



# Juno™ Mesh Digital Series Controller

Product Data Sheet



## Product Specifications

Input Voltage	Max Amps	Bluetooth Signal Distance	Size	IP Rating
5-24V Constant Voltage DC	5A	15 Meters	86mm x 21mm x 8.5mm	IP65 (Outdoor/ Wet Location)

Dynamic Modes	Zones	Power Save Memory	Ambient Temperature	Remote Voltage
672	1	Yes	-30°C to 55°C (-22°F to 131°F)	3V

## Key Features

- Versatile SPI LED controller designed to work with multiple IC types
- Ability to save favorite scenes as shortcuts
- Each receiver able to be controlled by up to 5 remotes
- Works with both RGB and RGBW fixtures
- Runs off of Bluetooth™ Mesh
- Receiver able to be used outdoors
- Remote operates off a CR2032H coin battery (not included)
- Supports 1-wire and 2-wire data formats



# Controller Installation

## Preparing to Install

Ensure that the power supply's voltage matches the input voltage of the LED strip. Make sure that the polarities are correct before turning the power on. **Please Note:** Do NOT make or break any connections to the digital LED strip while power is applied. Make all connections before applying power. Failure to follow this step can result in damage to your strip.

To avoid any interference with the remote's signal, do not install the receiver inside metal enclosures.

## Setup and Operation

### ● To pair a new remote, please do the following:

1. Turn off the power going into the receiver and plug it in again after 5 seconds.
2. Press the Power and "LENGTH +" keys on the remote, briefly and simultaneously, 10 seconds after turning the power back on to the receiver.
3. After releasing those keys, press "ENTER" for 10 seconds. After this is done, the indicator light on the receiver will flash a white light three times indicating a successful pairing.

To unpair any extra remotes, simply pair the main remote one more time and after doing this all other remotes will stop being paired to that receiver. Up to five remotes can be paired to a single receiver and a single remote can control multiple receivers. The factory default setting is that the receiver will be paired to the remote that it comes with, but additional receivers will need to be manually paired.

### ● Program your strip's IC type by doing the following:

1. Turn off the power going into the receiver and plug it in again after 5 seconds.
2. Press the Power and "LENGTH +" keys on the remote, briefly and simultaneously, 10 seconds after turning the power back on to the receiver.
3. Press a key from 1 to 8 shown in the table below based on the IC type needed and then press "ENTER". **Please Note:** The RGB Digital Pixel Strip uses IC WS2811, so option 3 would be the option needed to use that strip.

DIGIT	IC TYPE	DIGIT	IC TYPE
1	D7722 (RGB)	5	TM1814(RGBW)
2	APA102/SK9822(RGB)	6	UCS2904(RGBW)
3	WS2811/WS2813/SK6812(RGB)	7	UCS8904(RGBW)
4	SK6812(RGBW)	8	UCS512(RGB)

### ● Program your strip's color sequence type by doing the following:

1. Turn off the power going into the receiver and plug it in again after 5 seconds.
2. Press the Power and "LENGTH +" keys on the remote, briefly and simultaneously, 10 seconds after turning the power back on to the receiver.
3. Next, press the "DIR" key and then press a key from 1 to 8 shown in the table below based on the color sequence type needed and then press "ENTER". **Please Note:** The PixelBright RGB Digital Strip would use color sequence 5.

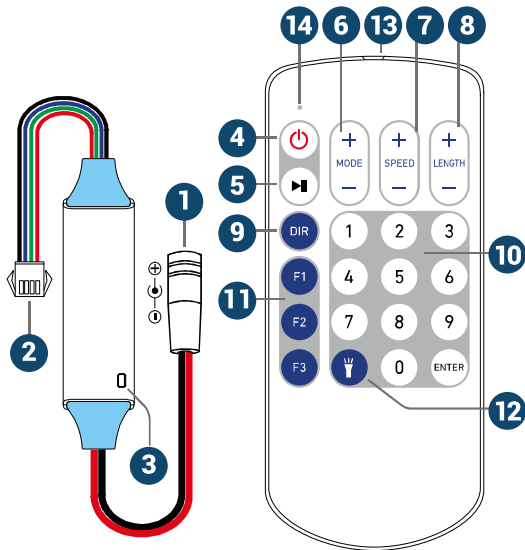
DIGIT	COLOR SEQ	DIGIT	COLOR SEQ
1	RGB	5	BRG
2	RBG	6	BGR
3	GRB	7	White in front of RGB
4	GBR	8	White after RGB

### ● (Optional) Change the pixel driving range by doing the following:

1. Turn off the power going into the receiver and plug it in again after 5 seconds.
2. Press the Power and "LENGTH +" keys on the remote, briefly and simultaneously, 10 seconds after turning the power back on to the receiver.
3. Press "F1" to have a 500-pixel range or press "F2" to have a 1000-pixel driving range. Please note that the maximum frame rate of 500-pixel is twice the maximum frame rate of 1000-pixel.



# Components and Functions



- 1 DC Power Input:** This Bluetooth™ Mesh controller can run on 5V to 24V DC power.
- 2 LED Signal Output:** This controller supports 1-wire and 2-wire data formats. For the 2-wire data format, the wire marked on the receiver as “D” should run to DATA and the wire marked as “C” should run to CLOCK. For 1-wire data formats, the “D” wire should run to DATA. The data signal is a high-speed digital signal and is sensitive to interference. Please keep the output cable away from interference and keep this wire as short as possible.
- 3 Status Indicator Light:** The indicator light displays all working states of the controller:
  - Solid Blue: Normal functioning
  - Short Single White Flash: New command received
  - Flashing Yellow: Speed or length limit issue
  - Three White Flashes: New remote paired or new configuration set
- 4 Power Button:** Turn receiver on/off. The controller has a power save function, so it will recall the last scene played when power is resumed.
- 5 Play/Pause Button:** Use this function to pause/resume dynamic scenes. Pause status will change with any new commands.
- 6 Program Mode Button:** Adjust running programs. Jump to the next mode by pressing the “+” key and go back by pressing the “-” key.
- 7 Speed/Brightness Button:** Adjust running speed for dynamic modes or brightness for static modes by pressing the “+” key to increase or the “-” key to decrease the applicable mode.
- 8 Length Button:** Adjust the length of your pixel segments while in a dynamic mode. Press “+” to make it longer or “-” to make it shorter
- 9 Direction Button:** Switch the running direction of dynamic programs. For most programs there are four directions available: forward, reverse, open, and closed. This button will not have any effect on non-chasing patterns.

- 10 Number Pad:** Set a specific program by selecting a program number from the Program List and then entering the program number followed by pressing the “ENTER” button. For example: Switch to program 123 by pressing 1-2-3 on the remote and then ENTER. The Program List is available later on in this manual. Please note that program 0 is a demo mode which plays all dynamic patterns in a loop for three times a piece.
- 11 Shortcut Buttons:** Users can save their favorite programs using keys F1, F2, and F3 as shortcut keys. To save the current program as a shortcut, please press and hold one of those keys for 2 seconds. That will allow you to save your favorite programs and recall them by pressing the selected button on the remote.
- 12 Micro Flashlight Button:** Pressing this will turn on the micro flashlight on the top of the remote. The light will automatically turn off in 5 seconds to save battery.
- 13 Micro Flashlight:** Located at the top of the remote. Remote Indicator - The small blue light above the Power Button will light up when any remote keys are pressed. Please check the battery if this indicator is not working.
- 14 Remote Indicator:** The small blue light above the Power Button will light up when any remote keys are pressed. Please check the battery if this indicator is not working.

## Controller Operation

### Set Programs and Save to Favorites

To set a program, you can press the “+” and “-” MODE keys to go through all of the individual programs, or you can select programs from the Program List, enter the program number desired, and press the “ENTER” button. The first number of each program indicates the motion pattern (Comet, Sand Clock, Ping-Pong, etc) and the second and third numbers indicate the colors of each program.

Some programs are only available for RGBW strips and some program numbers are empty, so nothing will happen if an unavailable program is chosen. The controller will skip all unavailable programs when browsing through the MODE keys.

### Static Colors and Brightness Adjustment

Programs starting with number 901 are static programs and users can adjust the brightness by pressing the “SPEED +” and “SPEED -” keys. It’s also good to note that if you aren’t sure which color sequence your digital strip uses, the static programs are a good way to test each color sequence option as the static colors will display properly according to the Program List if your color sequence is set properly. For example: If you key in program 901 and you get something other than red you should immediately reprogram your controller’s color sequence as mentioned in the Controller Installation section until you can determine the right color sequence.

### Wireless Syncing Between Controllers

Thanks to its advanced wireless mesh technology, controllers paired to a single remote can synchronize automatically. Please ensure each receiver is within 15 meters of the next receiver for the feature to work.

# Program List

	Comet	Flows	Fade Flow	Drops	Sand Clock	Ping-Pong	Sway	Star Spark	Whole Change	Static Color
Index	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-
01	White	White	White	White	White	White	White	White	White fade	Red
02	Red	Red	Red	Red	Red	Red	Red	Red	Red fade	Orange1
03	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange fade	Orange2
04	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow fade	Yellow1
05	Green	Green	Green	Green	Green	Green	Green	Green	Green fade	Yellow2
06	Cyan	Cyan	Cyan	Cyan	Cyan	Cyan	Cyan	Cyan	Cyan fade	Yellow3
07	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue fade	Green
08	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple fade	Cyan1
09	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Pink	Pink fade	Cyan2
10	White-Red	White-Red	White-Red	White-Red	White-Red	White-Red	White-Red	White-Red	W-R fade	Cyan3
11	White-Yellow	White-Yellow	White-Yellow	White-Yellow	White-Yellow	White-Yellow	White-Yellow	White-Yellow	W-Y fade	Cyan4
12	White-Green	White-Green	White-Green	White-Green	White-Green	White-Green	White-Green	White-Green	W-G fade	Cyan5
13	White-Cyan	White-Cyan	White-Cyan	White-Cyan	White-Cyan	White-Cyan	White-Cyan	White-Cyan	W-C fade	Blue
14	White-Blue	White-Blue	White-Blue	White-Blue	White-Blue	White-Blue	White-Blue	White-Blue	W-B fade	Purple1
15	White-Purple	White-Purple	White-Purple	White-Purple	White-Purple	White-Purple	White-Purple	White-Purple	W-P fade	Purple2
16	Red-Yellow	Red-Yellow	Red-Yellow	Red-Yellow	Red-Yellow	Red-Yellow	Red-Yellow	Red-Yellow	R-Y fade	Purple3
17	Yellow-Green	Yellow-Green	Yellow-Green	Yellow-Green	Yellow-Green	Yellow-Green	Yellow-Green	Yellow-Green	Y-G fade	Purple4
18	Green-Red	Green-Red	Green-Red	Green-Red	Green-Red	Green-Red	Green-Red	Green-Red	G-R fade	Purple5
19	Green-Cyan	Green-Cyan	Green-Cyan	Green-Cyan	Green-Cyan	Green-Cyan	Green-Cyan	Green-Cyan	G-C fade	Mix RGB1
20	Cyan-Blue	Cyan-Blue	Cyan-Blue	Cyan-Blue	Cyan-Blue	Cyan-Blue	Cyan-Blue	Cyan-Blue	C-B fade	Mix RGB2
21	Green-Blue	Green-Blue	Green-Blue	Green-Blue	Green-Blue	Green-Blue	Green-Blue	Green-Blue	G-B fade	Mix RGB3
22	Blue-Purple	Blue-Purple	Blue-Purple	Blue-Purple	Blue-Purple	Blue-Purple	Blue-Purple	Blue-Purple	B-P fade	Mix RGB4
23	Purple-Red	Purple-Red	Purple-Red	Purple-Red	Purple-Red	Purple-Red	Purple-Red	Purple-Red	P-R fade	Mix RGB5
24	Yellow-Blue	Yellow-Blue	Yellow-Blue	Yellow-Blue	Yellow-Blue	Yellow-Blue	Yellow-Blue	Yellow-Blue	Y-B fade	Mix RGB6
25	B-W-R	B-W-R	B-W-R	B-W-R	B-W-R	B-W-R	B-W-R	B-W-R	B-W-R fade	Mix RGB7
26	G-W-R	G-W-R	G-W-R	G-W-R	G-W-R	G-W-R	G-W-R	G-W-R	G-W-R fade	Mix RGB8
27	R-W-Y	R-W-Y	R-W-Y	R-W-Y	R-W-Y	R-W-Y	R-W-Y	R-W-Y	R-W-Y fade	Mix RGB9
28	R-G-B	R-G-B	R-G-B	R-G-B	R-G-B	R-G-B	R-G-B	R-G-B	R-G-B fade	Mix RGB10
29	Seven color	Seven color	Seven color	Seven color	Seven color	Seven color	Seven color	Seven color	Seven fade	Mix RGB11
30	W & R	W & R	W & R	W & R	W & R	W & R	W & R	W & R	W-R smooth	Mix White
31	W & Y	W & Y	W & Y	W & Y	W & Y	W & Y	W & Y	W & Y	W-Y smooth	White
32	W & G	W & G	W & G	W & G	W & G	W & G	W & G	W & G	W-G smooth	Warm white1
33	W & Cyan	W & Cyan	W & Cyan	W & Cyan	W & Cyan	W & Cyan	W & Cyan	W & Cyan	W-C smooth	Warm white2
34	W & B	W & B	W & B	W & B	W & B	W & B	W & B	W & B	W-B smooth	Green white
35	W & Purple	W & Purple	W & Purple	W & Purple	W & Purple	W & Purple	W & Purple	W & Purple	W-P smooth	Cool white1
36	Headed Red	NA	NA	NA	NA	NA	NA	NA	R-Y smooth	Cool white2
37	Headed Orange	NA	NA	NA	NA	NA	NA	NA	Y-G smooth	Cool white3
38	Headed Yellow	NA	NA	NA	NA	NA	NA	NA	G-R smooth	NA
39	Headed Green	NA	NA	NA	NA	NA	NA	NA	G-C smooth	NA
40	Headed Cyan	NA	NA	NA	NA	NA	NA	NA	C-B smooth	NA
41	Headed Blue	NA	NA	NA	NA	NA	NA	NA	G-B smooth	NA
42	Headed Purple	NA	NA	NA	NA	NA	NA	NA	B-P smooth	NA
43	Headed Pink	NA	NA	NA	NA	NA	NA	NA	P-R smooth	NA
44	Headed R-Y	NA	NA	NA	NA	NA	NA	NA	Y-B smooth	NA
45	Headed Y-G	NA	NA	NA	NA	NA	NA	NA	B-W-R smooth	NA
46	Headed G-R	NA	NA	NA	NA	NA	NA	NA	G-W-R smooth	NA
47	Headed G-C	NA	NA	NA	NA	NA	NA	NA	R-W-Y smooth	NA
48	Headed C-B	NA	NA	NA	NA	NA	NA	NA	R-G-B smooth	NA
49	Headed G-B	NA	NA	NA	NA	NA	NA	NA	Seven smooth	NA

	Comet	Flows	Fade Flow	Drops	Sand Clock	Ping-Pong	Sway	Star Spark	Whole Change	Static Color
Index	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-
50	Headed B-P	NA	NA	NA	NA	NA	NA	NA	NA	NA
51	Headed P-R	NA	NA	NA	NA	NA	NA	NA	NA	NA
52	Headed Y-B	NA	NA	NA	NA	NA	NA	NA	NA	NA
53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
54	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
55	Red-Wbgd	Red-Wbgd	Red-Wbgd	Red-Wbgd	Red-Wbgd	Red-Wbgd	Red-Wbgd	Red-Wbgd	White on/off	NA
56	Orange-Wbgd	Orange-Wbgd	Orange-Wbgd	Orange-Wbgd	Orange-Wbgd	Orange-Wbgd	Orange-Wbgd	Orange-Wbgd	Red on/off	NA
57	Yellow-Wbgd	Yellow-Wbgd	Yellow-Wbgd	Yellow-Wbgd	Yellow-Wbgd	Yellow-Wbgd	Yellow-Wbgd	Yellow-Wbgd	Orange on/off	NA
58	Green-Wbgd	Green-Wbgd	Green-Wbgd	Green-Wbgd	Green-Wbgd	Green-Wbgd	Green-Wbgd	Green-Wbgd	Yellow on/off	NA
59	Cyan-Wbgd	Cyan-Wbgd	Cyan-Wbgd	Cyan-Wbgd	Cyan-Wbgd	Cyan-Wbgd	Cyan-Wbgd	Cyan-Wbgd	Green on/off	NA
60	Blue-Wbgd	Blue-Wbgd	Blue-Wbgd	Blue-Wbgd	Blue-Wbgd	Blue-Wbgd	Blue-Wbgd	Blue-Wbgd	Cyan on/off	NA
61	Purple-Wbgd	Purple-Wbgd	Purple-Wbgd	Purple-Wbgd	Purple-Wbgd	Purple-Wbgd	Purple-Wbgd	Purple-Wbgd	Blue on/off	NA
62	White-Wbgd	White-Wbgd	White-Wbgd	White-Wbgd	White-Wbgd	White-Wbgd	White-Wbgd	White-Wbgd	Purple on/off	NA
63	R-Y-Wbgd	R-Y-Wbgd	R-Y-Wbgd	R-Y-Wbgd	R-Y-Wbgd	R-Y-Wbgd	R-Y-Wbgd	R-Y-Wbgd	Pink on/off	NA
64	Y-G-Wbgd	Y-G-Wbgd	Y-G-Wbgd	Y-G-Wbgd	Y-G-Wbgd	Y-G-Wbgd	Y-G-Wbgd	Y-G-Wbgd	W-R jump	NA
65	R-G-Wbgd	R-G-Wbgd	R-G-Wbgd	R-G-Wbgd	R-G-Wbgd	R-G-Wbgd	R-G-Wbgd	R-G-Wbgd	W-Y jump	NA
66	G-C-Wbgd	G-C-Wbgd	G-C-Wbgd	G-C-Wbgd	G-C-Wbgd	G-C-Wbgd	G-C-Wbgd	G-C-Wbgd	W-G jump	NA
67	C-B-Wbgd	C-B-Wbgd	C-B-Wbgd	C-B-Wbgd	C-B-Wbgd	C-B-Wbgd	C-B-Wbgd	C-B-Wbgd	W-C jump	NA
68	G-B-Wbgd	G-B-Wbgd	G-B-Wbgd	G-B-Wbgd	G-B-Wbgd	G-B-Wbgd	G-B-Wbgd	G-B-Wbgd	W-B jump	NA
69	B-P-Wbgd	B-P-Wbgd	B-P-Wbgd	B-P-Wbgd	B-P-Wbgd	B-P-Wbgd	B-P-Wbgd	B-P-Wbgd	W-P jump	NA
70	P-R-Wbgd	P-R-Wbgd	P-R-Wbgd	P-R-Wbgd	P-R-Wbgd	P-R-Wbgd	P-R-Wbgd	P-R-Wbgd	R-Y jump	NA
71	Y-B-Wbgd	Y-B-Wbgd	Y-B-Wbgd	Y-B-Wbgd	Y-B-Wbgd	Y-B-Wbgd	Y-B-Wbgd	Y-B-Wbgd	Y-G jump	NA
72	7Color-Wbdg	7Color-Wbdg	7Color-Wbdg	7Color-Wbdg	7Color-Wbdg	7Color-Wbdg	7Color-Wbdg	7Color-Wbdg	R-G jump	NA
73	White-Rbdg	White-Rbdg	White-Rbdg	White-Rbdg	White-Rbdg	White-Rbdg	White-Rbdg	White-Rbdg	G-C jump	NA
74	White-Ybgd	White-Ybgd	White-Ybgd	White-Ybgd	White-Ybgd	White-Ybgd	White-Ybgd	White-Ybgd	C-B jump	NA
75	White-Gbgd	White-Gbgd	White-Gbgd	White-Gbgd	White-Gbgd	White-Gbgd	White-Gbgd	White-Gbgd	G-B jump	NA
76	White-Cbdg	White-Cbdg	White-Cbdg	White-Cbdg	White-Cbdg	White-Cbdg	White-Cbdg	White-Cbdg	B-P jump	NA
77	White-Bbgd	White-Bbgd	White-Bbgd	White-Bbgd	White-Bbgd	White-Bbgd	White-Bbgd	White-Bbgd	P-R jump	NA
78	White-Pbgd	White-Pbgd	White-Pbgd	White-Pbgd	White-Pbgd	White-Pbgd	White-Pbgd	White-Pbgd	Y-B jump	NA
79	Red-Rbgd	Red-Rbgd	Red-Rbgd	Red-Rbgd	Red-Rbgd	Red-Rbgd	Red-Rbgd	Red-Rbgd	B-W-R jump	NA
80	O-Obgd	O-Obgd	O-Obgd	O-Obgd	O-Obgd	O-Obgd	O-Obgd	O-Obgd	G-W-R jump	NA
81	Y-Ybgd	Y-Ybgd	Y-Ybgd	Y-Ybgd	Y-Ybgd	Y-Ybgd	Y-Ybgd	Y-Ybgd	R-W-Y jump	NA
82	G-Gbgd	G-Gbgd	G-Gbgd	G-Gbgd	G-Gbgd	G-Gbgd	G-Gbgd	G-Gbgd	R-G-B jump	NA
83	C-Cbgd	C-Cbgd	C-Cbgd	C-Cbgd	C-Cbgd	C-Cbgd	C-Cbgd	C-Cbgd	Seven jump	NA
84	B-Bbgd	B-Bbgd	B-Bbgd	B-Bbgd	B-Bbgd	B-Bbgd	B-Bbgd	B-Bbgd	W&R on/off	NA
85	P-Pbgd	P-Pbgd	P-Pbgd	P-Pbgd	P-Pbgd	P-Pbgd	P-Pbgd	P-Pbgd	W&Y on/off	NA
86	NA	NA	NA	NA	NA	NA	NA	NA	W&G on/off	NA
87	NA	NA	NA	NA	NA	NA	NA	NA	W&C on/off	NA
88	NA	NA	NA	NA	NA	NA	NA	NA	W&B on/off	NA
89	NA	NA	NA	NA	NA	NA	NA	NA	W&P on/off	NA
90	NA	NA	NA	NA	NA	NA	NA	NA	W&R fade	NA
91	NA	NA	NA	NA	NA	NA	NA	NA	W&Y fade	NA
92	NA	NA	NA	NA	NA	NA	NA	NA	W&G fade	NA
93	NA	NA	NA	NA	NA	NA	NA	NA	W&C fade	NA
94	NA	NA	NA	NA	NA	NA	NA	NA	W&B fade	NA
95	NA	NA	NA	NA	NA	NA	NA	NA	W&P fade	NA

**Notes:**

1. The programs with a blue background are only available for RGBW models.
2. R=red, Y=yellow, O=orange, G=green, C=Cyan, B=blue, W=white, P=purple.
3. bgd = background.
4. NA = not available (not mapped).
5. Program '0' is demo mode.

## Warranty Information

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### Limited Warranty

This product has a 5 year limited warranty from the date of shipment. This warranty only includes the main product outlined in this specification sheet and does not include the additional accessories that are used as a reference. Complete warranty details for fixtures and additional accessories are available at: <https://www.flexfireleds.com/warranties/> within the Policies section. For warranty related questions please contact the product support team at [support@flexfireleds.com](mailto:support@flexfireleds.com).

### Consumer's Acknowledgment

Flexfire LEDs, Inc. stands behind its products when they are used properly and according to our specifications. When you purchase our products, you are agreeing to the terms and conditions outlined in our warranty section. We try our best to make recommendations, but the burden of proper installation, design, and maintenance relies on the purchaser. This limited warranty does not include product failures that are the result of: Not using a voltage regulated power supply to connect the LED product or controls; Connecting LED products to the wrong output voltage; Improper connection of power supplies, LED products, or controls; Connecting LED products or controls directly to any AC power source if they are stated for DC only input; Connecting power supplies backwards to an AC power source; Products used in an inappropriate location or in environmental conditions (temperature, humidity, moisture, etc.) outside the normal specified range; Water damage to products not specifically sold as waterproof products; Electrical power surges and spikes; Damage from hail, flooding, tornado, fire, wind, earthquake, lightning, electrical storm, or any other natural disasters or "force majeure" incidences; Damage caused by a vehicle or other accident; Damage caused when transporting the item; Damage to any products that were modified by the user, used for purposes other than as intended or directed, or connected to LED systems or components not purchased from Flexfire LEDs; Products that have been subjected to misuse, mishandling, misapplication or accident. Products used in connection with any components, devices or systems other than those explicitly approved as compatible with Company's products and listed on Company's website. Excessive wear and tear and/or physical or accidental abuse, loss, or theft. Improper repairs or warranty services performed by someone other than Flexfire LEDs will void this warranty.

## Contact Information

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