



Blizzard Lighting, LLC  
<http://www.blizzardpro.com>  
Waukesha, WI USA  
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# 1. GETTING STARTED

## What's In The Box?

- 1 x MAX L™ LED Strobe
- 1 x IEC Power Cord
- 1 x Mounting Bracket & Locking Knobs

## Getting It Out Of the Box

Congratulations on purchasing the multi-talented MAX L™: color strobe, blinder and wash effect. Now that you've got MAX L™, you should carefully unpack the box and check the contents to ensure that all parts are present and in good condition. If anything looks as if it has been damaged in transit, notify the shipper immediately and keep the packing material for inspection. Again, please save the carton and all packing materials. If a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

## Powering Up!

All fixtures must be powered directly off a switched circuit and **cannot be run off a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0% to 100% switch.**

***Warning! All fixtures must be connected to circuits with a suitable Ground (Earthing).***

## Getting A Hold Of Us

**If something goes wrong, please visit [www.blizzardpro.com/support](http://www.blizzardpro.com/support) and open a support ticket. We'll be happy to help, honest.**

**Disclaimer:** The information and specifications contained in this document are subject to change without notice. Blizzard Lighting™ assumes no responsibility or liability for any errors or omissions that may appear in this user manual. Blizzard Lighting™ reserves the right to update the existing document or to create a new document to correct any errors or omissions at any time. You can download the latest version of this document from [www.blizzardpro.com](http://www.blizzardpro.com).

Author:	Date:	Last Edited:	Date:
J. Thomas	9/23/2020	J. Thomas	12/28/2020

## Safety Instructions



Please read these instructions carefully. They include important information about the installation, usage and maintenance of this product.

- Please keep this User Guide for future use. If you sell the unit to someone else, be sure that they also receive this User Guide.
- ALWAYS make sure that you are connecting to the proper voltage, and that the line voltage you are connecting to is not higher than that stated on the decal or rear panel of the fixture.
- This product is intended for indoor use only.
- To prevent risk of fire or shock, do not expose fixture to rain or moisture.
- Make sure there are no flammable materials close to the unit while operating.
- The unit must be installed in a location with adequate ventilation, at least 20in (50cm) from adjacent surfaces. Be sure that no ventilation slots are blocked.
- ALWAYS disconnect from the power source before servicing or replacing fuse and be sure to replace with same fuse size and type.
- ALWAYS secure fixture using a safety chain. NEVER carry the fixture by its head. Use its carrying handles.
- DO NOT operate at ambient temperatures higher than 104°F (40°C).
- In the event of a serious operating problem, stop using the unit immediately. NEVER try to repair the unit by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center. Always use the same type spare parts.
- NEVER connect the device to a dimmer pack.
- Make sure the power cord is never crimped or damaged.
- Never disconnect the power cord by pulling or tugging on the cord.
- Avoid direct eye exposure to the light source while it is on.

**Caution!** There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please open a support ticket at [www.blizzardpro.com/support](http://www.blizzardpro.com/support).

## 2. MEET MAX L™

### Main Features

- 3-in-1 strobe, blinder, and wash effect
- 132x 0.2W high output SMD 5050 RGB LEDs
- RGB color mixing in DMX and stand-alone mode
- Flicker-free, constant current LED driver
- Multiple built-in color macros and strobe effects
- Auto and sound active programs via DMX
- Variable electronic strobe (1-30Hz)
- Beam angle: 80°
- Built-in microphone with sensitivity adjustments
- 8 DMX modes with dimmer, flash frequency, and duration
- 3-pin DMX input/output + IEC power input
- Compact black metal housing with mounting bracket

### Control

- Protocol: USITT DMX-512
- DMX channel modes: 1/2/3/4/6-channels (8 total)
- 4-button control panel with LED display
- Operating modes: DMX512, M/S, auto mode, sound active

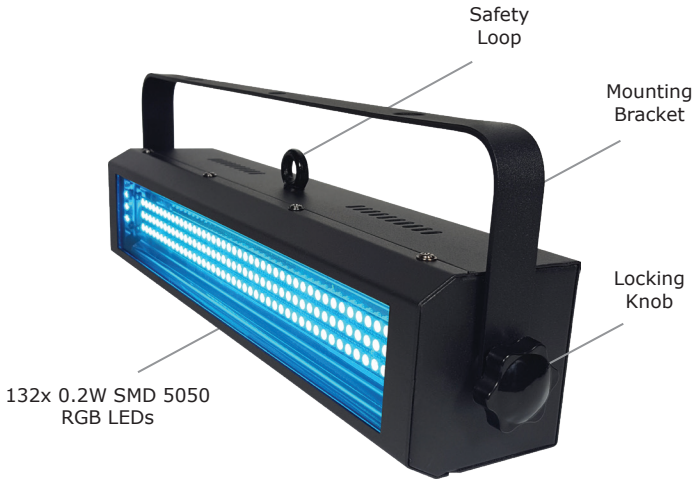
### DMX Quick Reference (1/2/3-Channel Modes)

1CH	2CH(1)	2CH(2)	3CH(1)	What It Does
--	1	1	1	Dimmer (0% <--> 100%)
1	--	2	2	Strobe (slow <--> fast)
--	2	--	--	Color Macros
--	--	--	3	Flash Duration (0ms to 510ms)

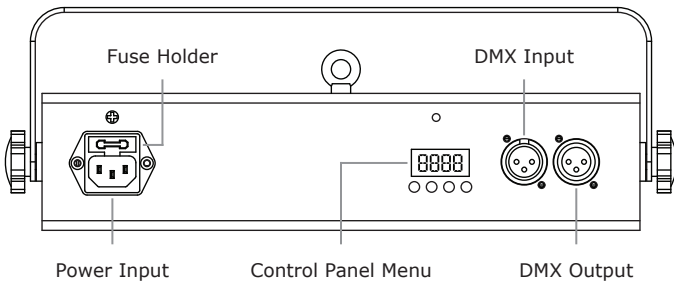
### DMX Quick Reference (3/4/6-Channel Modes)

3CH(2)	3CH(3)	4CH	6CH	What It Does
1	--	1	1	Dimmer (0% <--> 100%)
2	--	2	2	Strobe (slow <--> fast)
3	--	3	--	Color Macros
--	1	--	3	Red Intensity (0% <--> 100%)
--	2	--	4	Green Intensity (0% <--> 100%)
--	3	--	5	Blue Intensity (0% <--> 100%)
--	--	4	6	Sound Active (mic sensitivity)

# MAX L™ Pin-Up Picture



## The Rear Connections



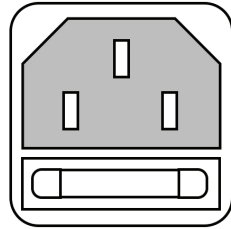
### 3. SETUP



Before replacing a fuse, disconnect the power cord.  
ALWAYS replace with the same type and rating of fuse.

#### Fuse Replacement

With a flat head screwdriver, wedge the fuse holder out of its housing. Remove the damaged fuse from its holder and replace with exact same type fuse.



#### Connecting A Bunch of MAX L's

You will need a serial data link to run light shows using a DMX-512 controller or to run shows on two or more fixtures set to sync in master/slave operating mode. The combined number of channels required by all the fixtures on a serial data link determines the number of fixtures the data link can support.

Fixtures on a serial data link must be daisy chained in one single line. Also, connecting more than 32 fixtures on one serial data link without the use of a DMX optically-isolated splitter may result in deterioration of the digital DMX signal. The maximum recommended cable-run distance is 500 meters (1640 ft). The maximum recommended number of fixtures on a serial data link is 32 fixtures.

#### Data/DMX Cabling

To link fixtures together you'll need data cables. You should use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

For instance, Belden© 9841 meets the specifications for EIA RS-485 applications. Standard microphone cables will "probably" be OK, but note that they cannot transmit DMX data as reliably over long distances. In any event, the cable should have the following characteristics:

*2-conductor twisted pair plus a shield*

*Maximum capacitance between conductors – 30 pF/ft.*

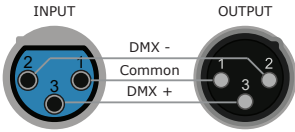
*Maximum capacitance between conductor & shield – 55 pF/ft.*

*Maximum resistance of 20 ohms / 1000 ft.*

*Nominal impedance 100 – 140 ohms*

## Cable Connectors

Cables must have a male XLR connector on one end and a female XLR connector on the other end. (Duh!)



### A Word on Termination:

DMX is a resilient communication protocol, however errors still occasionally occur. Termination reduces signal errors, and therefore best practices include use of a terminator in all circumstances. If you are experiencing problems with erratic fixture behavior, especially over long signal cable runs, a terminator may help improve performance.

### To build your own DMX Terminator:

Obtain a 120-ohm, 1/4-watt resistor, and wire it between pins 2 & 3 of the last fixture. They are also readily available from specialty retailers.

**CAUTION:** Do not allow contact between the common and the fixture's chassis ground. Grounding the common can cause a ground loop, and your fixture may perform erratically. Test cables with an ohm meter to verify correct polarity and to make sure the pins are not grounded or shorted to the shield or each other.

### 3-Pin??? 5-Pin??? Huh?!?

If you use a controller with a 5-pin DMX output connector, you will need to use a 5-pin to 3-pin adapter. If you'd like to build your own, the chart below details a proper cable conversion:

Conductor	3-Pin Female (Output)	5-Pin Male (Input)
Ground/Shield	Pin 1	Pin 1
Data 1- (Primary Data Link)	Pin 2	Pin 2
Data 1+ (Primary Data Link)	Pin 3	Pin 3
Data 2- (Optional Secondary Data Link)	--	Pin 4 - Do Not Use
Data 2+ (Optional Secondary Data Link)	--	Pin 5 - Do Not Use

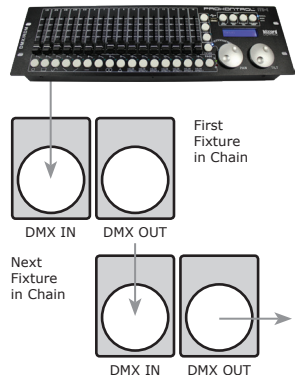
## Take It To The Next Level: Setting Up DMX Control

**Step 1:** Connect the male connector of the DMX cable to the female connector (output) on the controller.

**Step 2:** Connect the female connector of the DMX cable to the first fixture's male connector (input).

**Note:** It doesn't matter which fixture address is the first one connected. We recommend connecting the fixtures in terms of their proximity to the controller, rather than connecting the lowest fixture number first, and so on.

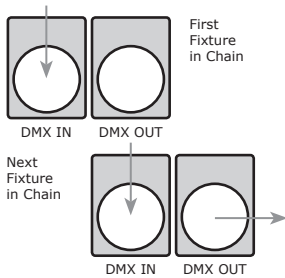
**Step 3:** Connect other fixtures in the chain from output to input as above. Place a DMX terminator on the output of the final fixture to ensure best communication.





## Fixture Linking (M/S Mode)

1. Connect the male connector side of the DMX cable to the output female connector of the first fixture.



2. Connect the end of the cable coming from the first fixture which will have a female connector to the input connector of the next fixture consisting of a male connector. Then, proceed to connect from the output as stated above to the input of the following fixture and so on.

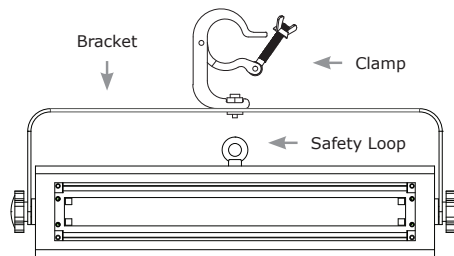
**A quick note:** Often, the setup for Master-Slave and Standalone operation requires that the first fixture in the chain be initialized for this purpose via either settings in the control panel or DIP-switches. Secondly, the fixtures that follow may also require a slave setting.

Check the "**Operating Adjustments**" section in this manual for complete instructions for this type of setup and configuration.

## Mounting & Rigging

This fixture may be mounted in any SAFE position provided there is enough room for ventilation. The fan or vent pathway must never be obstructed.

**IMPORTANT:** Regardless of the rigging option you choose for your fixtures, always be sure to secure your fixture with a safety cable.



Mount the fixture using a suitable "C" or "O" type clamp. The clamps should be rated to hold at least 10x the fixture's weight to ensure structural stability. Do not mount to surfaces of unknown strength, and ensure properly rated rigging is used when mounting fixtures overhead.

Overhead mounting requires extensive experience, which includes calculating working load limits, knowledge of the installation material being used, and periodic safety inspections. If you lack these qualifications, do not attempt the installation yourself. Improper installation can result in bodily injury.

## 4. OPERATING ADJUSTMENTS

### The Control Panel

All the features and different modes possible with the MAX L™ are accessed by using the control panel on the rear of the fixture. There are 4 control buttons under to the LED display which allow you to navigate through the various control panel menus.

#### <MENU>

Is used to navigate to the previous higher-level menu item.

#### <UP>

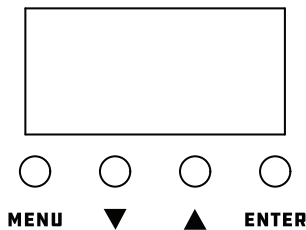
Scrolls through menu items and numbers in ascending order.

#### <DOWN>

Scrolls through menu items and numbers in descending order.

#### <ENTER>

Is used to select and confirm/store the current selection.



The control panel LED display shows the menu items you select from the menu map on page #11. When a menu function is selected, the display will show immediately the first available option for the selected menu function. To select a menu item, press **<ENTER>**.

Use the **<UP>** and **<DOWN>** buttons to navigate the menu options. Press the **<ENTER>** button to select the menu function currently displayed, or to enable a menu option. To return to the previous option or menu without changing the value, press the **<MENU>** button.

## Control Panel Menu Structure

<b>A001</b>	A001 - A512	To choose the starting DMX address
<b>C000</b> (Color Mixing)	C1.XX	Red Intensity (00-99, 0% <--> 100%)
	C2.XX	Green Intensity (00-99, 0% <--> 100%)
	C3.XX	Blue Intensity (00-99, 0% <--> 100%)
	CF.XX	Strobe Effect (00-99, slow <--> fast)
<b>CN00</b> (Color Presets)	CN.XX	01 Red
		02 Green
		03 Blue
		04 Yellow
		05 Magenta
		06 Cyan
		07 White
<b>JU00</b> (Color Jump)	JU.XX	Color Jump (00-99, slow <--> fast)
	JF.XX	Strobe Effect (00-99, slow <--> fast)
<b>FA00</b> (Color Fade)	FA.XX	Color Fade (00-99, slow <--> fast)
	FF.XX	Strobe Effect (00-99, slow <--> fast)
<b>AUTO</b>	AU.XX	Auto Mode (00-99, slow <--> fast)
<b>SLAV</b>	<ENTER>	Slave Mode
<b>SOUN</b>	S0.XX	Sound Active (00-99, mic sensitivity level)
<b>xCHx</b>	X.CH	DMX channel mode options

## DMX Mode

*Allows the unit to be controlled by any universal DMX controller.*

### Starting DMX Address:

- 1.) Navigate the main menu until you reach **Addr**, and press the **<ENTER>** button. Then use the **<UP/DOWN>** buttons to select a starting DMX address ranging from 1-512, and press **<ENTER>**.

### DMX Channel Mode:

- 1.) Navigate the main menu to the last option, which is the channel mode selection, and press the **<ENTER>** button. Then use the **<UP/DOWN>** buttons to select **1Ch**, **2Ch1**, **2Ch2**, **3Ch1**, **3Ch2**, **3Ch3**, **4Ch**, or **6Ch**, and press the **<ENTER>** button to confirm.

### M/S Mode:

- 1.) Daisy chain the DMX input/output connections of the fixtures.
- 2.) On the secondary fixtures, navigate to **SLAV** and press **<ENTER>**.
- 3.) Your secondary fixtures will now follow the first fixture.

## Auto, Sound Active, & Manual Adjustments

*Allows a single or daisy chained units to run factory installed programs.*

### Auto Mode:

- 1.) Navigate the menu until you reach **AUTO**, and press **<ENTER>**.

### Color Jump & Color Fade:

- 1.) Navigate the menu until you reach **JU00** (Color Jump), or **FA00** (Color Fade), and press **<ENTER>**.
- 2.) Use the **<UP/DOWN>** buttons to highlight **00-99** (slow <--> fast effect speed), and press **<ENTER>**.
- 3.) Then to add strobe to the effect, use the **<UP/DOWN>** buttons to highlight **JF00** (in color jump), or **AU00** (in color fade), and press the **<ENTER>** button.
- 4.) Use the **<UP/DOWN>** buttons to highlight **00-99** (slow to fast), and press **<ENTER>**.

### Sound Active Mode:

- 1.) Navigate the menu until you reach **SOUN**, and press **<ENTER>**.
- 2.) Then to adjust mic sensitivity, use the **<UP/DOWN>** buttons to select from **S000 - S099** (decrease <--> increase).

### Color Mixing and Presets:

- 1.) Navigate to **C000** (mixing) or **CN00** (preset), and press **<ENTER>**.
- 2.) For manual color mixing, adjust the **Red** (C1), **Green** (C2), and **Blue** (C3) intensity levels from 0-255, and press the **<ENTER>** button.
- 3.) For preset colors, highlight **01-07** and press **<ENTER>**.

## DMX Values In-Depth (1-Channel Mode)

1Ch	Value	What It Does
1	000 <--> 010 011 <--> 255	<b>Strobe</b> Closed Strobe (0-30Hz, slow <--> fast)

## DMX Values In-Depth (2-Channel Modes 1 & 2)

2Ch1	2Ch2	Value	What It Does
1	1	000 <--> 255	Dimmer (0% <--> 100%)
2	--	000 <--> 255	Color Macros ( <b>see values at bottom of page</b> )
--	2	000 <--> 005 006 <--> 010 011 <--> 250 251 <--> 255	<b>Strobe</b> Open Closed Strobe (0-30Hz, slow <--> fast) Open

## DMX Values In-Depth (3-Channel Modes 1, 2, and 3)

3Ch1	3Ch2	3Ch3	Value	What It Does
1	1	--	000 <--> 255	Dimmer (0% <--> 100%)
2	2	--	000 <--> 005 006 <--> 010 011 <--> 250 251 <--> 255	<b>Strobe</b> Open Closed Strobe (0-30Hz, slow <--> fast) Open
3	--	--	000 <--> 255	Flash duration (0ms to 510ms)
--	3	--	000 <--> 255	Color Macros ( <b>see values at bottom of page</b> )
--	--	1	000 <--> 255	Red Intensity (0% <--> 100%)
--	--	2	000 <--> 255	Green Intensity (0% <--> 100%)
--	--	3	000 <--> 255	Blue Intensity (0% <--> 100%)

## DMX Values In-Depth (4/6-Channel Modes)

4Ch	6Ch	Value	What It Does
1	1	000 <--> 255	Dimmer (0% <--> 100%)
2	2	000 <--> 005 006 <--> 010 011 <--> 033 034 <--> 056 057 <--> 079 080 <--> 102 103 <--> 127 128 <--> 250 251 <--> 255	<b>Strobe</b> Open (reacts to dimmer CH1) Closed Random pulse (slow <--> fast) Ramp up random (slow <--> fast) Ramp down random (slow <--> fast) Random strobe (slow <--> fast) Strobe break effect, 5s <--> 1s (short flash) Strobe (0-30Hz, slow <--> fast) Open (reacts to dimmer CH1)
3	--	000 <--> 255	Color Macros ( <b>see values at bottom of page</b> )
--	3	000 <--> 255	Red Intensity (0% <--> 100%)
--	4	000 <--> 255	Green Intensity (0% <--> 100%)
--	5	000 <--> 255	Blue Intensity (0% <--> 100%)
4	6	000 <--> 005 006 <--> 255	<b>Sound Active</b> Off On, Mic sensitivity (decrease <--> increase)

## Color Macro Values (2Ch1/3ch2/4ch-Channel Modes)

000 <--> 005	Off	054 <--> 061	Cyan	110 <--> 117	White
006 <--> 013	Red	062 <--> 069	Blue	118 <--> 125	Cool White
014 <--> 021	Amber	070 <--> 077	Lavender	126 <--> 128	Off
022 <--> 029	Yellow Warm	078 <--> 085	Mauve	129 <--> 192	Color Jump (slow - fast)
030 <--> 037	Yellow	086 <--> 093	Magenta		
038 <--> 045	Green	094 <--> 101	Pink		
046 <--> 053	Turquoise	102 <--> 109	Warm White		

# 5. APPENDIX

## Keeping Your MAX L™ As Good As New

The fixture you've received is a rugged, tough piece of pro lighting equipment, and as long as you take care of it, it will take care of you. That said, you'll need to take care of it if you want it to operate as designed. You should keep the fixture clean, especially if you are using it in an environment with a lot of dust, fog, haze, wild animals, wild teenagers or spilled drinks.

Cleaning the optics routinely with a suitable glass cleaner will greatly improve the quality of light output. Keeping the fans free of dust and debris will keep the fixture running cool and prevent damage from overheating.

In transit, keep the fixtures in cases. You wouldn't throw a prized guitar, drumset, or other piece of expensive gear into a gear trailer without a case, and similarly, you shouldn't even think about doing it with your shiny new light fixtures.

Common sense and taking care of your fixtures will be the single biggest thing you can do to keep them running at peak performance and let you worry about designing a great light show, putting on a great concert, or maximizing your client's satisfaction and "wow factor." That's what it's all about, after all!

## Returns (Gasp!)

We've taken a lot of precautions to make sure you never even have to worry about sending a defective unit back, or sending a unit in for service. But, like any complex piece of equipment designed and built by humans, once in a while, something doesn't go as planned. If you find yourself with a fixture that isn't behaving like a good little fixture should, you'll need to obtain a Return Authorization (RA).

Don't worry, this is easy. Just visit [www.blizzardpro.com/support](http://www.blizzardpro.com/support) and open a support ticket, and we'll issue you an RA. Then, you'll need to send the unit to us using a trackable, pre-paid freight method. We suggest using USPS Priority or UPS. Make sure you carefully pack the fixture for transit, and whenever possible, use the original box & packing for shipping.

When returning your fixture for service, be sure to include the following:

- 1.) Your contact information (Name, Address, Phone Number, Email address).
- 2.) The RA# issued to you
- 3.) A brief description of the problem/symptoms.

We will, at our discretion, repair or replace the fixture. Please remember that any shipping damage which occurs in transit to us is the customer's responsibility, so pack it well!

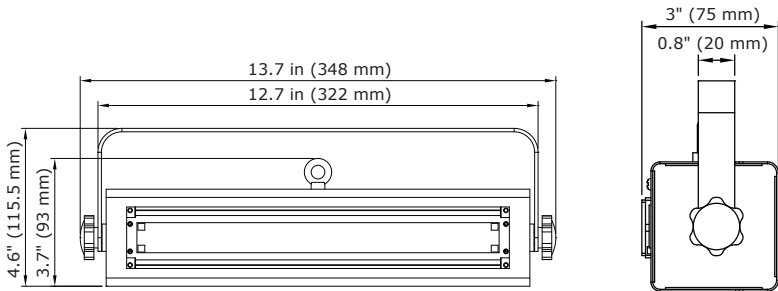
## Shipping Issues

**Damage incurred in shipping is the responsibility of the shipper, and must be reported to the carrier immediately upon receipt of the items. Claims must be made within seven (7) days of receipt.**

## Tech Specs!

<b>Weight &amp; Dimensions</b>	
Width	13.7 inches (348 mm)
Depth	3 inches (75 mm)
Height	4.6 inches (115.5 mm)
Weight	2.7 lbs. (1.2 kg)
<b>Power</b>	
Operating Voltage	100-240VAC, 50-60 Hz
Power Consumption	30W, 0.35A, PF: .61
Fuse	2A, 250V
<b>Light Source</b>	
LED	132x 0.2W SMD 5050 RGB LEDs
Luminance	220 lux @ 1M, 64 lux @ 2M
<b>Thermal</b>	
Max. Operating Temp.	104 degrees F (40 degrees C) ambient
<b>Control</b>	
Protocol	USITT DMX-512
DMX Channels	1/2/3/4/6-channel (8 total)
Input/Output	3-pin XLR Male/Female
Other Operating Modes	DMX512, M/S, Auto, Sound Active
<b>Warranty</b>	2-year limited warranty, does not cover malfunction caused by damage to LEDs.

## Dimensional Drawings





**Enjoy your product!  
Our sincerest thanks for your purchase!  
--The team @ Blizzard Lighting**