



**AMERICAN LIGHTING**  
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## **POLAR 2 RGB NEON**

Installation instructions for RGB-NF-24V-65



# POLAR 2 RGB NEON, BULK REEL

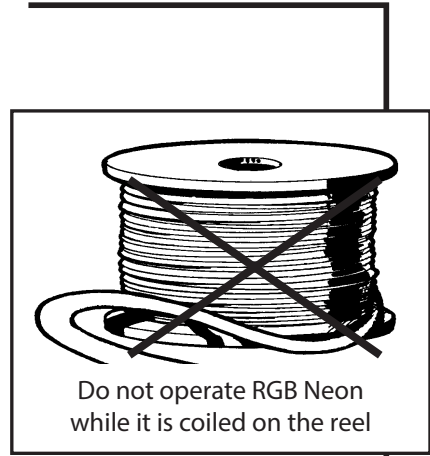


## Installation Instructions for RGB-NF-24V-65 (24V DC operation)

**WARNING:** These products may represent a possible shock or fire hazard if improperly installed or attached in any way. Products should be installed in accordance with these instructions, current electrical codes, and/or the current National Electric Code (NEC). Use this flexible light only with American Lighting recommended drivers, controllers, power connectors, splices and extensions. Use only 24V DC receivers, drivers and controllers listed on the following page. Any other power cord or feed may damage the fixture.

**WARNINGS: READ ALL INSTRUCTIONS BEFORE YOU START:**

**CAUTION -** To reduce risk of fire, electric shock, or injury to persons, pay close attention to this manual and stay within its guidelines when using this product.



1. Do not cover this product as the covering may cause rope to overheat, melt, or ignite.
2. **Do not operate RGB Neon while it is tightly coiled.**
3. Do not submerge flexible light in liquids, or use the product in the vicinity of standing water or other liquids.
4. Do not route the cord or RGB Neon through walls, ceilings, doors, windows, or any similar part of the building structure.
5. Secure this flexible light using only the mounting clips provided or factory recommended mounting track (sold separately).
6. Do not secure this product or its cord with staples, nails, or like means that may damage the outer jacket or cord insulation.
7. Do not use if there is any damage to the PVC housing or power cord insulation. Inspect periodically.
8. Do not install on gates or doors, where subject to continuous flexing.
9. Do not install in tanks or enclosures of any kinds.
10. Risk of fire or electric shock. Uncoil flexible light prior to plugging in.
11. Do not install near flammable liquids.
12. Follow instructions carefully when splicing RGB Neon sections or attaching power cords. Ensure that all connections, including the end cap on the last segment, are properly installed with dielectric grease and shrink tube to preclude the entrance of water (outdoor applications).
13. RGB Neon can only be cut at specific intervals as indicated by the cutting marks printed on the side of the PVC housing. Failure to cut at a cut mark, will result in a loss of light. **Before making any cuts or attaching any power cords or jumpers, be sure power source is disconnected!**
14. This product is designed for use by a qualified installer.
15. This product is for decorative use only. Not to be used by children as a toy. Keep out of reach of small children.
16. Do not exceed 44' maximum run distance in any single run.
17. Size your 24V DC driver appropriately for your run distance of RGB Neon using 2.7W/ft as a guide. Be sure not to load your driver to 100% as this will reduce it's efficiency. A 90% maximum load is recommended.

**CAUTION - To reduce the risk of fire, electric shock, or injury to persons:**

**WARNING: When using outdoor portable lighting products, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury, including the following:**

1. Use dielectric grease and shrink tube at all power connections, including end cap when using outdoors.
2. Use ground fault circuit interrupter (GFCI) protection on the circuit(s) or outlet(s) when using outdoors.
3. Use only UL approved outdoor extension cords, such as type SW, SOW, STW, STOW, SJW, SJOW, SJTW, or SJTOW. This designation is marked on the jacket of the extension cord.

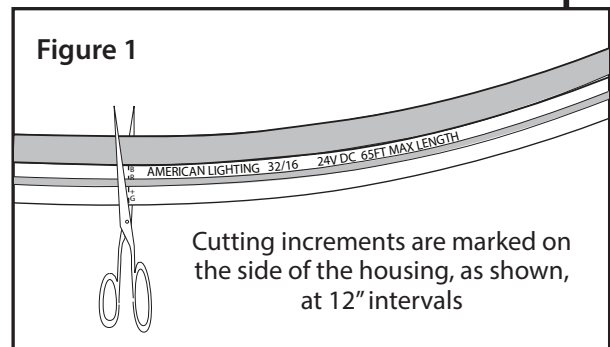
**CUTTING RGB NEON AND INSTALLATION OF DIY POWER CONNECTION KIT:**

**NOTE: Do not exceed 44ft length (5A max) in any single run. The 65ft reel includes a pre-attached power adaptor cord; and a spare DIY power connection cord with the reel.**

1. Determine the required length for lighting application.
2. Cut the RGB Neon squarely at the nearest cut mark using a sharp rope light cutting tool or shears. NOTE: RGB Neon is wired with 12" cutting increments. See Figure 1.

CONTINUED ON PAGE 2

Figure 1



# POLAR 2 RGB NEON, BULK REEL



## Installation Instructions for RGB-NF-24V-65 (24V DC operation)

### CUTTING RGB NEON AND INSTALLATION OF DIY POWER CONNECTION KIT: (CONTINUED FROM PAGE 2)

**NOTE: For a new reel, skip to step 8. For a cut reel, follow steps 3-8 below.**

3. Holding the smooth side of the power pin with a pair of pliers, line up the barbed pins with the four wires of the flexible light. Push barbed pins into RGB Neon until flush, being sure to make solid contact with the flexible light's internal wires. See Figure 2.
4. Slide the shrink tube over the assembly and onto the RGB Neon. See Figure 3.
5. Push the power cord sheath onto the assembly until fully seated.
6. Use heat to affix the heat shrink tube making sure that it is centered over the junction of the RGB Neon and the power cord sheath.
7. When using splice kits and/or jumpers, follow steps 1-6 above, making connections in a similar manner.
8. Attach end cap to other end of flexible light to cover exposed dead end.

### CONTROLLER/RECEIVER/DRIVER SELECTION:

**NOTE:** A controller paired with at least one receiver and driver is required to control RGB Neon color effects. Alternatively, use the Trulux application with one or more WIFI receivers (REC-5A-4Z-WIFI). One receiver is needed for each zone).

Visit [www.americanlighting.com/truluxapp.html](http://www.americanlighting.com/truluxapp.html) for a direct access link or visit the App Store or Google play marketplace to download the Trulux application.

1. Determine which controller is best suited for your application. See Controller Overview below.
2. Select a receiver for each zone. For RF controllers, use one REC-5A-4Z for each zone; for DMX controllers, use one DMX-5A-4Z or one DMX-5A-4Z-PLUS for each zone. For the Trulux app, use one REC-5A-4Z-WIFI for each zone. You can use a REC-5A-4Z-WIFI for wall mount and/or handheld controllers
3. Select a driver based on the attached wattage/length. See Wattage Range Chart below.

### Controller Overview

CONTROLLER ITEM #	POWER INPUT	SIGNAL WIRING	FEATURES
RF-RGBW-3Z (Wall mount, White)	24V DC	None, uses RF signal	1-3 zones*, 4 quick colors, 3 scenes, color wheel
DMX-1Z-3P (Wall mount, White)	24V DC	DMX/CAT5 wiring	Single zone, 4 quick colors, 3 scenes, color wheel
DMX-3Z (Wall mount, White)	24V DC	DMX/CAT5 wiring	1-3 zones*, 4 quick colors, 3 scenes, color wheel
DMX-2-2 (Wall mount, White)	24V DC	DMX/CAT5 wiring	2 RGB (+ 2 Tunable CCT) zones*, slider touch control
RF-RGBW-3AAA (Handheld, Black)	3x AAA batteries	None, uses RF signal	1-8 zones*, 10 auto presets built-in, color wheel
RF-RGBW-3AAA-WH ( " , White)	"	"	"
RF-RGBW-USB (Handheld, Black)	rechargeable via USB	None, uses RF signal	1-8 zones*, 8 scenes per zone, 10 modes built-in, pause function, color wheel

### Wattage Range Chart

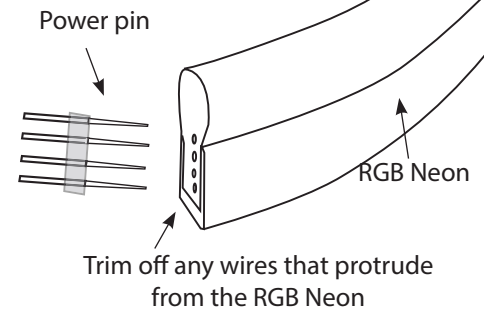
LED driver	Wattage	Length ( up to 90% load)	Controllers ( any from this list)	Receivers
LED-DR30-24	2.7 - 27W	1 - 10 feet	RF-RGBW-USB, RF-RGBW-3Z } or RF-RGBW-3AAA or }	{ REC-5A-4Z or { REC-5A-4A-WIFI
LED-DR60-24	27 - 54W	10 - 20 feet		
LED-DR100-24	54 - 90W	20 - 33 feet	DMX-2-2, DMX-3Z } or DMX-1Z-3P }	{ DMX-5A-4Z or { DMX-5A-4Z-PLUS
LED-DR150-24	90 - 135W	33 - 44 feet		

\*A controller can control multiple zones if it has that capability, but each zone will need its own receiver.

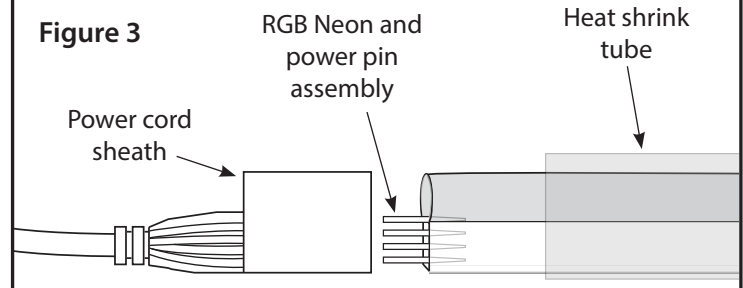
To power lengths greater than 44 feet, use multiple receivers and drivers. The max run is limited by 5A For more advanced color control needs (DMX), contact American Lighting directly.

**Figure 2**

Line up the barbed ends of the power pin with the wires inside and push in to make solid contact



**Figure 3**



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(24V DC operation)

## CONNECTING A SYSTEM

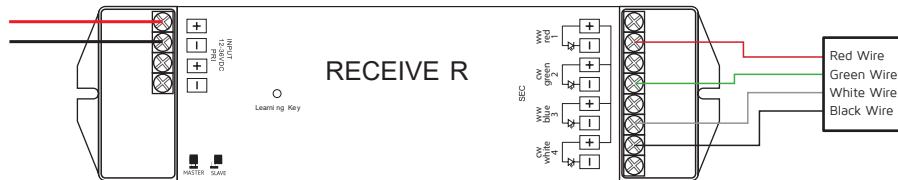
Note: The LED-DR series drivers, the controllers and the receivers are suitable for dry, indoor locations only.

1. Select the driver based on total load (2.7 watts/ft x length) using the chart on page 2 to meet minimum and maximum loads.
2. Select the RF or WIFI receiver(s), depending upon control preferences. Refer to page 2 for a list of receivers.
3. Locate the receiver(s) and driver in a protected dry location. Using 16-gauge wire or better, bring 24V DC power from the driver to the receiver, matching polarity: red = positive (+) and black = negative (-). See Figure 4.

**Figure 4**

Connect tape light lead wires to the SEC side of the receiver matching polarity:  
Black lead to any (+), Red lead to R(-), White lead to W(-), and Green lead to G(-).

Supply the receiver with 24V DC power, matching polarity, using the maximum distance chart on page 1

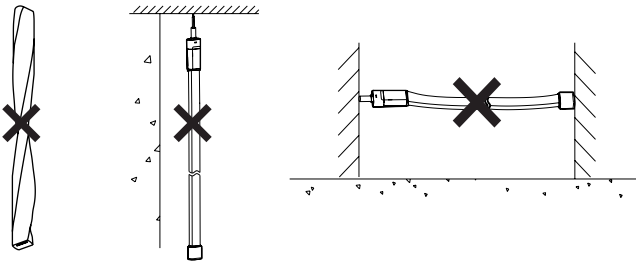


To control color, use RF-RGBW-3AAA or RF-RGBW-USB controller with REC-5A-4Z receiver (one receiver per zone); or use the Trulux RGBW application with REC-5A-4Z-WIFI (one per zone); or a DMX control with REC-DMX-5A-4Z or REC-DMX-5A-4Z-PLUS\* receiver.

4. Choose which controller to use based on required number of zones and preference for type.

## Mounting: (Polar 2 RGB Neon and Polar 2 Neon share the same track, channel and end caps.)

1. Make mounting clips using cut pieces of track or order clips (P2-NF-CLIPS, 10 per pack, sold separately) for curves and SHapes on a flat mounting surface; or for straight line applications, use P2-NF-TRACK-4 (4ft length, sold separately) or P2-NF-TRACK-3 (3ft length, sold separately) mounting tracks; P2-NF-CHAN-3 (3ft aluminum channel) is also available (sold separately).
2. Make sure that the distance between any two parallel runs of lighting are at least 1/2" apart.
3. Gently press flexible light into track, channel and/or clips so that it snaps into place.



**DO NOT TWIST, HANG VERTICALLY, SUSPEND UNSUPPORTED IN THE MIDDLE OR BEND ALONG SHORT SIDE.**