Mounting Template	1
C	Photoeye cable	1
D	Photoeye holder (preassembled to photoeye cable (C))	1
E	Terminal Screw (preassembled to transformer (A))	4

HARDWARE CONTENTS (shown actual size)

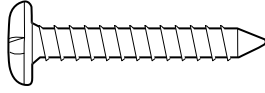
AA



Wall
Anchor

Qty. 2

BB



Wall Anchor
Screw

Qty. 2

CC



Screw

Qty. 2

SAFETY INFORMATION

READ AND SAVE THESE INSTRUCTIONS

Please read and understand this entire manual before attempting to assemble, install or operate the product. Review the accompanying assembly diagrams.

- This transformer has a minimum loading that is at least a total of 10 Watts.

DANGER

- RISK OF FIRE OR ELECTRICAL SHOCK.
- For your protection and safety, carefully read and understand the information provided in this manual completely before attempting to assemble, install or operate this product. Failure to do so could lead to fire, electrical shock or other injuries that could be hazardous or even fatal.
- ALWAYS disconnect the transformer from the electrical outlet when working on the lighting system.
- This transformer is for use with low-voltage landscape lighting systems ONLY.
- The maximum wattage output of this transformer is 300 Watts.
- DO NOT overload the transformer. Be sure the total cumulative wattage of all 12 volt or 15 volt fixtures connected to the transformer is equal to or less than 300 watts. Otherwise it will cause a higher temperature than the transformer's protection temperature.
- DO NOT connect transformer to an electrical system that does not provide a means for equipment grounding.
- DO NOT connect two or more transformers in parallel. This could lead to over-powering of fixture and cause serious injury or death from electrical shock
- To reduce the risk of fire or electric shock, DO NOT use smaller than 16 gauge cable. Using the correct gauge cable is essential to obtain proper lighting performance. Use with SPT-2W underground low-voltage cable with a 25-foot length minimum. Using larger gauge cable can help reduce the voltage drop issue.
- To reduce the risk of personal injury, electrical shock or death, use only on a branch circuit protected by a Class A-type ground fault circuit interrupter (GFCI). ONLY connect the transformer cord to a covered 120-volt Class A-type GFCI protected hooded flush type cover plate outlet that is marked "WET LOCATION".
- DO NOT submerge the transformer in water.
- DO NOT mount transformer within 10 ft. of a pool, spa or fountain.

SAFETY INFORMATION

DANGER

- DO NOT damage or cut the wire insulation (covering) during installation of the transformer. DO NOT permit wires to contact any surface having a sharp edge. To do so may damage or cut the wire insulation, which could cause serious injury or death from electrical shock.
- DO NOT tamper with or repair cord or plug.
- DO NOT mount the transformer upon combustible material.
- To reduce the risk of fire, DO NOT place wiring insulation under terminal plate.

WARNING

- THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED.
- DO NOT bury the connectors or cables at a depth greater than 6 inches.
- To avoid water damage to transformer or possible electrical malfunction, transformer MUST be installed vertically and with the base at least 10 - 20 inches above the ground/floor.

CAUTION

- DO NOT use the transformer with a dimmer switch.
- DO NOT install all landscape fixtures in the last 1/3 length of the run wire. Lights installed in this section may not work properly.
- Screw connections must be tight. DO NOT mix solid and stranded wires under one screw.
- If you are not sure the lighting system has a grounding means, DO NOT attempt to install this transformer. Contact a qualified, licensed electrician for information regarding the proper grounding methods as required by the local electrical code in your area.
- A cord-connected landscape lighting system MUST NOT be used with an extension cord.
- The device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, (2) this device must accept any interference received, including interference that may cause undesired operation.
- Changes or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- * Reorient or relocate the receiving antenna.
- * Increase the separation between the equipment and receiver.
- * Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

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PREPARATION

Before beginning assembly of product, make sure all parts are present. Compare parts with package contents list and hardware contents list. If any part is missing or damaged, do not attempt to install, operate or assemble the product.

Estimated Assembly Time: 90 minutes

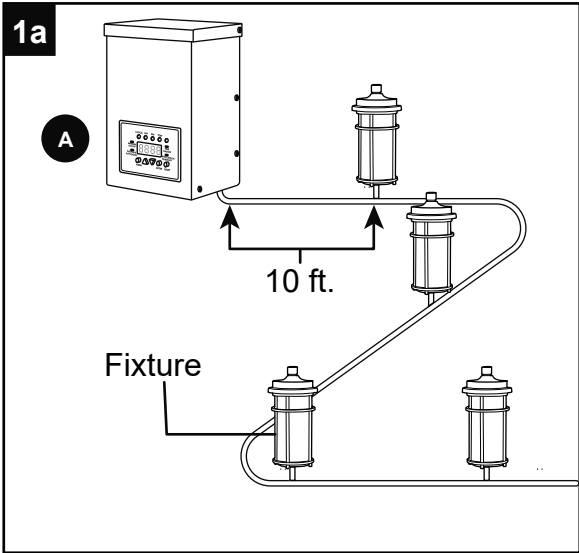
Tools Required for Assembly (not included): Flathead Screwdriver, Phillips Screwdriver, Wire Strippers, Pliers, Wire Cutters, Safety Glasses, Drill, 1/4 in. Drill Bit, 1/8 in. Drill Bit, Pencil/Marker

Helpful Tools (not included): A/C Tester Light, Do-It-Yourself Guide

WIRING METHOD

- 1. This transformer is suitable for indoor and outdoor use. Determine the wiring method you would like to use for your landscape wiring.
 - A. Straight Method
 - B. Looping Method (Page 6)
- 1a. Straight Method: The straight wiring method is a “straight” run of low-voltage cable with fixtures connected directly to the transformer (A) in a straight line. The fixture located farthest away from the power may experience the largest voltage drop and therefore could be the dimmest; likewise, the fixture closest to the transformer (A) may be the brightest. Voltage drop may occur in lengths longer than 100 ft (see below).

NOTE: The first fixture should be a minimum of 10 ft. away from the transformer (A).



NOTE: Voltage drop is the decrease of electric potential along the path of a current flowing in a circuit. Voltage drop may occur on any run of low-voltage cable and may cause a light to dim. This can be seen when lights closer to the transformer (A) are brighter than lights further from the transformer (A) on the same low-voltage cable. Voltage drop depends on the number of lights on a run, the distance from the transformer (A), the gauge of the cable or the wiring method. If you are experiencing voltage drop, consider the corrective action table below to help boost the voltage.

CORRECTIVE ACTION	
Modify wire size.	Thicker gauge wire can carry more voltage. For example, you may experience more voltage drop with an 16 AWG than with a 12 AWG wire.
Change wiring method.	Using the looping method can boost voltage. (Refer to 1b on the next page.)

WIRING METHOD

- 1b. Looping Method: The looping wiring method is a “loop” run of low-voltage cable with fixtures connected to the transformer (A) by looping the low-voltage cable back to the terminal blocks. This is an easy way to eliminate voltage drop (see below). Make sure not to cross the wires when attaching them back to the terminal blocks. The wires being looped that are coming out of the terminal block must be connected back to the same terminal block and terminal screws (E).

⚠ CAUTION: When determining wiring method, refer to tables below for recommended installation configurations for each output terminal.

NOTE: If the cable length is longer than the cable length listed below, it is recommended to use the looping wiring method (refer to Step 1b, above) to help reduce the voltage drop issue.

12-Volt Transformer Terminal		
Cable Length	Total Fixture Wattage	Wire Gauge
100 ft	0 - 60	16
	61 - 120	14
	121 - 200	12
150 ft	61 - 120	14
	121 - 200	12

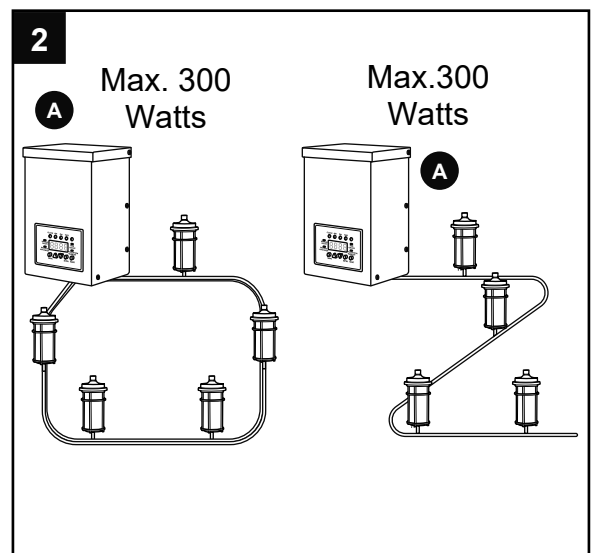
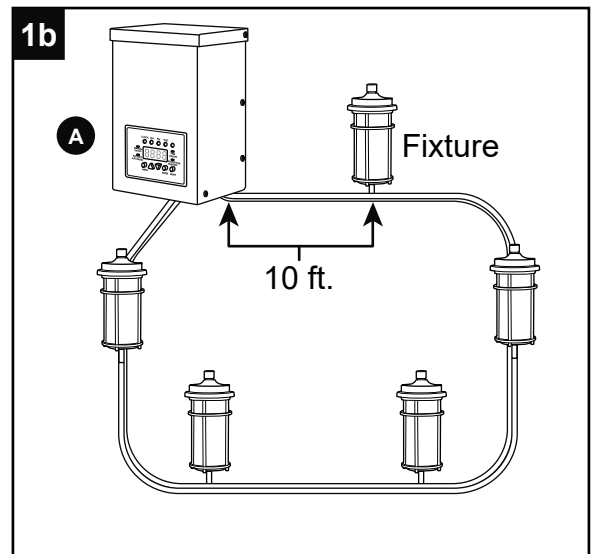
15-Volt Transformer Terminal		
Cable Length	Total Fixture Wattage	Wire Gauge
100 ft	1 - 120	16
	121 - 240	14
	241 - 300	12
150 ft	61 - 120	14
	121 - 200	12

2. To determine the maximum number of fixtures that can be safely connected to the transformer (A), add up the individual wattages of all fixtures.

⚠ WARNING: The total output wattage of two terminals must NOT exceed 300 Watts.

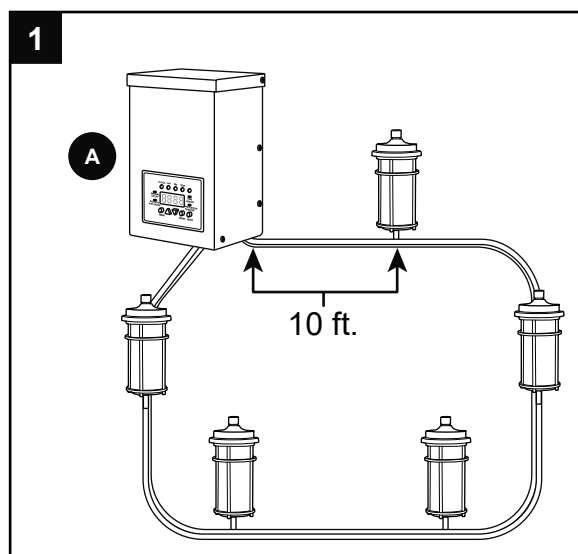
⚠ WARNING: Screw connections must be tight. Do not mix solid and stranded wires under one screw.

NOTE: This transformer (A) is rated for 12V AC and 15V AC.



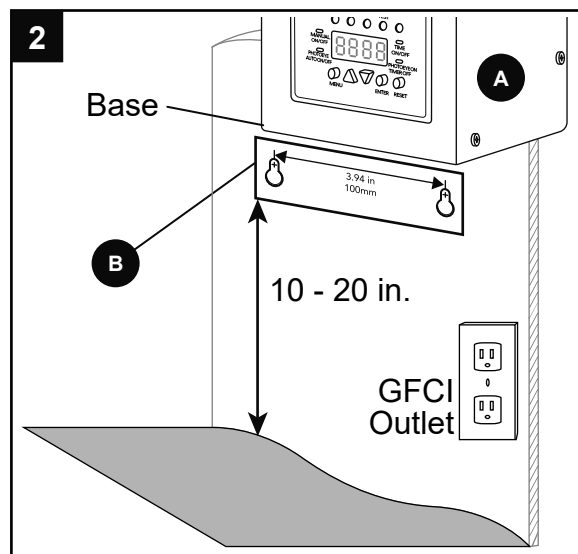
ASSEMBLY INSTRUCTIONS

1. Determine the length and layout of landscape cable (not included) by laying a length of low-voltage cable in the general area where the fixtures will be installed.



2. Select location near a 120-volt covered GFCI outlet with cover plate marked for WET LOCATION. Using mounting template (B), mark holes for transformer (A) so that the BASE of the transformer (A) will be mounted at least 10 in. above ground level.

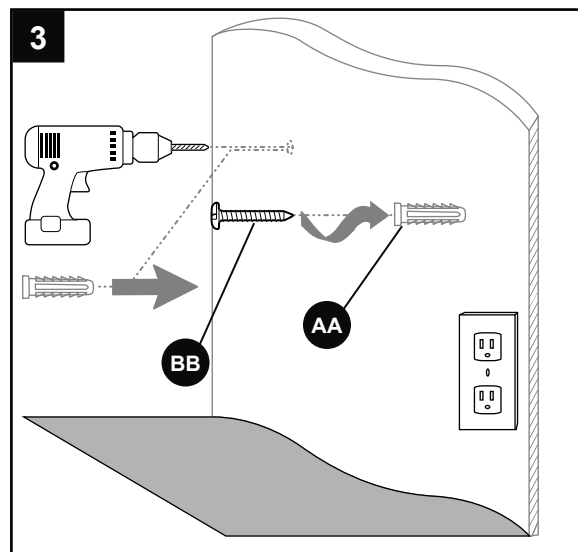
NOTE: Select a location that will receive direct sunlight during the day. DO NOT mount the transformer (A) where it could sense artificial lights, as this may cause the lighting system to shut off unexpectedly. The proper area for the transformer (A) is an area where the photoeye can sense direct sunlight. This is needed so the photoeye feature works properly. If the photoeye cannot sense direct sunlight, the lights may not turn on and off properly.



3. Drill holes using 1/4 in. drill bit (not included). Install wall anchors (AA) and wall anchor screws (BB), leaving enough space for the keyhole slots on the backside of the transformer (A).

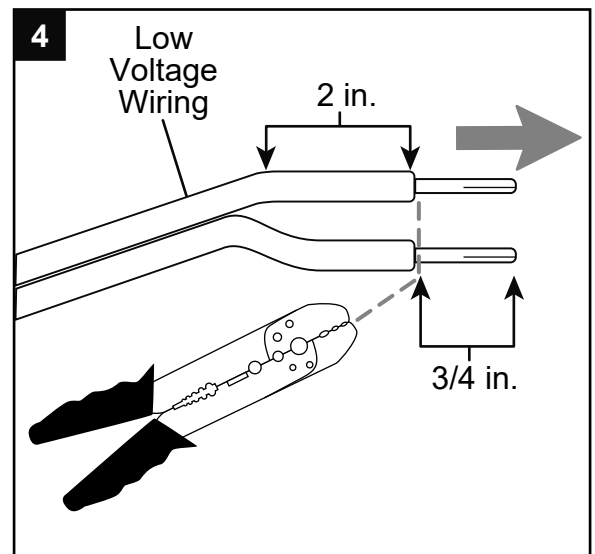
Hardware Used

AA	Wall Anchor		x 2
BB	Wall Anchor Screw		x 2



ASSEMBLY INSTRUCTIONS

- For low-voltage cable connections, split approximately 2 in. on one end of the low-voltage cable. Then strip about 3/4 in. of insulation of each wire before twisting strands (if applicable) together tightly.



- Loosen the terminal screws (E) located on the underside of the transformer (A) with a Phillips screwdriver (not included) and insert one of the pre-stripped wires under the terminal clamping plate. Securely tighten the terminal screw (E). Repeat this process for the other terminal screw (E).

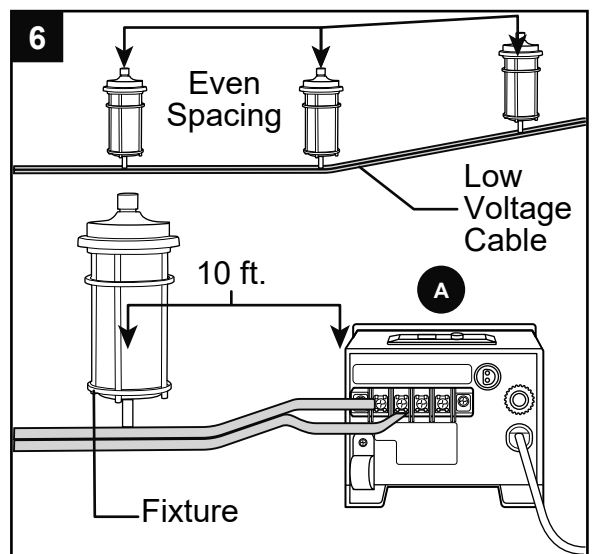
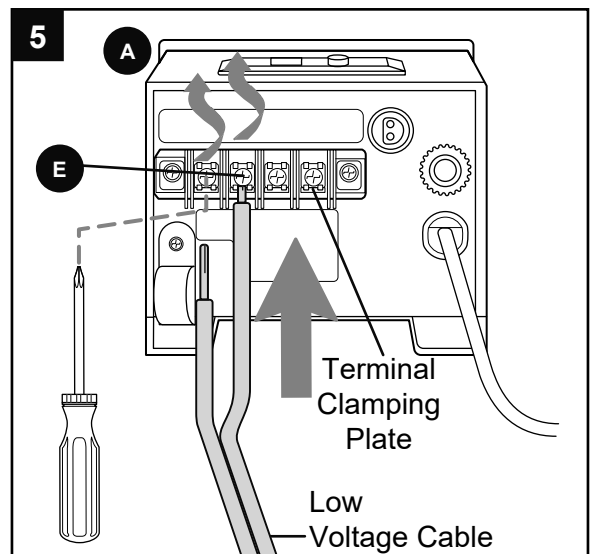
⚠ CAUTION: To reduce the risk of fire, electrical shock or damage to the transformer (A), ensure there is no wire insulation under the terminal clamping plate and the terminal screws (E) that connect the cable to the transformer (A) terminals are securely tightened.

⚠ CAUTION: If the wiring is 12V, use the 12V side, if the wiring is 15V, use the 15V side.

- Distribute fixtures (sold separately) as evenly as possible along the low-voltage cable.

NOTE: The first fixture should be a minimum of 10 ft. away from the transformer (A).

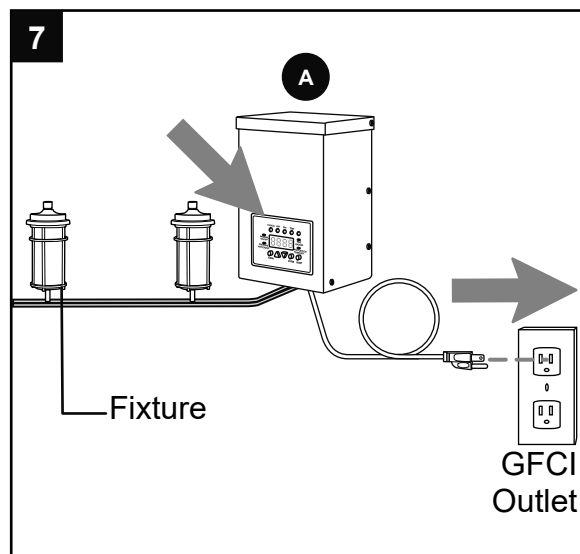
⚠ CAUTION: A loose cable increases the risk of fire; tighten ALL connections securely.



ASSEMBLY INSTRUCTIONS

7. Plug the transformer (A) into the GFCI outlet and turn the transformer (A) on (refer to “Operating Instructions” on Page 11).

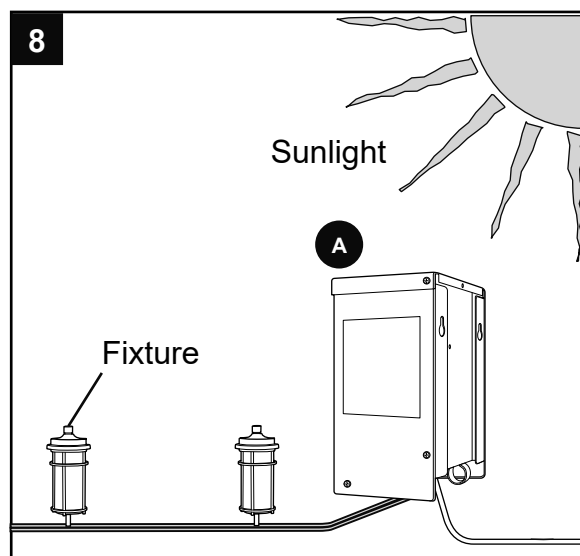
Follow the instructions for the fixtures to connect the fixtures to the low-voltage cable and test the system before finalizing installation. Once testing is complete and the system is operational, the cable may be covered with landscape material (mulch, rock, etc.) or buried up to 6 in. deep.



8. If the transformer (A) has been installed in a location that will receive direct sunlight during the day, installing the photoeye cable (C) will not be necessary and you may proceed to Step 12 on Page 11.

If the transformer (A) has been installed in a location that will NOT receive direct sunlight during the day, it will be necessary to install the photoeye cable (C). Proceed to Step 9 for installation of photoeye cable (C).

NOTE: The transformer (A) has a built-in photoeye and the included 15-ft. photoeye cable (C). If you use the photoeye cable (C), the built-in photoeye will turn off. If you do NOT use the cable, the transformer will automatically use the built-in photoeye.

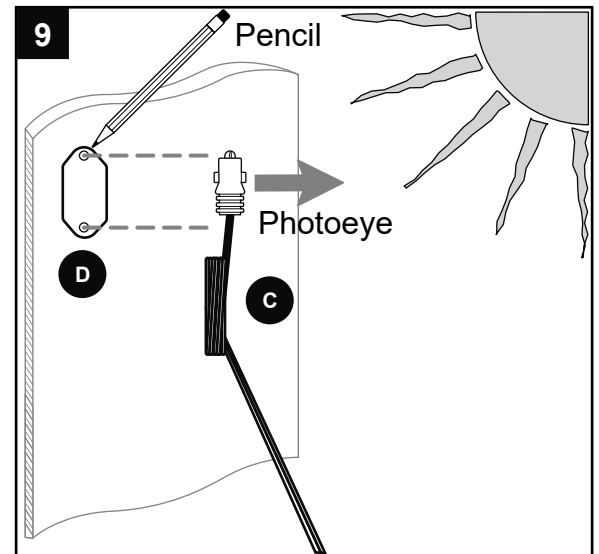


ASSEMBLY INSTRUCTIONS

9. Determine mounting location for the photoeye cable (C).

NOTE: When selecting a location for the photoeye cable (C), make sure it will receive direct sunlight during the day. DO NOT mount the photoeye cable (C) where it could sense artificial light, as that might cause the lighting system to shut off unexpectedly.

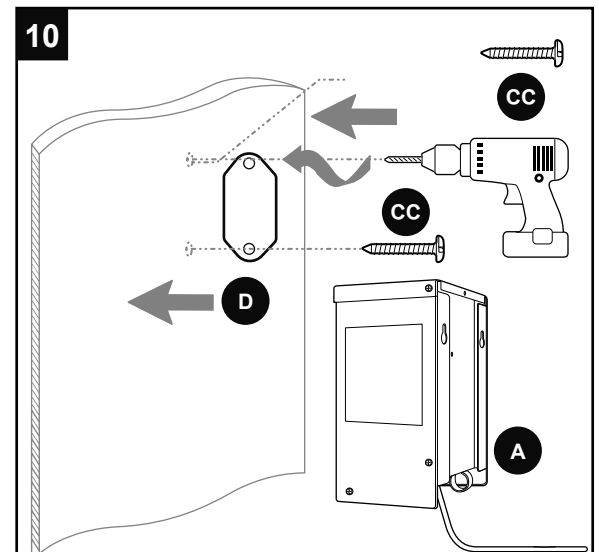
Remove preassembled photoeye holder (D) from photoeye on photoeye cable (C). Place the photoeye holder (D) against the wall and mark the location of the holes on the photoeye holder (D) using a pencil or a marker (neither included). Set photoeye holder (D) aside.



10. Drill holes using 1/8 in. drill bit (not included). Secure photoeye holder (D) by inserting the screws (CC) through the photoeye holder (D) and into the pilot holes in the wall.

Hardware Used

CC Screw  x 2

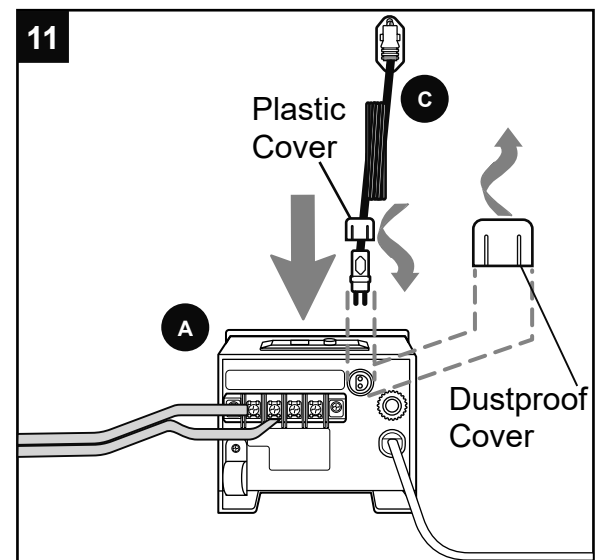


11. Remove the dustproof cover on the photoeye socket on the transformer (A) by turning it counterclockwise.

Align and plug the male plug of the end of the photoeye cable (C) into the photoeye socket on the transformer (A). Then securely tighten the plastic cover by screwing the photoeye cable (C) on clockwise.

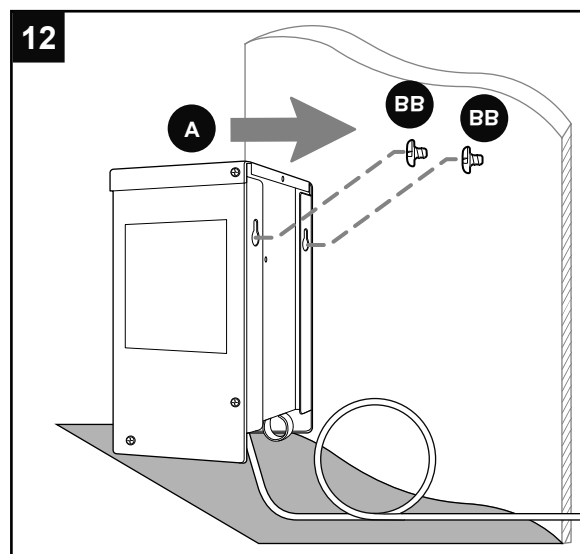
Replace the photoeye in the photoeye holder (D). Make sure the photoeye cable (C) is not crimped in any way.

NOTE: If photoeye cable (C) is removed, press RESET button (Step 6, page 13) to switch to using built-in photoeye on the transformer (A).



ASSEMBLY INSTRUCTIONS

12. Carefully hang the transformer (A) on the wall anchor screws (BB) previously installed (Step 3, page 7) using the keyhole slots on the back of the transformer (A).

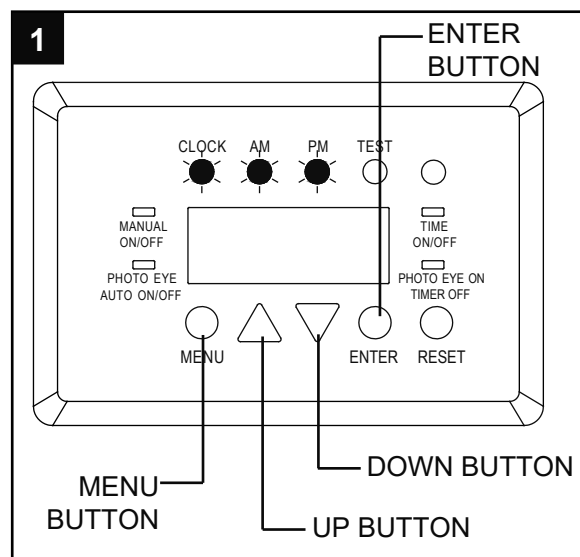


OPERATING INSTRUCTIONS

1. SET TIME: set the clock to local time
 - a. Press the MENU button until green CLOCK LED indicator is lit and press ENTER.
 - b. AM/PM LED indicators will flash. Press the ▲ / ▼ buttons to select AM or PM and press ENTER.
 - c. When the hour begins to flash, press the ▲ / ▼ buttons to desired hour and press ENTER.
 - d. When the minute begins to flash, press the ▲ / ▼ buttons to desired minute and press ENTER.

TIP: You may press and hold ▲ / ▼ buttons to speed through the hour/minutes.

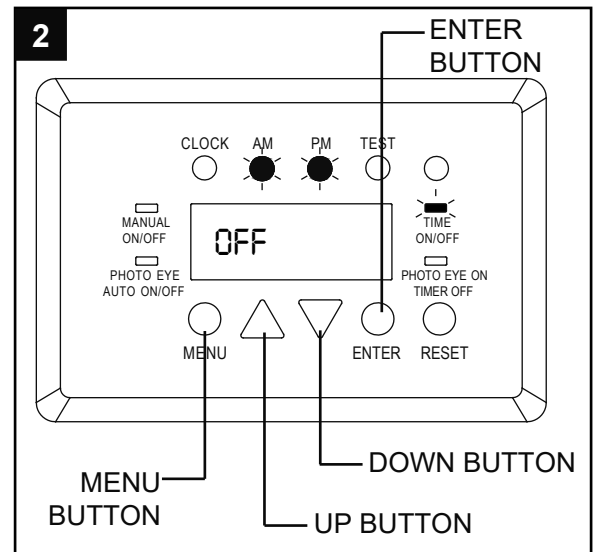
NOTE: If the local time is NOT set, the TIME ON/OFF MODE and PHOTO EYE ON TIMER MODE will NOT function.



OPERATING INSTRUCTIONS

2. **SETTING TIME ON/OFF:** This setting allows you to control the time the lights turn ON/OFF.

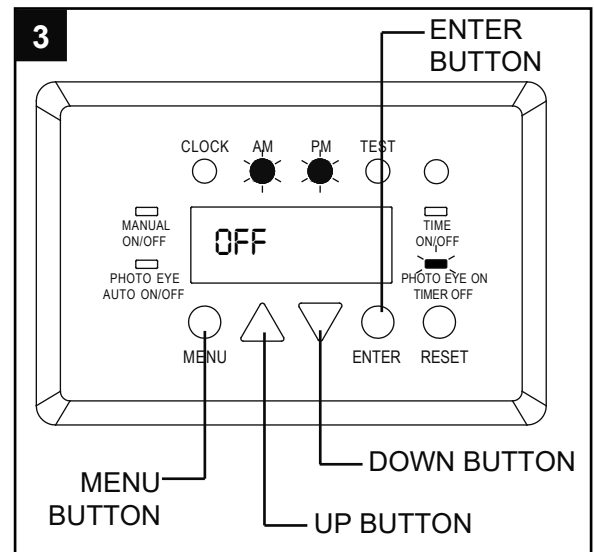
- Press the MENU button until green TIME ON/OFF LED indicator is lit and press ENTER. The digit display will show "ON". Press ENTER.
- AM/PM LED indicators will flash. Press the ▲ / ▼ buttons to select AM or PM and press ENTER.
- When the hour begins to flash, press the ▲ / ▼ buttons to desired hour and press ENTER.
- When the minute begins to flash, press the ▲ / ▼ buttons to desired minute and press ENTER.
- The digit display will show "OFF". Press ENTER and repeat steps b - d to set OFF time.



3. **SETTING PHOTOEYE ON/TIMER OFF:** This setting allows the photoeye to automatically turn the lights on at night and you to set the time the lights turn OFF.

- Press the MENU button until green PHOTOEYE ON TIMER OFF LED indicator is lit and press ENTER. The digit display will show "OFF". Press ENTER.
- AM/PM LED indicators will flash. Press the ▲ / ▼ buttons to select AM or PM and press ENTER.
- When the hour begins to flash, press the ▲ / ▼ buttons to desired hour and press ENTER.
- When the minute begins to flash, press the ▲ / ▼ buttons to desired minute and press ENTER.

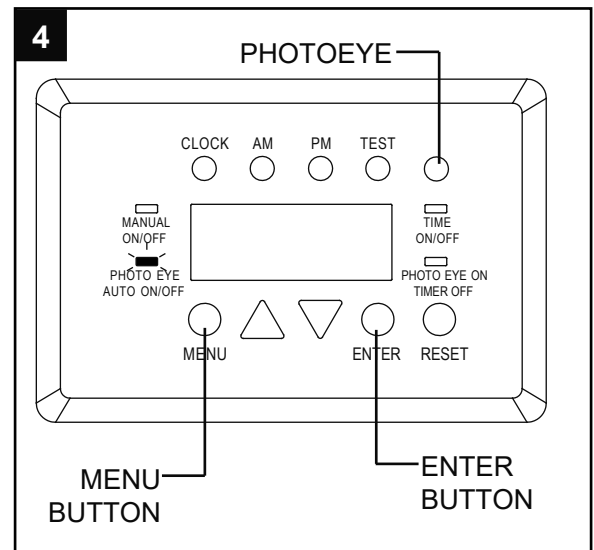
NOTE: When the photoeye senses direct sunlight, the light(s) will turn off (within 1 minute) after which there will be a 30 - 60-second delay.



4. **SETTING PHOTOEYE AUTO ON/OFF:** This setting allows the photoeye to automatically turn the lights on at dusk and off at dawn.

- Press the MENU button until green PHOTOEYE AUTO ON/OFF LED indicator is lit and press ENTER.

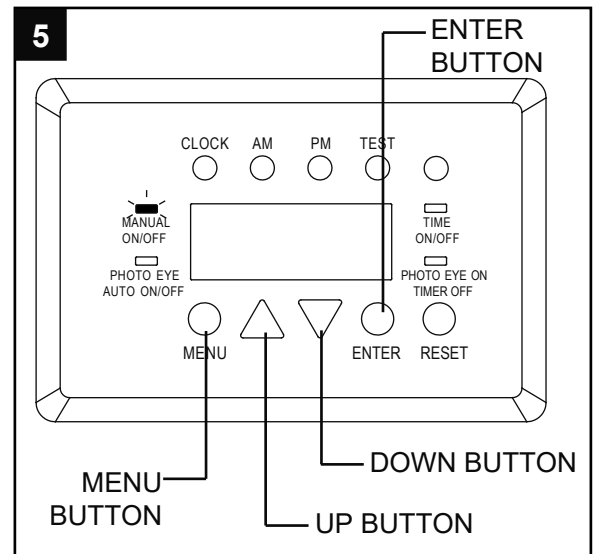
NOTE: When the photoeye senses direct sunlight, the light(s) will turn off (within 1 minute) after which there will be a 30 - 60-second delay. When the photoeye does not sense sunlight, the light(s) will automatically turn ON within one minute (5 - 20 second delay).



OPERATING INSTRUCTIONS

5. Operating in MANUAL MODE: This setting allows you to immediately turn the lights ON and turn them OFF when you no longer need them.

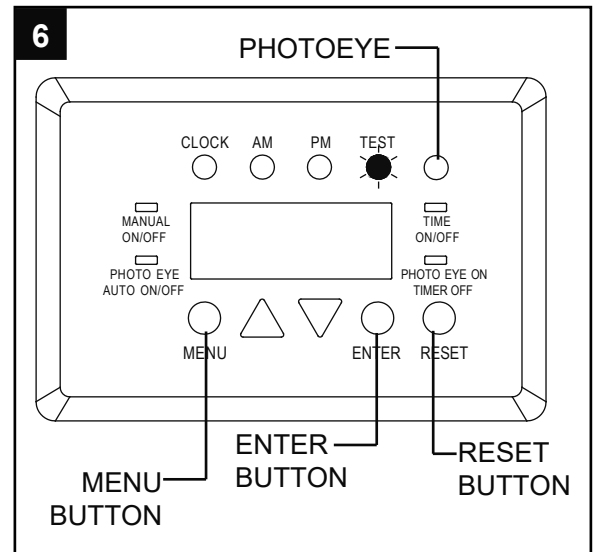
- Press the MENU button until green MANUAL ON/OFF LED indicator is lit and press ENTER.
- Press the ▲ button to turn the lights ON.
- Press the ▼ button to turn the lights OFF.



6. Using the TEST function: This setting allows you to test your lights after installation.

- Press the MENU button until green TEST LED indicator is lit and press ENTER. The TEST mode is now activated.
- Press the RESET button.

To test the photoeye, use a cloth to completely cover the photoeye. Make sure the photoeye is completely covered, and the lighting will turn on. When you remove the cloth from the photoeye, and the photoeye senses direct sunlight, the light(s) will turn off.



NOTE:

- To save energy, the display and LED indicator lights will turn off after 2 minutes. Press any button to re-activate display setting.
- When there is a power outage during the normal use of the transformer (A), the transformer (A) will maintain the pre-power outage working mode after a power outage. However, regardless of the pre-set delay light time, the delay light time will be recalculated at the preset time after the power outage.

TROUBLESHOOTING

⚠ WARNING: Before beginning work, disconnect the power to the product by unplugging the product to avoid electrical shock.

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
None of the fixtures will turn on.	1. The cable and the transformer aren't in contact. 2. No power to the transformer. 3. Transformer is overloaded. 4. Transformer needs at least 10W loading. 5. The operation is not in an ON setting. 6. There is a short circuit in the run wire. 7. The wattage of the lights is too high.	1. Check the connection between the primary wire and the transformer. 2. Check the power to the transformer. 3. Check total wattage of all fixtures. 4. Check if there is a minimum of 10W loading 5. Check the power switch is in an ON setting. 6. Check the entire run wire. 7. Replace the light(s) or reduce the number of lights.
Only some fixtures will turn on.	1. The wire connector is not making correct contact with the landscape cable. 2. Transformer is overloaded. 3. The fixture lights have burned out.	1. Make sure brass contact pins pierce the plastic wire insulation and are touching the copper wires inside. 2. Check total wattage of all fixtures. 3. Replace the lights.
The fixtures blink.	1. The photoeye is receiving artificial light (street lights, reflection from light source, set on "MANUAL" mode only, etc.). 2. Normal voltage drop at the end of the wire or the landscape cable may be too long.	1. Make sure the photoeye is not receiving artificial light (street lights, reflection from light source, set on "MANUAL" mode only, etc.). 2. Adjust the position of lights, change to loop wiring method, move it near the transformer or change to a thicker gauge cable (Refer to cable gauge and cable length on page 6).
The fixtures will not turn off in "Dusk to Dawn" mode (AUTO) during the day time.	1. The photoeye is covered.	1. Make sure the photoeye is receiving direct sunlight and is not dirty or covered.
The fixtures will not turn on at dusk.	1. The photoeye is receiving artificial light (street lights, reflection from light source, etc.).	1. Make sure the photoeye is not receiving artificial light (street lights, reflection from light source, etc.).

CARE AND MAINTENANCE

- Before attempting to clean the product, disconnect the power to the product by unplugging the product.
- To clean the product, use a dry or slightly dampened clean cloth.
- DO NOT use any cleaners with chemicals, solvents, or harsh abrasives as damage to the product may occur.
- Periodically check the terminal screws (E) connecting the cable to the transformer terminal blocks to make sure they are tightly secured to prevent overheating.

WARRANTY

The distributor warrants this product against defects in materials and workmanship for two (2) years from the date of purchase. If within this period the product is found to be defective, take a copy of the bill of sale as a proof of purchase and the product in its original carton to the place of purchase. The distributor will, at its option, repair, replace or refund the purchase price to the consumer. All costs of installation and removal of the product is the responsibility of the consumer. This warranty does not cover product becoming defective due to misuse, accidental damage or improper handling and/or installation and specifically excludes liability for direct, incidental or consequential damages, improper packaging of returned products and acts of God. As some states do not allow exclusions of limitations on an implied warranty, the above exclusion and limitation may not apply. This warranty gives you specific rights and you may also have other rights which may vary from state to state.