INFINITY LIGHTING™

BY SEASONAL SOURCE

INFINITY LIGHTING SYSTEM

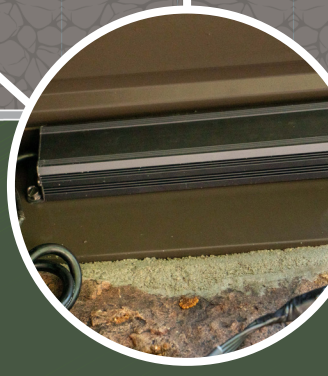
COMPLETE INSTALLATION GUIDE

A. COLOR CHANGING LIGHTS

B. CUSTOM CHANNELS

D. NETWORK BRIDGE

* LOCATED INSIDE THE HOME



E. 5V POWER BOO

* USE 1 FOR EVERY 75' OF

75 FEET

75 FEET

INSTALLATION OVERVIEW

A. RGB COLOR CHANGING LIGHTS

The patented design allows for installation directly into gutter or drip edge. These lights are invisible during the day & shine their brightest at night!

B. CUSTOM CHANNELS

Designed to be installed in the absence of gutters or drip edge flashing. Channels come predrilled in a variety of colors to match your home's trim.

C. LIGHT CAPS

The caps are used to hold the lights in place along the roofline. Once the light is in place screw on the cap tightly to secure the light. Available in 3 colors: Clear, Brown, and Grey. Match the light caps to existing gutter, drip edge or channel.

D. NETWORK BRIDGE

The Network Bridge is the driver of the entire Infinity Lighting system. It uses low frequency radio waves to communicate to the rest of the system. Plug into the router and wirelessly control up to 20 different zones within a 1/4 mile radius.

E. 5V POWER BOOSTER

This part of the system sends additional power to keep our Infinity Lighting colors consistent & bright. You'll need one of these at least every 75 feet of an installation. IP68 water-proof for outdoor use.

F. WIRELESS RECEIVER

Want to add another zone to your system? Get a wireless receiver and add another building, an independent section, etc. Connects directly to the lights and tells them what to do by receiving a low frequency radio signal from the Network Bridge. Requires a Network Bridge to function with the app.

TABLE OF CONTENTS

System Overview.....1
Introduction.....3
Planning and Preparation.....4
Designing and Quoting..... 6
Lighting Installation.....9
Making Wire Connections.....12
Pair and Connect.....14
Support.....18

INTRODUCTION

This planning and installation guide is intended to walk you through the process of preparing for and doing a professional installation of the Infinity Lighting system. The Infinity Lighting system is designed to be simple and customizable, allowing one to quickly learn how to install and operate this lighting system and make it a profitable part of any lighting installation business.

With reliable support and product, you will be amazed at how easy it is to succeed with Infinity Lighting permanent roofline lights.

PLANNING AND PREPARATION

The first step in doing a successful Infinity Lighting installation is to get yourself familiar with the system components. Page 4 has a complete list of the components used in an Infinity Lighting system. Check out our component specific installation details in this guide for additional information.

REQUIRED COMPONENTS

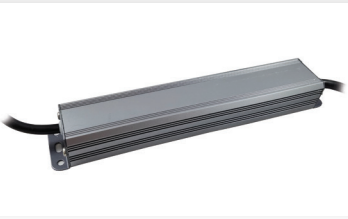
NETWORK BRIDGE

The Network Bridge connects to the router and receives updates from the servers.

WIRELESS RECEIVER

The Wireless Receiver receives the radio wave signal from bridge and tells the lights what function to perform.

POWER BOOSTER



The power booster provides power to the wireless receiver as well as feeds power to the lighting wire.

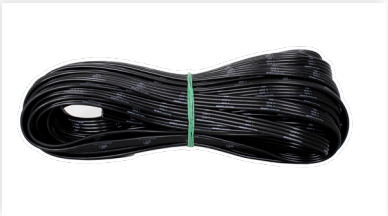
COLOR CHANGING LIGHTS (50')

RGB lighting that comes in lengths of 50'. This lighting wire can be custom cut to fit any desired length.

LIGHT CAPS

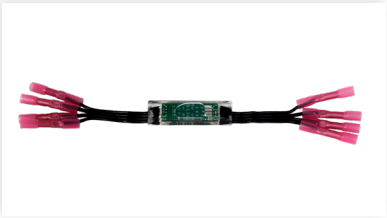
Light Caps hold the lights in place by securing the lights through the holes and help project the light colors. Caps come in clear, brown or grey.

UNLIT WIRE



Unlit Wire is used for running power and data over longer jumps between sections where lights are not needed.

DATA BUFFER



Data Buffers keep the data signal strong over sections of unlit wire that are 5' or longer.

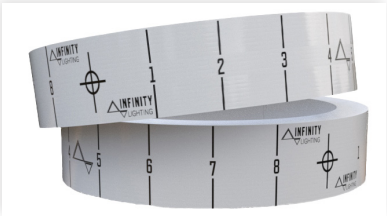
HEAT SHRINK BUTT SPLICES

The heat shrink butt splices are used to make secure, waterproof wire connections.

Y-SPLITS

The Y-split waterproof connectors are used for teeing off light sections and for adding additional power with the power boosters.

LAYOUT TAPE (180')

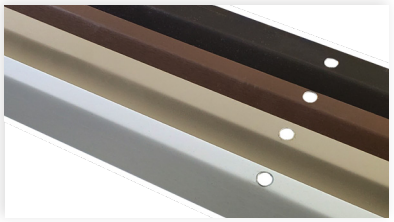


Use the Layout Tape for accurate marking and drilling of light holes in gutters and drip edges.

INFINITY LIGHTING DRILL BITS

Infinity Lighting Drill Bits are used for clean cut holes in the gutter and drip edge.

LIGHTING CHANNELS



Lighting Channels are pre-drilled for quick light installation. Check out our guide on the different ways channel can be used. Each channel covers approximately 4' of lit distance.

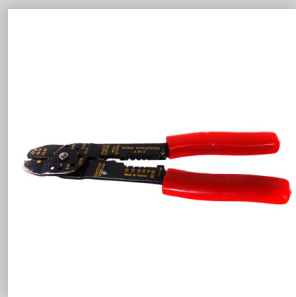
REQUIRED TOOLS

DRILL

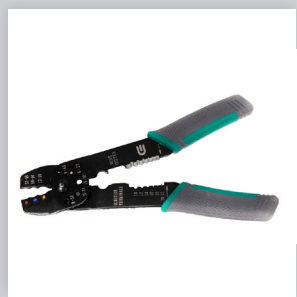
INFINITY LIGHTING DRILL BITS
Carbide steel for clean drilled hole

TAPE MEASURE

PINCHER



WIRE CUTTERS / STRIPPERS



CRIMPERS

HEAT GUN / BUTANE TORCH

LIQUID ELECTRICAL TAPE

SILICONE AND GUN

ELECTRICAL TAPE

OTHER THINGS TO CONSIDER

- Extension cords to get power to power supplies.
- Heat-shrink tubing with adhesive for ending light runs.
- Special tools/gear – tool belt/vest
- Ladders with gutter guards

VISIT OUR YOUTUBE!

DESIGNING AND QUOTING

Follow these steps to successfully quote an Infinity Lighting project.

TIP!

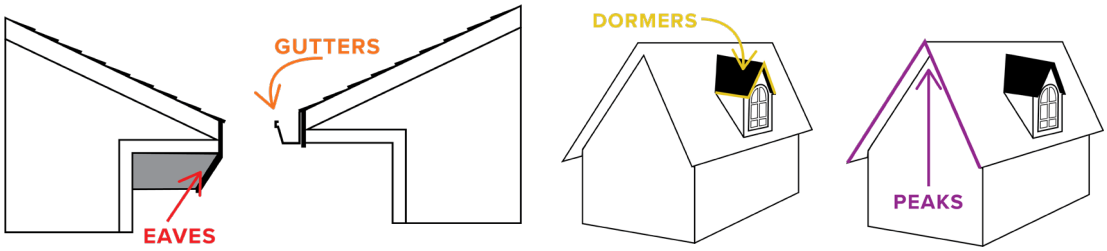
Google the address to get an image of the home before you go. This will help you know what to expect.

1. Schedule appointment with potential customer. Prepare sales kit, including samples of the product and images/video to show examples of what they can expect.

2. Arrive to scheduled appointment on time.

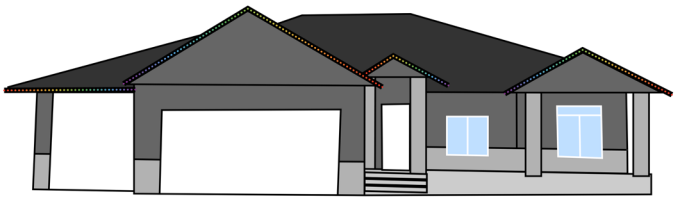
3. Before looking at the roofline, show the customer the product and explain the methods of installation such as in the gutter, behind the drip edges on the peaks, or in pre-formed lighting channels. Demonstrate App using your own device if possible.

4. With the customer having an understanding of the product, look at the home and discuss with them the areas that they would like to have the lighting installed. Focus on the areas of the roofline that are the most visible such as:

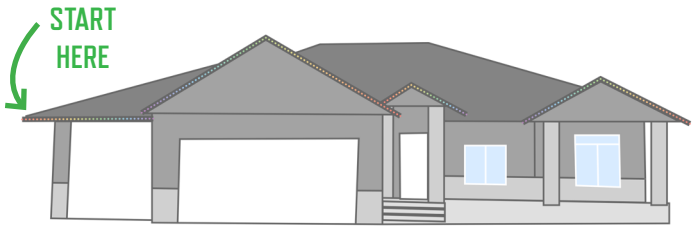


Then, based on the customers roofline sections, discuss the details of how the lighting would be installed to get approval. Review all variations or options discussed earlier (drill holes in gutter, drip edge, channel, etc.).

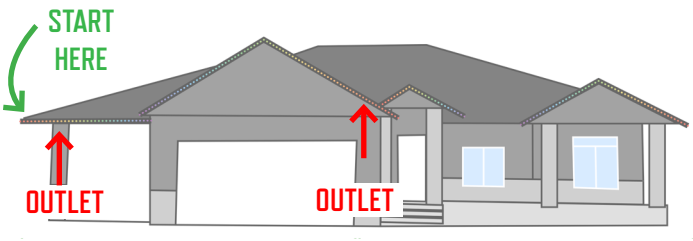
5. After agreeing upon the desired sections to be lit up, make a sketch of the building showing the rooflines.



6. Mark on the sketch where the lighting will start. This is where the starting power supply and wireless receiver will be installed.



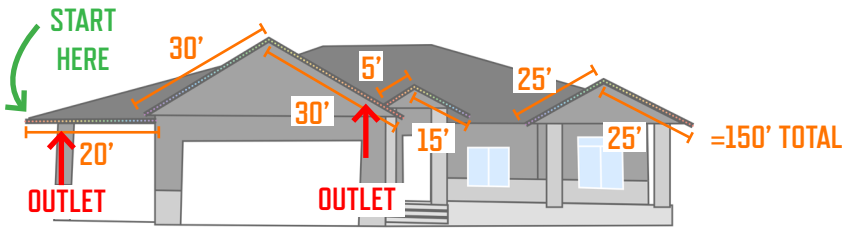
7. Find all power supply sources that are available (under eaves, by doorways, in the garage, etc.) and mark these on the sketch.



8. On the sketch, mark all the sections that will be lit up. Measure those lengths and mark on the sketch. To calculate the length of lighting wire required: Simply measure the length of the areas where lighting will be installed. It is always best to overestimate a little to avoid shortages. For example, if you have a 175' roofline, make sure you estimate 200' of lighting.

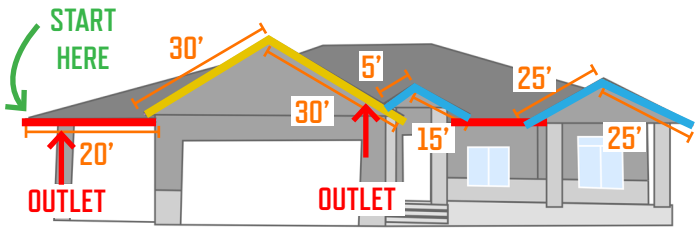
TIP!

An easy way to measure the peaks on a roofline is to measure the distance straight across the bottom of the peak and times that number by 2.

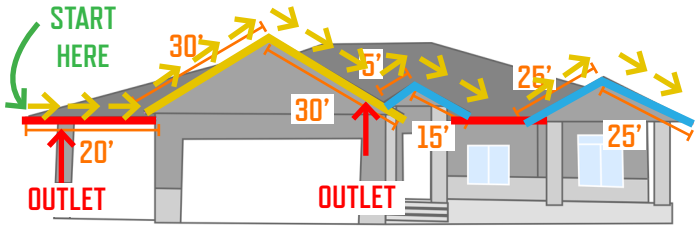


9. Next, mark each section as either gutter, drip edge, or channel.

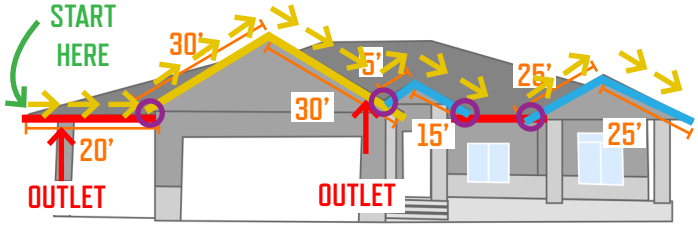
Tip: Mark each type of section in a different color: Ex. Gutter (red), drip edge (blue), channel (yellow).



10. Determine how the lighting will run from the starting point, considering all the sections and jumps. Mark the direction of light flow on the sketch with arrows to show how the different sections will be connected inline.



11. Identify where jumps will be required and estimate the lengths of these jumps. Mark these on the sketch along with the measurements. Add up the total jump lengths to determine how many feet of unlit wire will be required.



EACH JUMP=2'
8' UNLIT WIRE TOTAL

12. Determine any locations of splitting the lighting line: Where and how many splits will there be? Examples are a peak that is set back behind a front peak or a section that is separate from the main roofline, such as a dormer. Anywhere that the lights will split off the main run. Count the Y-splits to determine the number of Y-Splitter connectors needed. It takes 4 Y-splitters per Y-split.

13. Determining quantity of data buffers: Data buffers are needed on unlit wire over 5' and will need a second on stretches over 30' in the middle. No runs over 50'. Get a total count required.

14. Identify the number and locations of power boosters that will be required. One is installed at the beginning of the lighting run along with the wireless receiver, then at least every 75' of lighting. If a total length of 130' is being installed, a power booster may be installed at each end.

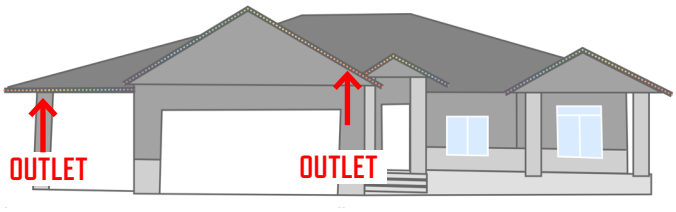
TIP!

Divide the total length of the roofline by 75 and round up. For example, 175' of roofline, divided by 75, equals 2.3. Round up to get 3 power supplies needed for the project. Note - Unusual layouts may require additional power supplies.

Note - a power booster will only supply enough power for 75’ total, and not 75’ in 2 different directions.

Mark each of the locations along the roofline that would be 75’ apart of total lighting run, including where it may tee off.

Then mark the sketch with which power sources can be used for the power boosters at these locations. Power may be injected along the lighting line as close as 40’ apart



15. Layout tape: 1 roll covers 180’. Determine quantity needed.

16. Butt splices: 4 connectors per connection. Determine the number of connections needed. Best to have extras on hand.

17. With these details and all components identified, mark down the quantity of components that will be necessary. Use the following product checklist to record the quantities of components required.

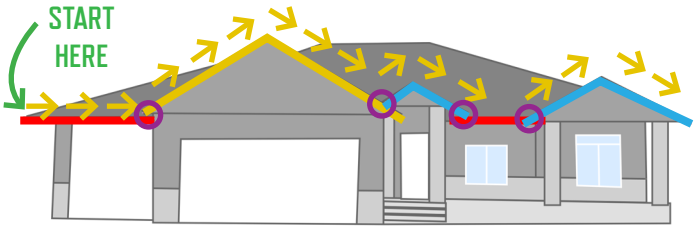
ITEM	QTY.	ITEM	QTY.
Network Bridge (440085)		Unlit Wire (440050)	
Wireless Receiver (440100)		Data Buffer (440000)	
Power Booster (440095)		Waterproof Connectors (440015)	
RGB Lighting-50’ spool (440090)		Y-Split Connectors (440010)	
Light Caps (440050, 440051, 440052)		Drill Bits (440055)	
Channel-4’ (Various Colors)		Self-tapping Screws (3 per Channel)	
Layout Tape-180’ (440040)			

Don’t forget to consider the following items to be sure those costs are covered, if necessary.

• Lifts, rentals etc. • Electrical work to be done if any (power outlets, etc.) • Any additional overhead

18. Calculate the total cost of materials, labor, and any additional overhead for the project. Put together the quote and present to the customer. **Watch our Planning & Quoting video for extra help!**

19. If customer accepts the proposal, review the sketch and any notes to be sure everything is clear and laid out properly for the installation crew. It may be helpful to draw up a new sketch that would be clearer.



20. Schedule installation date. Schedule with electrician to have power sources installed, if necessary, before the installation date.

21. Order the Infinity Lighting product and confirm with distributor that the product will be available before that date.

INSTALLATION

IMPORTANT RULES TO FOLLOW

1. Never cut any wires while the lights are powered. Unplug all power boosters before cutting any wires.

2. Connect like wires to like wires. Power and data wires must line up properly. EX. GND to GND; DATA 1 to DATA 1; etc.

3. Keep the direction constant following the arrow markings on the light strands. Ensure that the lights are connected in the right direction during installation.

PART 1: UNDERSTANDING AND SETTING UP EACH COMPONENT

WIRING AND SYSTEM BASICS

Infinity Lighting light strands are directional, and all arrows must be pointing in the same direction away from the wireless receiver. Each light has an arrow printed on the backside of the shell. Infinity Lighting utilizes a 4-wire cable. Each wire is uniquely labeled to designate what it is for:

GND = GROUND WIRE

DATA 1 = MAIN DATA LINE

DATA 2 = BACKUP DATA LINE

INFINITY LIGHTING = +5V POSITIVE WIRE

AT CONNECTION POINTS, ALWAYS ATTACH LIKE WIRE TO LIKE WIRE.

TIP!

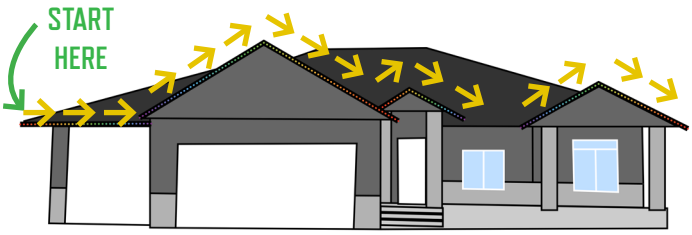
To avoid frustration and fixes later, always double check that you are connecting the correct wires before crimping.

You can trace any cut wires back to the wording printed on the wire or to a light shell to verify the Infinity Lighting wire is connected to the +5v portion of the PCB.

Important - Infinity Lighting can be cut and customized at any point if the power is unplugged. Simply having the lights turned off in the app is not sufficient, they must be completely powered down. With power disconnected, cut and splice at any point to tailor the lights to your unique roofline. Y-splits can be inserted at any point to carry the lights on in two directions. Any leg coming out of the Y-split with a section of unlit wire greater than 3' must have a data buffer inserted directly into the Y-split preceding the unlit wire to ensure a strong signal.

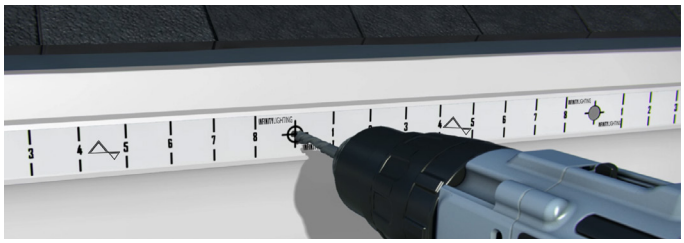
INSTALLING THE LIGHTS IN A GUTTER

Refer to the design sketch when starting the installation. Begin at the starting point (wireless receiver – location identified in planning phase) and work your way across the house. Doing this will help ensure that all the lights are run in the proper direction (by following the arrows on the back of the lights).

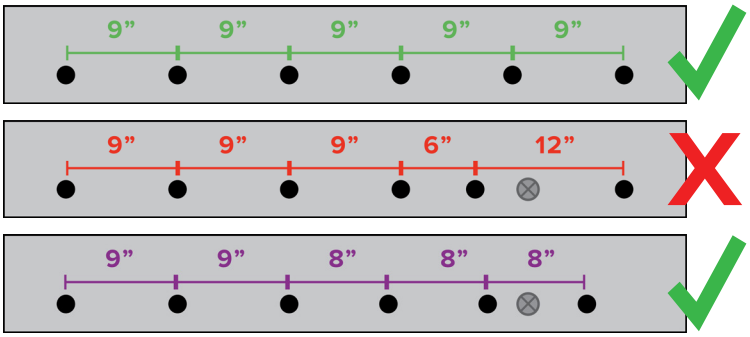


Infinity Lighting is designed to fit into the top attachment lip of gutters.

Simply apply the layout tape along the gutter and drill through the bullseyes to position your lights perfectly.



It is a good idea to roll out as much tape as you can safely reach in each position to look for any obstacles ahead such as gutter hangers or gutter nails. If the gutters are attached with gutter hangers, you can generally move the clips without too much difficulty using a ¼" hex bit whenever there is a conflict, although you do not want to move very many if possible. However, when gutters are attached with gutter nails you do not want to come within an inch of a nail or try to move one. It is okay to cheat the lights closer together if needed. Generally cheating the lights ½" to 1" closer together will not be noticeable but closer spacing would be noticed. Do your best to keep light spacing consistent on corners.

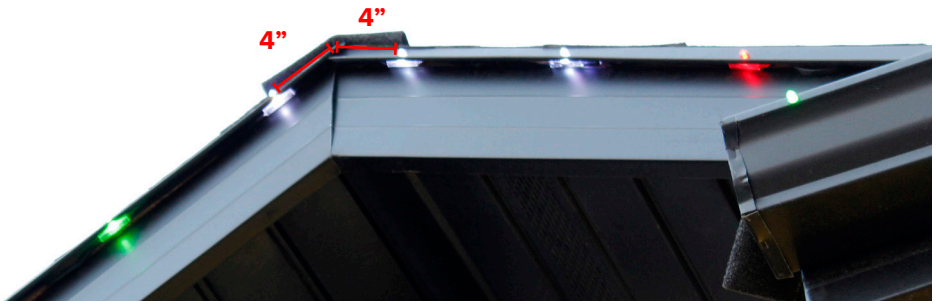


You may run into some challenging situations depending on the gutters style and assembly. Depending on the type of gutter, the return lip on the inside of the gutter may be too tight to fit the shell of the light into. In this scenario, take some smooth pliers or sheet metal seamers to pinch that lip tight on the backside to allow the shell of the light to fit into the gutter lip. Use protection (duct/electrical tape, etc.) on the tool to avoid scratching up the gutter. Also, be careful not to pull up and out, otherwise you may end up with visible waves in the top lip of the gutter around each light.

INSTALLING IN A DRIP EDGE

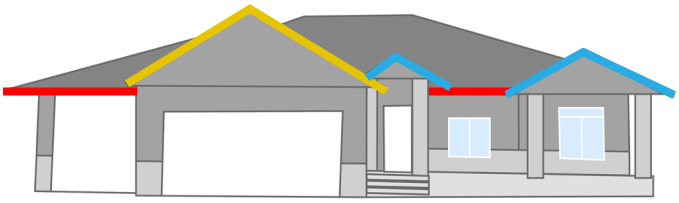
When working with the drip edge on peaks, depending on geographical area and builder preference, you may already have a suitable installation material on your eaves in the drip edge flashing. If the drip edge is roughly an inch and a half tall or greater and pliable, you should be good to go. Otherwise, you will want to install our channels to put the lights in. When suitable drip edge is present, use the layout tape just like on gutters, drill a hole, and insert the light through the backside.

For best results, start the layout from the top of the peak, 4 inches down on each side. This will make all peaks on the home match and give the most polished result. It is possible to put a light directly at each peak, though it is always much more work as two overlapping drip edge pieces will make it tight and be harder to get the light through, plus it typically does not look nearly as clean during the day. Thus, we recommend consistently starting 4 inches down from the peak on each side.



SUMMARY

1. Beginning on the identified starting end of the roofline, install the lighting in each of the gutter and drip edge or channel sections by:

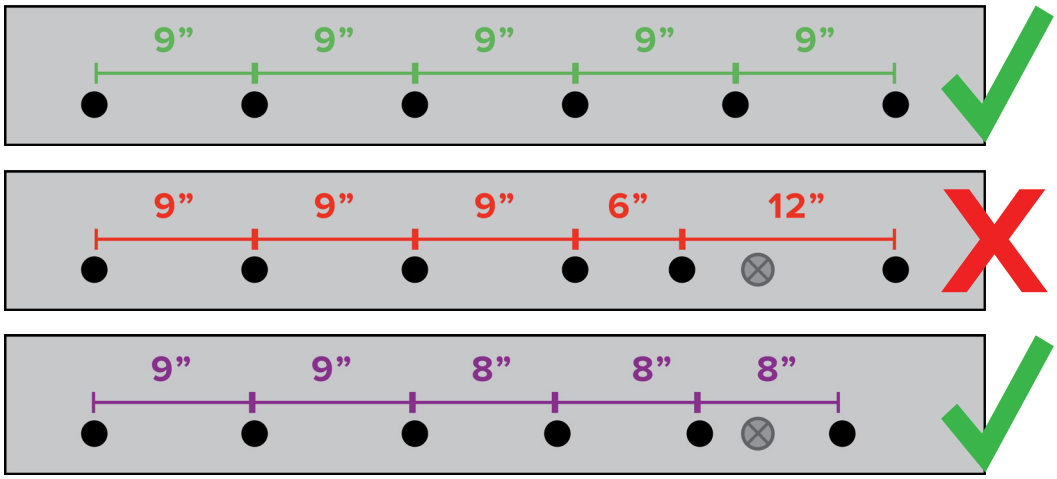


A: Run across the gutters and drip edge using the layout tape, watching for gutter anchors/nails that could be in the way. Adjust the tape bullseye markings or anchors as needed.

B) Drill holes through the layout tapes bullseye markers on the front lip of the gutter, or where it lines up if the tape was run across the top of the gutter.

TIP!

If there are obstacles in the gutter, such as gutter nails or anchors, holes can be drilled slightly closer together, but never further apart. It is better the adjust 3 light holes 1 inch each versus one light 3”.



Tip: Do not press the tape on too hard or it may be harder to pull off, especially when it’s hot.

Tip: Some gutters have a thick or rounded top edge and may require 3” hand seamer or off-set hand seamer to pinch the gutter lip to make room for the lights.

Tip: If drilling from on the roof, the tape can be run along the top of the gutter to easily see where the bullseye lines up. Drill the holes through the front edge as normal.

INSTALLING WITH CHANNEL

If gutters and drip edge are not present or useable, or you simply prefer the channel approach, there are multiple mounting options available using the two available profiles. Installation concepts are very similar as explained above. For the smoothest installation process, install one piece at a time. Start by putting the lights into the channel except for the last light in the segment.

The next channel piece will overlap at this light, so it works best to leave the overlapping light out initially. Mount the channel with a screw every few feet. Once the first channel piece is up, insert the lights into the second piece of channel except for the first and last light. Next use the overlapping light to connect the two pieces of channel and secure to the building with a screw. The top flat part of the channel can slide up under the drip edge or if installing under tile or wrapped shingles, secure channel just under the tile/shingles leaving just enough room to screw the channel into place.

When using channel at a peak, be sure to start the layout four inches down each side as with drip edge installation described above. It looks best to cut the top of the channels and have the 2 channels meet at a point.

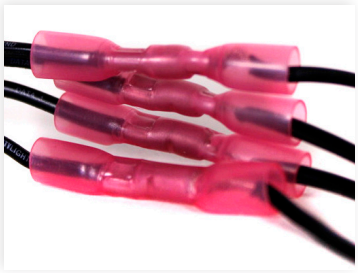
PART 2: MAKING WIRE CONNECTIONS

1. Cut wire to proper length, separate wires and strip jackets 1/4”.

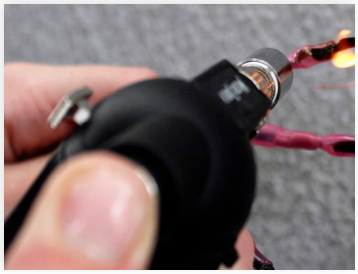
2. Twist wire ends and insert into connector.

3. Crimp connector onto wire to secure into place

4. Repeat on connecting wire being careful to match wires- **INFINITY w/INFINITY, DATA1 w/DATA1, DATA2 w/DATA2 and GND w/GND**



5. Heat shrink the connector(s) for the waterproof connection. A ‘cooking’ torch works best for heat shrinking the connectors. Wrap with electrical tape once cool to the touch.



POWER BOOSTER

Infinity Lighting is a 5-volt system. As lights draw on the initial power supply, the system needs to receive additional power, through a Power Booster, to keep consistent color and brightness across the lights. There is no perfect calculation as every roofline is different, but **as a rule of thumb a power booster is required every 75 feet of lighting**. However, power is not directional so you can add a power supply at the beginning and end of a 125-foot run. This would provide ample power across the run. Optionally, a power supply can be installed in the middle of a 100' run close to the 75' point, all depending on power outlets and your layout. To calculate the number of Power Boosters needed, divide the total length of lighting by 75 & round up.

Ex. 175' divided by 75 equals 2.33, which rounds up to 3 power boosters total required for the project

Each Power Booster is only good for 75 total feet of lights, so **DO NOT** expect to put a booster in the middle of a run of lights and get 75 feet in both directions. Putting a power supply as close to the location power is needed in the system is the best option. It is best to avoid any long runs of blank wire, or the output will not benefit the intended power boost. If necessary, using an extension cord to get power to the power supply would work more effectively. Mount Power Booster near power outlet and Wireless Receiver using the Phillip head screws included.

DATA BUFFERS

As a rule of thumb, **any section of unlit wire greater than five feet needs a data buffer installed before the jump, 3 feet on Y-splits.** Every light receives the data signal, takes the information it needs, then sends a signal to the next light. While each light can send a reliable signal at short distances, a data buffer must be inserted before longer jumps of wire to send a strong signal. This data buffer will take the weak signal from the light before and send out a strong signal capable of going up to 50 feet.

This rule applies to the data signal coming out of the wireless receiver as well. It is very rare and should be avoided whenever possible, but if a jump of more than 50 feet is ever required, you must insert a data buffer before the long jump, as well as a second data buffer in the middle of that jump wire.

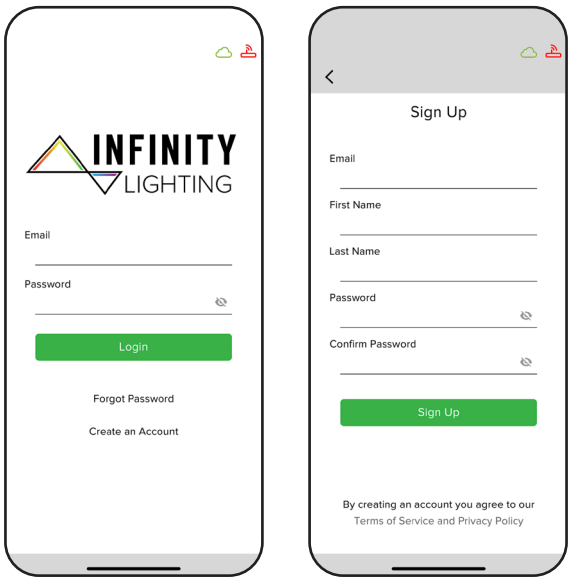
TERMINATING WIRE RUNS

Wherever you decide to terminate a run of lights it is very important to properly protect the exposed wires. There are multiple methods to coat the end of the wires, but generally liquid electrical tape works best. The purpose of coating the wires is to prevent the positive and other wires from coming in contact through water, touching against a piece of metal, or any other conductive material. A short in the lights will cause improper function and potential damage to the lights in the system. To further protect against a potential short, snip the positive wire an inch shorter than the other wires before coating.

PART 3: PAIR AND CONNECT

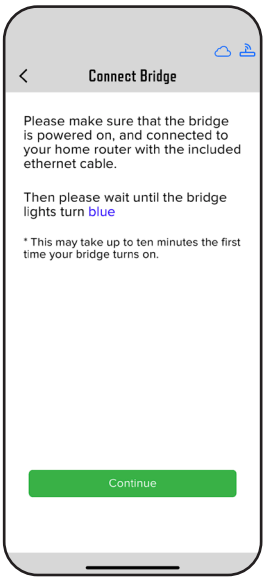
NETWORK BRIDGE

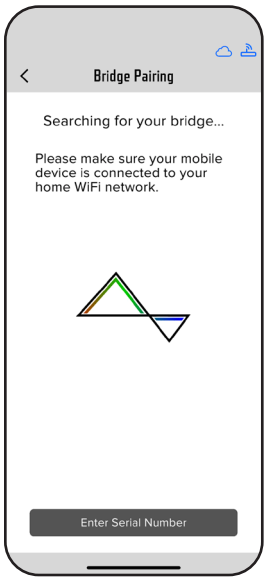
Setting up the Network Bridge and Wireless Receiver - **DO NOT** install any wireless receivers before first pairing them with the Bridge. Have the customer download the Infinity Lighting App (Android or Apple) onto their smart phone or Tablet and create an Infinity Lighting Account. Once this is done, then the Network Bridge can be connected.

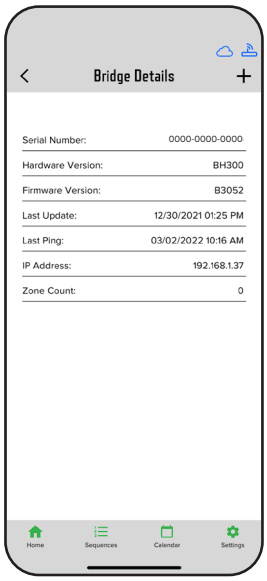


The Infinity Lighting Network Bridge is the smarts of the lighting system. First, connect the Network Bridge to your wireless router using the included ethernet cord, then plug the micro-USB power cable in to a power outlet to light up the Bridge. If you do not have any ethernet ports available, one will need to be freed up or get a network switch from an electronics retailer.

When first plugging in the bridge, the Infinity Lighting wording on the front of the Bridge will glow red until it boots up, at which point it will turn blue. The boot process usually takes about a minute. If an update is needed it could take as long as ten minutes. Once the Bridge glows blue, open the Infinity Lighting app and navigate to Menu/Settings/Bridge and follow the instructions on the screen.

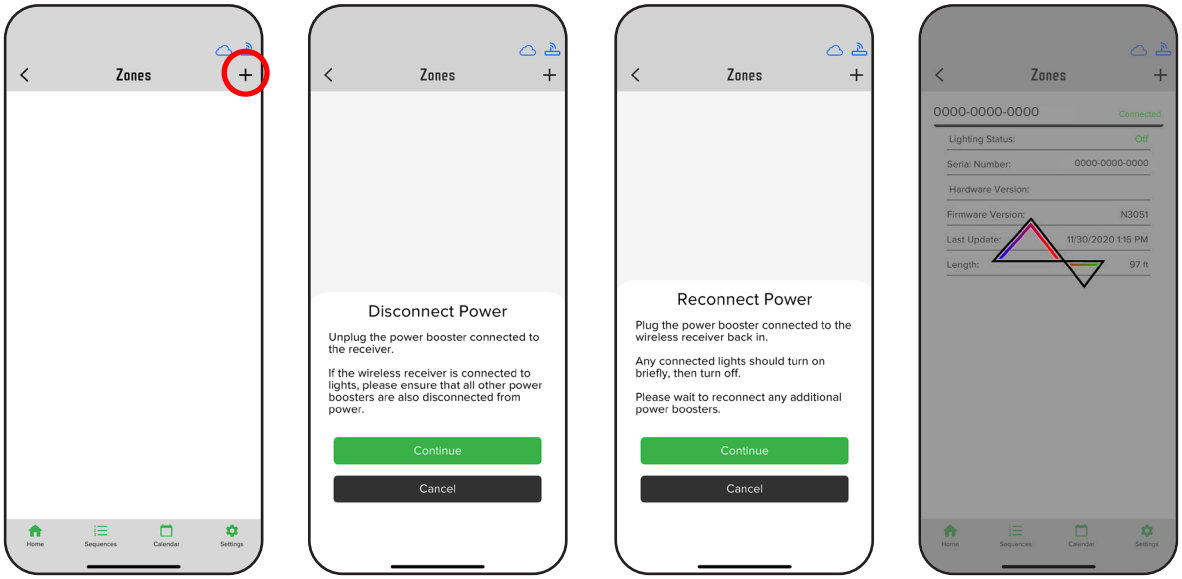






With the Bridge identified and connected, you now need to pair any wireless receivers you have. Connect only one receiver to power at a time and then just sync one receiver at a time. Be sure to have the receiver close to the Bridge to ensure a simple connection. Do not install the wireless receiver(s) outside before pairing with the Bridge.

To put the wireless receiver in pairing mode, use the wire-nuts to attach a power supply, matching like wires, and plug the power supply into an outlet. If syncing multiple receivers, connect only one receiver to power at a time and sync one receiver at a time. Plugging the wireless receiver into power will put it into pairing mode for two minutes (like the Bridge). It does not matter what order you do this in, it only matters that both units are in pairing mode at the same time. Now go into the Infinity Lighting app and navigate to Menu/Settings/Zones and click the plus icon (+) in the top right corner. Follow the instructions on the screen to pair your zone(s).



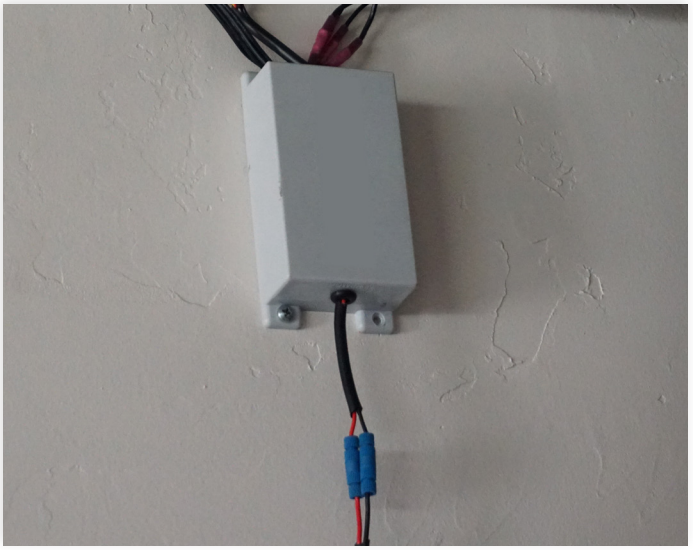
SUMMARY

DOWLOAD THE APP!

1. Have the customer download the Infinity Lighting App onto their smart phone or Tablet.
2. Customer creates an Infinity Lighting account on the app.
3. Plug the Network Bridge into power, then to the wifi router using the provided ethernet cord.
4. To register the bridge, open the Infinity App and go to settings Bridge and Press the + Button. Follow the instructions on the screen to register the Bridge.
5. Working near the Network Bridge, connect the Wireless Receiver to a power booster using wire-nuts. Plug in the Power Booster- this automatically puts the receiver into pairing mode for 2 minutes.
6. If necessary, press the black button on the back of the bridge to put the Network Bridge into pairing mode.
7. Using the infinity Lighting App, go to Settings Zones and Press the + Button. Follow the instructions on the screen to pair.

WIRELESS RECEIVER

The Wireless Receiver connects to a power supply on one end and directly to the lights on the other end. It communicates with the lights, telling them what to do by receiving a low frequency radio signal from the bridge at distances of up to half a mile. It is always best to install the wireless receiver on one end of the building or another. If you install the Wireless Receiver in a central location with lights going out in two or more directions, any patterns and animations will not look their best as they will begin or end from that point. In the ideal situation, an eave outlet or other power source will be available on one end of the house. If no power is readily available, the garage is typically the best location for theWireless Receiver. Make sure the Wireless Receiver is installed in a dry location as it is splash resistant but not waterproof. Also ensure the wire connecting the lights to the Wireless Receiver has a drip loop to prevent water from running down the line and directly into the Wireless Receiver. Make sure the Wireless Receiver is connected directly to the power supply with two of the included pink butt splice connectors.



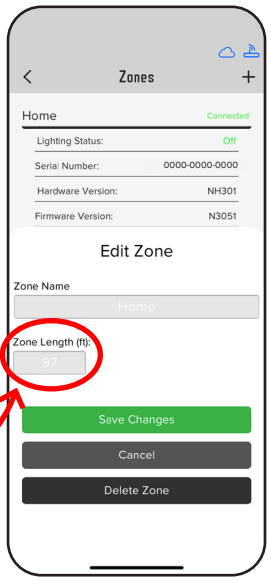
If power is not where you want the Wireless Receiver to be, do not insert additional wire between the power supply and Wireless Receiver, otherwise it will run the risk of not working properly. Instead, connect the Wireless Receiver directly next to the power supply, attach a data buffer to the output wires of the Wireless Receiver, and run unlit wire to where your lights start. If the length of wire between the Wireless Receiver and first light is less than five feet, there is no need for a data buffer.

For best results, do not exceed 40 ft. of unlit wire, even after a data buffer.

SUMMARY

1. Take the Power Boosters and Wireless Receivers outside and install them in the designated location using screws provided.
2. Before plugging in, connect Power Boosters to receiver(s), then receiver(s) to installed light strands in each zone using the waterproof butt splice connectors.
3. Plug in Power Boosters and test controls in the Infinity App.

TURNING ON THE LIGHTS



Now that everything is installed, it is time to turn on the lights. Your Wireless Receiver should still be synced, and you can power up your lights and start playing with the different effects already built in or create your own!

If you find that your Wireless Receiver is not synced for whatever reason, do the following:

- If you have multiple power supplies, make sure all power supplies are off/unplugged including the first one connected to the wireless receiver.
- Open the app and if necessary, go through the pairing process as before.
- Once you are paired again, power up each of the additional power supplies if more than 1 were installed.
- Be sure that the number of total feet is set correctly so that all lights will come on.

SUMMARY

1. Test and confirm that all lighting turns on and is working properly. Be sure to test the lights on bright white to check for power drop. Also test the lights with some pre-built sequences with movement.
2. If anything is not working properly, trouble shoot the system by checking that all power sources are working, all power boosters are plugged in, and all connections are good. Contact your local distributor for additional support or refer to the Troubleshooting guide on the Infinity Lighting website – **www.myinfinitylighting.com**
3. Instruct the customer on the basic features of the App including on/off, selecting a sequence, creating new sequences and calendar scheduling.

NOW THE CUSTOMER IS READY TO ENJOY THEIR NEW INFINITY LIGHTING!

SUPPORT

As an Infinity Lighting installer, we make sure you have access to the very best training resources and support.

TECHNICAL SUPPORT

Call **801-326-4155** or email **cs@thesource-online.com** between 6:00 am - 3:00 pm EST. Whether you have technical questions while you're installing or if you're trying to troubleshoot a system after installation, we're happy to help!

ONLINE TRAINING PORTAL

Dynamic online courses are available 24-7 so you can take training at your convenience. With quizzes to test your understanding. Free to our installers, you can learn about the opportunity of permanent lighting, how to properly bid & estimate, how to install, and how to use the mobile app.

INFINITY LIGHTING WEBINARS

Our knowledgeable and expert staff is available to schedule a live, interactive webinar. Reach out to your distributor to schedule a good time for you! You can also join our installer newsletter to be notified when group webinars are happening.

DISTRIBUTOR IN-PERSON TRAINING

Our local distributors are our valued partners who are extremely knowledgeable about permanent lighting. They are available to visit job sites with you or host a team training in-person. Visit our website to see who the closest distributor is to you.

INSTALLER NEWSLETTER

Visit our website at **www.myinfinitylighting.com** to sign up for our installer newsletter. Stay up to date on new product, training videos, webinars and events, marketing resources, and plenty of tips & tricks to make your permanent lighting business most profitable.

WWW.MYINFINITYLIGHTING.COM