



# Installation Manual

## CS Professional Series

LED Landscape Lighting System

Applicable to all kits and fixtures including:

CS9100-LED	CS8100-LED	CS8100P-LED	CS8100B-LED
CS9300-LED	CS6100-LED	CS6100P-LED	CS6100B-LED
CS12100-LED	CS7100-LED	CS7100x-LED	CS933-LED
CS936-LED	CS937-LED	CSxxxx-LED	



# CS Professional Series

## LED Landscape Lighting System – pg. 1

### READ THESE INSTRUCTIONS ENTIRELY BEFORE BEGINNING INSTALLATION!

Congratulations on your decision to purchase one of the finest quality LED landscape lighting systems on the market today. When properly installed and maintained, this system will provide years of trouble free service and allow you to illuminate your home like a professional. Just follow these easy steps to design and install the CS Professional Series system and any add-ons or upgrades you may have purchased. For additional help and information on installing your system, visit our web site at [www.PMLighting.com](http://www.PMLighting.com).

#### WHAT'S INCLUDED:

CS936-LED Copper Area/Path Lights†	Landscape Cable 14/2 gauge*
CS937-LED Copper Bullet Directional Lights†	1 each Outdoor Timer with Photocell
CS933-LED In-Ground Well Lights‡	1 each Stake Driver Cap (Installation Tool)
1 each CS Pro-Series Transformer	

#### TOOLS REQUIRED/RECOMMENDED FOR INSTALLATION:

Screwdriver (Flat & Phillips Head)	Shovel
Wire Cutter	Hammer
Wire Stripper	100-Ft Measuring Tape
Pliers	Power Drill and Bits (3/16" bit for plastic anchors)
Dead Blow Mallet (for stake installation)	Gloves

#### BASIC SYSTEM DESIGN STEPS:

† Quantity depends on model of kit purchased  
 ‡ Available in certain larger kits such as the CS9300-LED  
 \* 100 feet included in 8 light kits and smaller. 9 light kits and above include 200 feet of cable

**LED landscape lighting** is quite easy to install and is much easier than traditional halogen systems. LED lighting allows the running of cables with less complications of the dreaded “voltage drop” that occurs more readily with halogen systems and other higher wattage incandescent systems. Just follow these four easy steps for a successful installation.

- A. **Determine the location of the power transformer before installation** and make sure a suitable 115/120VAC covered GFCI outlet marked “WET LOCATION” is within reach of the transformer power cord. Attach and secure transformer to the wall a minimum of 12 inches above ground using screws and anchors (if needed). Mounting screws are provided for your convenience.
- B. Lay out the 14/2 gauge MAIN SUPPLY CABLE according to the **Easy Design Guide** on the next page, paying close attention to where your fixtures are located and distances to determine the length of cable needed.
- C. Install each luminaire according to the individual instruction sheets, attach each luminaire to **the Main Supply Cable using the attached easy connectors**, and bury loose cable as desired (6 inches deep or less).
- D. Plug **Power Transformer** into the **Timer with Photocell**, plug the timer into the GFCI outlet, and turn the Timer dial to the desired setting for Dusk/Dawn, or Dusk On/ Off in 2, 4, 6, or 8 hours.



# CS Professional Series LED Landscape Lighting System – pg. 2

## Easy Design Guide

Use the Easy Design Guide to help determine the best way to wire your fixtures to create optimal results in the illumination of your home. Follow these simple rules for best results:

1. It is recommended that you use **2 MAIN SUPPLY CABLE** runs from the transformer for best results and easiest installation, especially when you need to install fixtures on both sides of the transformer.
2. For short distances from the transformer (under 60 feet), only a single **MAIN SUPPLY CABLE** may be used to install this LED system for even easier installation. If the transformer is located on one end of the house, simply run a cable from the transformer to the various lights, leaving a little extra slack to make burying the cable easy.
3. **DO NOT EXCEED the MAXIMUM WATTAGE** listed for each length of MAIN SUPPLY CABLE used or the voltage at the fixtures will be lower than required causing the LED to flicker or not light at all. If any lights, especially on the end of the **MAIN SUPPLY CABLE**, do not light or experiences flickering, make sure the transformer is on the HIGH setting (See #4 below) and check to make sure the quick connectors on each light fixture are properly installed and are making a good connection.
4. **SHORTER** lengths for the MAIN SUPPLY CABLE **lowers** voltage drop on the line while **LONGER** lengths **increases** the voltage drop. Use the Line Length/Wattage Chart below to determine the maximum wattage load for various lengths of the MAIN SUPPLY CABLE.
5. **The total wattage for the CS Pro Series systems range from just 30 watts for the CS6100-LED 6 light kit to 50 watts for the largest CS12100-LED 12 light kit**, providing ample room on the standard 100 watt transformer to add additional CS Professional Series LED fixtures to expand your system. The chart below will help determine the maximum amount of fixtures you can have on the system when you add up the total wattage from all fixtures on the line / system.

Total Length of Main Supply Cable	Maximum Wattage Available for Fixtures	CS Professional Series LED Fixtures	Individual Fixture Wattage
50 Feet	90 watts	CS936-LED Path Light	3.0 watts
60 Feet	75 watts	CS937-LED Bullet Light	5.0 watts
70 Feet	60 watts	CS938-LED Deck Light	2.0 watts
80 Feet	55 watts	CS933-LED Well Light	6 watts
90 Feet	50 watts	<i>*Quantity and type of fixtures will vary by model of</i>	
100 Feet	45 watts	<i>Kit purchased. See product label for more details.</i>	

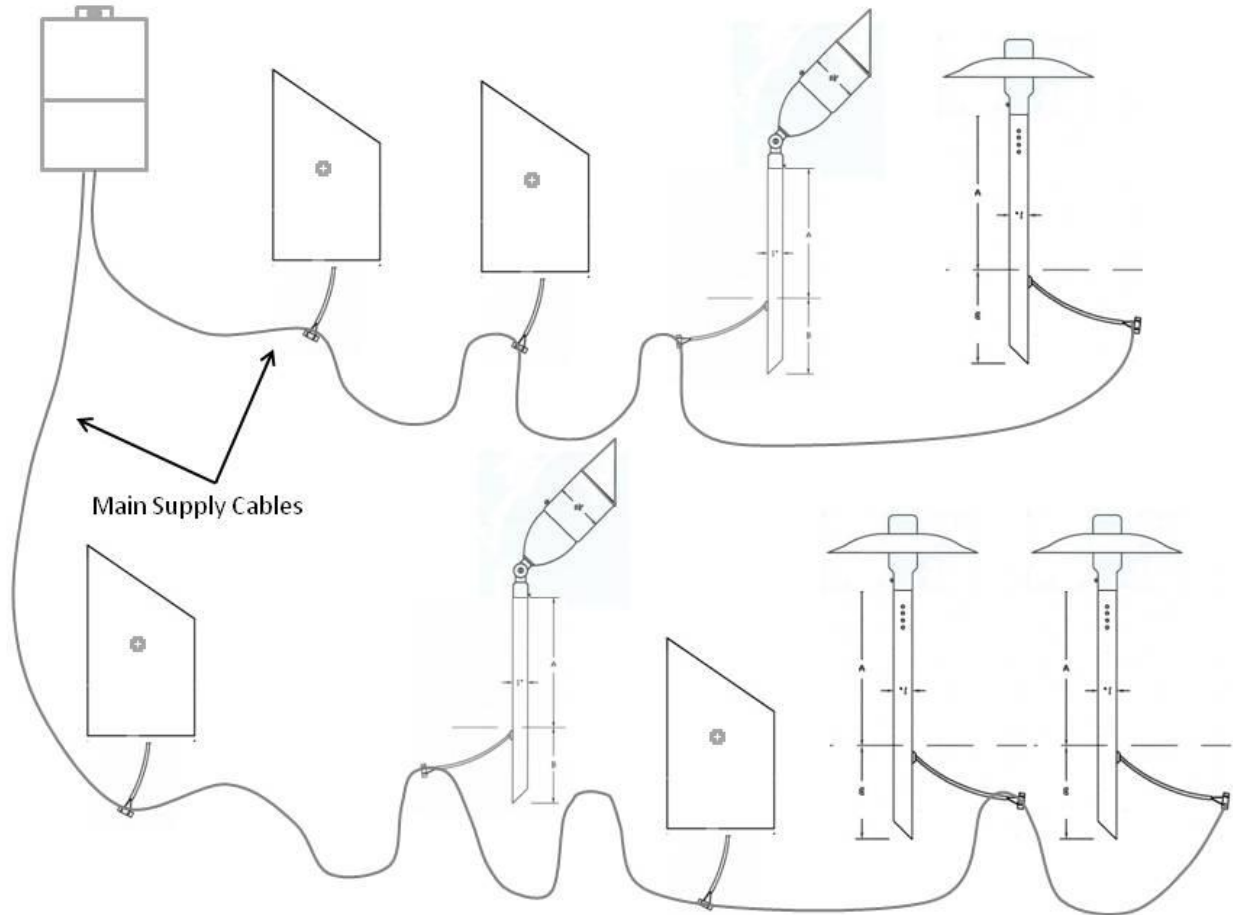
Save these instructions!



# CS Professional Series LED Landscape Lighting System – pg. 3

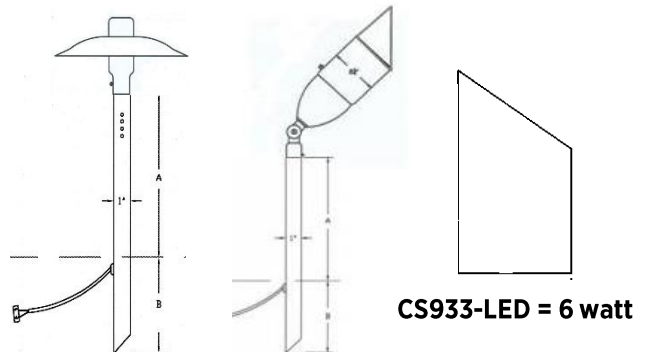
## Example of Wiring Plan

Power Transformer



This example demonstrates the **optimal wiring plan** design, using **two (2) Main Supply Cables** from the transformer to split the fixtures into two (2) groups. For best results follow these tips:

1. Keep cables as short as possible.
2. Leave enough slack to make burying cable easier.
3. Make sure the Easy Connectors are tight to create a good connection on the Main Supply Cable



CS936-LED = 3 watt

CS937-LED = 5 watt

CS933-LED = 6 watt

Save these instructions!



# Professional Series CS936-LED Path Lights

## INSTALLATION INSTRUCTIONS

pg. 4

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, OR INJURY  
TO PERSONS IMPORTANT SAFETY INSTRUCTIONS

**For use with Low Voltage Landscape Lighting Power Units. FOR OUTDOOR USE ONLY.**

Amperage not to exceed 25 AMPS per circuit  
Voltage not to exceed 15 VOLTS per circuit

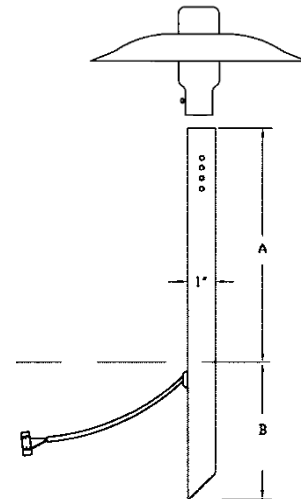
**Warning:** Luminaire must be installed in accordance with the National Electric Code (NEC) and all Local Codes. Failure to comply with NEC and/or Local Codes may cause serious injury and could destroy the luminaire. Failure to comply with NEC and Local Codes will void all warranties.

**Safety Warning:** LAMP IS HOT WHEN LUMINAIRE IS ON! Hot lamp creates risk of fire and injury to persons. Keep away from combustibles. Lamp gets hot very quickly. Turn off or unplug luminaire and allow lamp to cool to change bulb. Do not touch lamp with bare hands. When using this fixture with high wattage halogen lamps (35W halogen MAXIMUM), keep luminaire away from children as luminaire may become VERY HOT. Do not install luminaire within 10 feet (3.05 meters) of a pool, spa, fountain, or pond. Do not cover or bury luminaire and keep luminaire clear of debris. Use only UL compliant components including low-voltage power units, cable, wire connectors, and any other component necessary. **CAUTION: Luminaire is NOT submersible!**

**NOTE:** Do not exceed the maximum wattage rating or maximum amperage rating of the power unit (transformer) used when installing multiple luminaires.

## INSTALLATION GUIDELINES

1. Disconnect or unplug transformer from power source.
2. All Path Light tops are to be mounted to a power stake and are interchangeable.
3. Drive the power stake into the ground at the desired location and depth (see "B") with the included installation driver tool.
4. Install bulb, slide top over power stake, and set top at the desired height position using set screw or pushpin in holes.
5. Connect the wire terminals to the main lead to the transformer using included Quick Connect lead connectors.
6. Cable may be buried if desired to a maximum depth of 6 inches underground.
7. Do not exceed 12 Volts at the Luminaire.
8. Recommended Lamp: 3W G4 LED Bi-pin (Outdoor Rated)



Save these instructions!





# Professional Series CS937-LED Directional Lights

## INSTALLATION INSTRUCTIONS

pg. 5

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, OR INJURY  
TO PERSONS IMPORTANT SAFETY INSTRUCTIONS

**For use with Low Voltage Landscape Lighting Power Units. FOR OUTDOOR USE ONLY.**

Amperage not to exceed 25 AMPS per circuit  
Voltage not to exceed 15 VOLTS per circuit

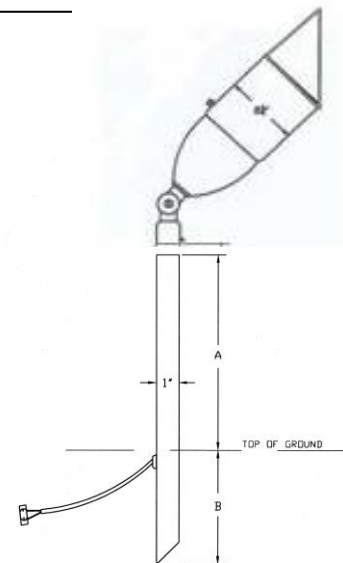
**Warning:** Luminaire must be installed in accordance with the National Electric Code (NEC) and all Local Codes. Failure to comply with NEC and/or Local Codes may cause serious injury and could destroy the luminaire. Failure to comply with NEC and Local Codes will void all warranties.

**Safety Warning:** LAMP IS HOT WHEN LUMINAIRE IS ON! Hot lamp creates risk of fire and injury to persons. Keep away from combustibles. Lamp gets hot very quickly. Turn off or unplug luminaire and allow lamp to cool to change bulb. Do not touch lamp with bare hands. When using this fixture with high wattage halogen lamps (35W MAXIMUM), keep luminaire away from children as luminaire may become VERY HOT. Do not install luminaire within 10 feet (3.05 meters) of a pool, spa, fountain, or pond. Do not cover or bury luminaire and keep luminaire clear of debris. Use only UL compliant components including low-voltage power units, cable, wire connectors, and any other component necessary. **CAUTION: Luminaire is NOT submersible!**

**NOTE:** Do not exceed the maximum wattage rating or maximum amperage rating of the power unit (transformer) used when installing multiple luminaires.

## INSTALLATION GUIDELINES – STAKE MOUNTED MODEL

1. Disconnect or unplug transformer from power source.
2. This style of Directional Light is a complete luminaire and designed to be mounted on a ground stake.
3. Drive the ground stake into the ground at the desired location and depth (see “B”) with the included installation driver tool.
4. Connect the matching male and female terminals on the ground stake and luminaire, slide the socket onto the ground stake and secure the position desired using the brass screws on the adjustable knuckle.
5. Connect the wire terminals to the main lead to the transformer using included Quick Connect lead connectors.
6. Cable may be buried if desired to a maximum depth of 6 inches underground.
7. Do not exceed 12 Volts at the luminaire.
8. Recommended Lamp: 5W MR16 LED (Outdoor Rated)



Save these instructions!



# Professional Series CS933-LED Well Lights

## INSTALLATION INSTRUCTIONS

pg. 6

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, OR INJURY  
TO PERSONS IMPORTANT SAFETY INSTRUCTIONS

**For use with Low Voltage Landscape Lighting Power Units. FOR OUTDOOR USE ONLY.**

Amperage not to exceed 25 AMPS - Voltage not to exceed 15 VOLTS

**Warning:** Luminaire must be installed in accordance with the National Electric Code (NEC) and all Local Codes. Failure to comply with NEC and/or Local Codes may cause serious injury and could destroy the luminaire. Failure to comply with NEC and Local Codes will void all warranties.

- Low voltage cable shall be protected by routing in close proximity to the luminaire or fitting, or next to a building structure such as a house or deck and have the length cut off so that it is connected to a connector within 6 inches (15.2 cm) from a building structure, a luminaire, or fitting.
- When ordering additional wire or cable, please contact the manufacturer customer service or contact a qualified electrician.

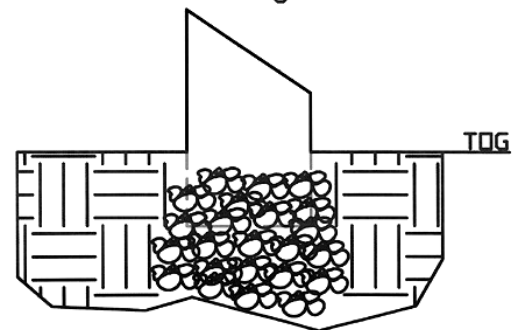
**Safety Warning:** LAMP IS HOT WHEN LUMINAIRE IS ON! Hot lamp creates risk of fire and injury to persons. Keep away from combustibles. Lamp gets hot very quickly. Turn off or unplug luminaire and allow lamp to cool to change bulb. When using high wattage lamps, keep luminaire away from children, as luminaire may become VERY HOT. Do not install luminaire within 10 feet (3.05 meters) of a pool, spa, fountain, or pond. Do not bury luminaire below the recommended depth and keep luminaire clear of debris. Use only UL compliant components including low-voltage power units, cable, wire connectors, and any other component necessary. **CAUTION: Luminaire is NOT submersible!**

**NOTE: Do not exceed the maximum wattage rating or maximum amperage rating of the power unit (transformer) used when installing multiple luminaires. NOT FOR USE WITH DIMMERS!**

## INSTALLATION GUIDELINES

1. Disconnect or unplug transformer from power source.
2. Dig a hole at the location desired 6" in diameter and approximately 12" deep.
3. Add 7" of gravel in the bottom of the hole for drainage.
4. Connect the wire terminals to the main lead to the transformer using included Quick Connect lead connectors.
5. Cable may be buried if desired to a maximum depth of 6 inches underground.
6. Adjust angle of bulb and tighten wing nuts on side of luminaire to secure position.
7. Do not exceed 12 Volts at the Luminaire.
8. Recommended Lamp: 6W Par36 LED (IP67 Outdoor Rated)

We Recommended 7" of  
gravel to allow for  
water drainage.



**CAUTION: KEEP LENS CLEAR OF MULCH AND DEBRIS AT ALL  
TIMES!**





# CS Professional Series LED Landscape Lighting System – pg. 7

## Additional Helpful Installation Instructions

### Quick Connectors & Installation



Quick Connects are a fast and easy method for connecting P. M. Lighting landscape lighting luminaires to the **Main Supply Cable** running to the power transformer. These connectors will work on both 14 gauge and 12 gauge cable for home runs. Simply position the cable between the 2 halves of the Quick Connects as shown and squeeze the parts together tightly to pierce both wires with the metal conductors. The teeth on the ratchet devices lock the pierced terminals into place to securely hold the connection over time.

To install or replace Quick Connects,

1. Cut the old Quick Connect parts from the wires (if replacing old ones) and strip the end of the wires to approximately ½” in length.
2. Use the wire nuts included in the replacement kit to connect each side of the Quick Connect to the 18 gauge wire on the luminaire.
3. Attach and secure the new Quick Connect as outlined above.

### Using the Stake Installation Tool



**LEFT PICTURE:** Slide the Stake Installation Tool over the top of the copper stake until it bottoms out in the hole. When installing the ground stakes for bullet lights, make sure the wires are carefully tucked inside the stake to avoid cutting or damaging the cable.



**RIGHT PICTURE:** Position the stake in the location desired and hammer the stake directly into the ground approximately 6 inches, being careful to keep the stake in an upright and straight position. Use a dead blow mallet to minimize the risk of damaging the light socket in power stakes.

Save these instructions!







# CS Professional Series LED Landscape Lighting System – pg. 8

## CS Pro Series Transformer Installation Instructions

**The CS ProSeries Transformer must be plugged in to a 120VAC GFCI protected outlet. Unplug transformer from outlet prior to installation and during service!**

For all wire connections: Use **UL listed Wire Connectors** included with the fixtures and kit.

For all the opened knockouts: Use **UL listed Cable Clamp** suitable for the cable size and type (included with kit).

Please check that the total lamp/fixture wattage does not exceed 100 Watts (or 150 Watts for the CS150T transformer). For optimal performance, use 80% of the maximum for lamps/fixtures (80 watts or 120 watts for the CS150T transformer)

Ensure that the overload **protector switches under the terminal block are reset (pushed in)** and not tripped for any reason.

### **MOUNTING**

Choose the best location on any rigid vertical wall or post within easy reach of the 120VAC GFCI Outlet, making sure that the wiring compartment is facing down and at the bottom. Transformer should be mounted a minimum of 12 inches above ground.

Open the wiring compartment cover by pulling outward on the cove to swing it up to the open position.

The enclosures have a knockout on the bottom of the housing for the low-voltage cable to enter through a cable clamp and the opening. Install included cable clamp into the knockout hole before adding cables from fixtures.

### **GROUNDING**

The transformer case **must** be grounded. Check to see if the green ground wire from the power cord is properly secured to the transformer housing by the ground nut. **This was done at the factory so there should be no action needed by the end user / consumer.**

### **OUTPUT CONNECTIONS – (One 12V output circuit) 100 watts (or 150 watts for CS150T transformer)**

Bring the 12V lamp wires into the wiring compartment through the open knockout/cable clamp and connect each side to the **BOTTOM** terminal block lug screws. The lug screws of the terminal block should be secured tight to create a solid connection. Tighten screws on the cable clamp to secure the cables into the housing.

### **INPUT CONNECTION**

This transformer is designed for use with standard 120V 60Hz power.

Plug the power cord into a standard 120VAC, GFCI protected outlet.

**Please check and make sure you have followed all installation instructions carefully!**



# CS Professional Series LED Landscape Lighting System – pg. 9

To further clarify installation and wiring of your CS Professional Series power transformer, please refer to the instructions below.

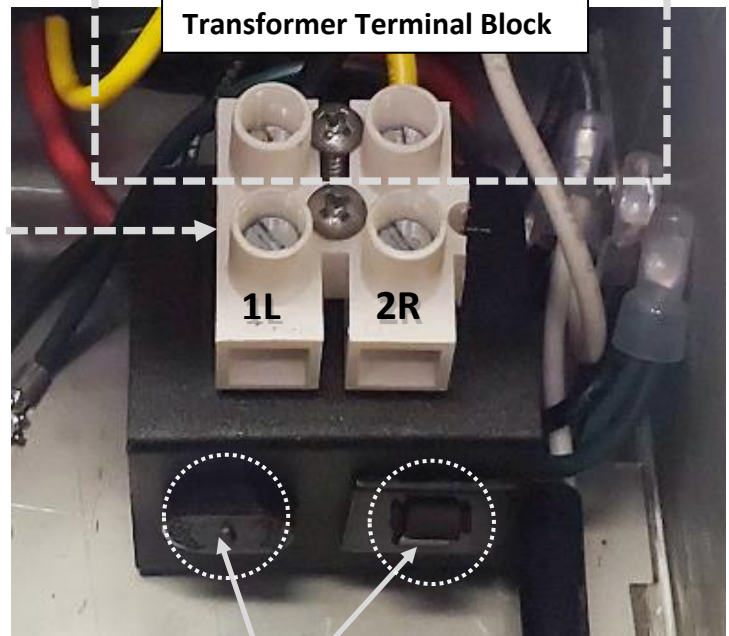
1) USE ONLY THE BOTTOM SCREW TERMINALS TO ATTACH THE MAIN CABLES FROM THE LIGHT FIXTURE RUNS. **DO NOT LOOSEN TOP SCREWS OR REMOVE WIRES ATTACHED TO THE TOP SCREWS. LOOSENING THE TOP SCREWS MAY CAUSE THE TERMINAL BLOCK TO LOSE POWER TO THE TRANSFORMER COIL.**

2) EACH MAIN CABLE RUN MUST BE CONNECTED TO 1 (LEFT) AND 2 (RIGHT). SEE DIAGRAM BELOW

3) ATTACH ONE SIDE OF THE MAIN CABLE RUN TO THE LEFT TERMINAL (1) BY INSERTING THE STRIPPED WIRE (APPROX. 3/4") INTO THE BOTTOM OF THE TERMINAL BLOCK. ATTACH THE OTHER SIDE OF THE MAIN CABLE RUN TO THE RIGHT TERMINAL (2). TIGHTEN BOTTOM TERMINAL SCREWS TO SECURE EACH WIRE.

Insert one side of each main cable run into the bottom of the terminal block in the (1) LEFT screw terminal and one side in the (2) RIGHT screw terminal.

**CAUTION: DO NOT LOOSEN TOP SCREWS OR REMOVE ANY WIRES IN TOP PORTION OF TERMINAL BLOCK!**



If the white section of the switch is visible (or popped out), this means the overload protector has tripped and must be reset by pushing the button until it is flush with the switch as shown in the picture.

**CAUTION!** IF THE OVERLOAD PROTECTOR TRIPS AGAIN AFTER RESETTING, THIS INDICATES EITHER TOO MUCH WATTAGE IS ON THE SYSTEM OR THERE IS A SHORT IN ONE OF THE CABLES. THIS MUST BE CORRECTED BEFORE THE TRANSFORMER CAN BE RESET.

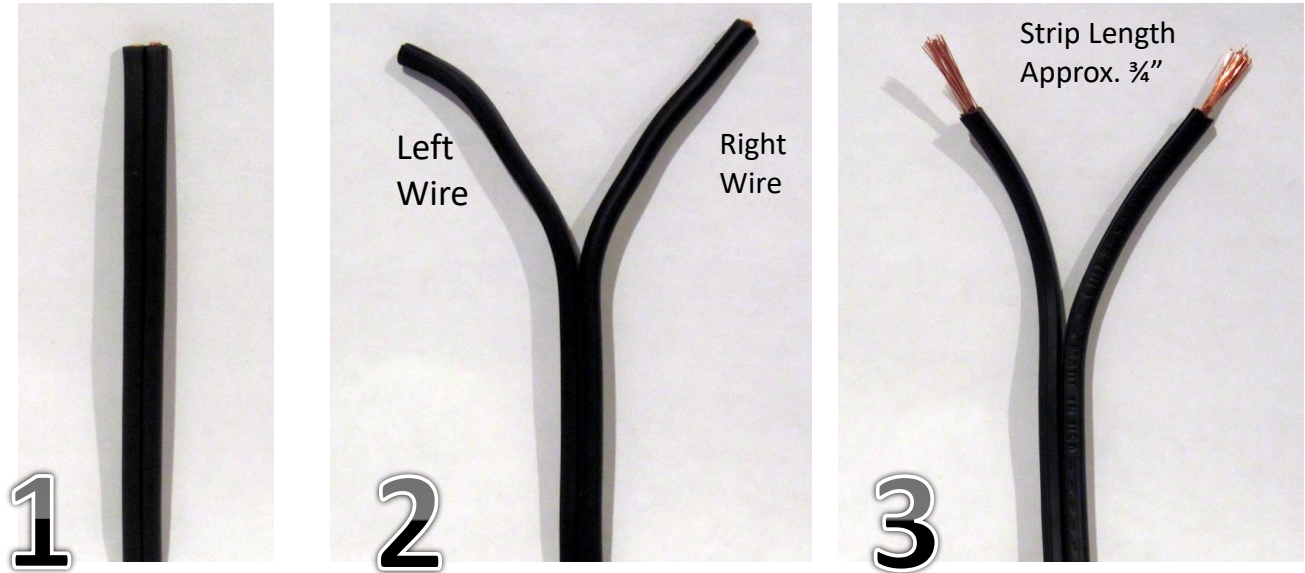
Easy Reset Pushbutton  
Overload Protectors



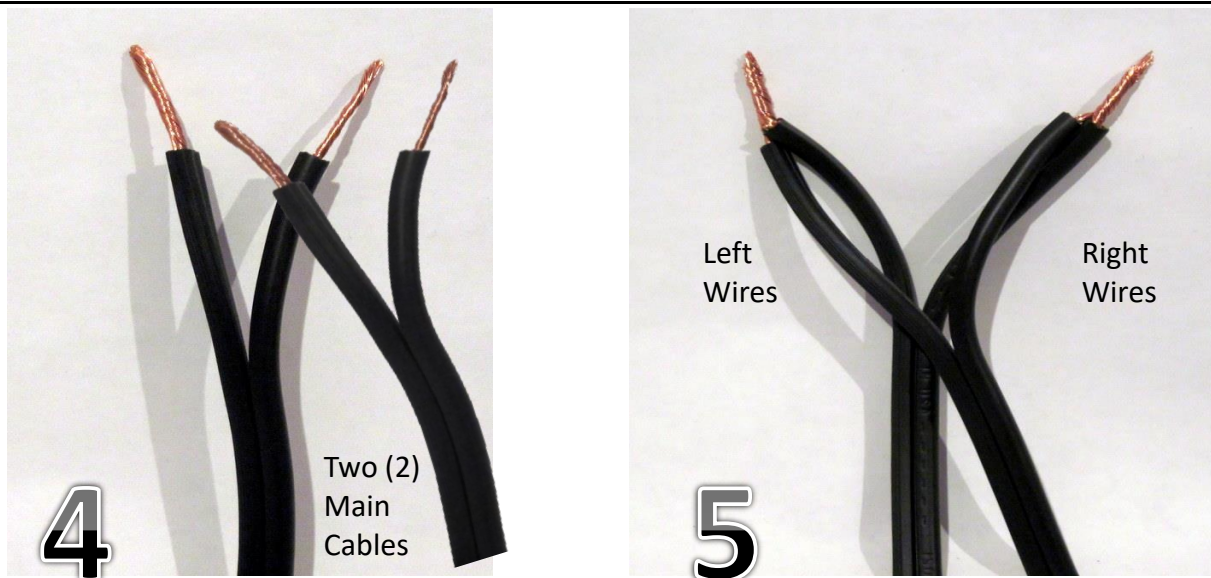


# CS Professional Series

## LED Landscape Lighting System – pg. 10



- Each 14/2 main cable must be split in the middle to create a left and right side.
- Strip the outer insulation from each wire approximately  $\frac{3}{4}$ " of an inch to expose the copper stranded wires



- For a single home run cable, twist the strands of copper wire together tightly for each side.
- For more than one home run cable, twist the strands of copper wire together, combining each side together tightly as shown in #5 to make a completed wire harness. Make sure the left and right sides of each cable are separated.



P. O. Box 98  
Ashland City, TN 37015

Phone (615) 792-6884 Fax # (615) 792-6898

© 2021 P. M. Lighting, LLC  
All Rights Reserved