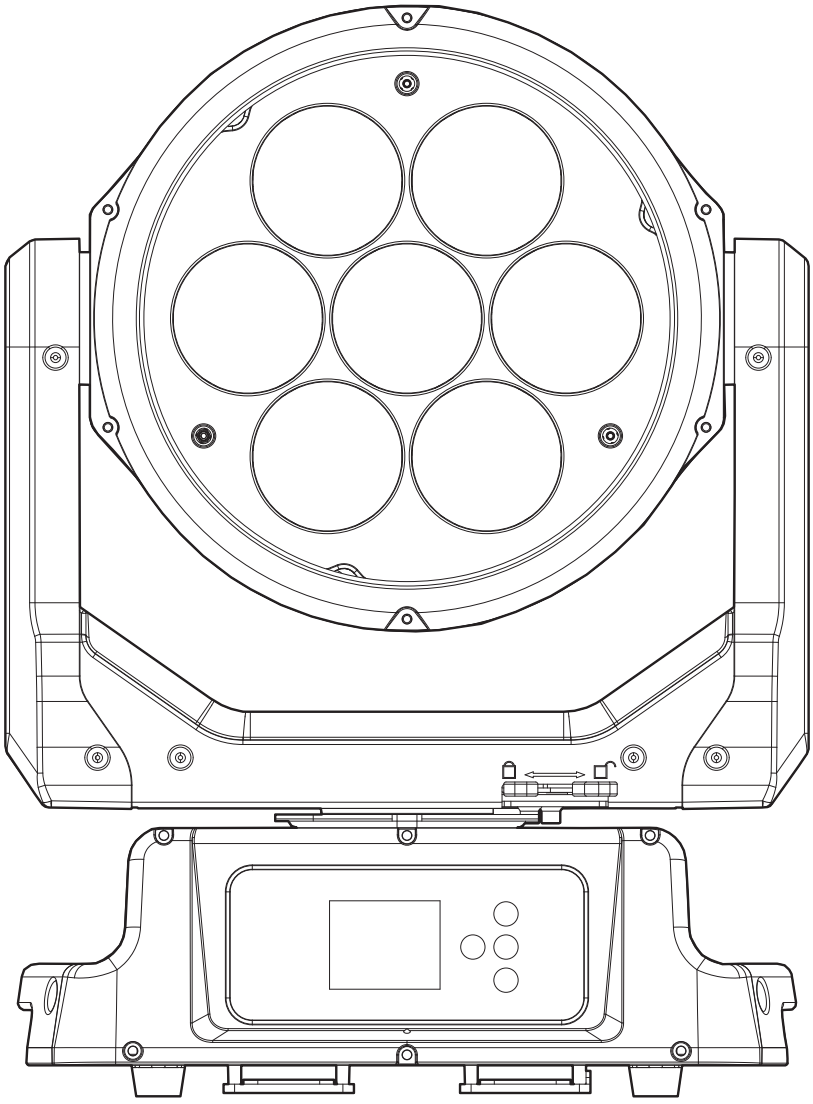
ELATION®



PROTEUS RAYZOR 760 OPS

User Manual

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DOCUMENT VERSION

Due to additional product features and/or enhancements, an updated version of this document may be available online. Please scan the QR Code with your mobile device or visit www.elationlighting.com for the latest revision/update of this manual, before installation and/or programming.

Date	Document Version	Software Version	DMX Channels	Notes
07/09/25	1.0	1.0.1	25 / 52 / 80 Ch	Initial release

CONTENTS

INTRODUCTION

Please read and understand the instructions in this manual carefully and thoroughly before attempting to operate this device. These instructions contain important safety and use information. **This device is intended for use by trained personnel only, and is not suitable for private use.**

UNPACKING

Every device has been thoroughly tested and has been shipped in perfect operating condition. Carefully check the shipping carton for damage that may have occurred during shipping. If the carton is damaged, carefully inspect the device for damage, and be sure all accessories necessary to install and operate the device have arrived intact. In the event that damage has been found or parts are missing, please contact our customer support team for further instructions. Please do not return this device to your dealer without first contacting customer support. Please do not discard the shipping carton in the trash. Please recycle whenever possible.

BOX CONTENTS

Omega Brackets (x2)
Stainless Steel Safety Cable (x1)

CUSTOMER SUPPORT

Contact ELATION Service for any product related service and support needs.
Also visit forums.elationlighting.com with questions, comments or suggestions.

ELATION SERVICE USA - Monday - Friday 8:00am to 4:30pm PST
323-582-3322 | support@elationlighting.com

ELATION SERVICE EUROPE - Monday - Friday 08:30 to 17:00 CET
+31 45 546 85 63 | Fax +31 45 546 85 96 | support@elationlighting.eu

REPLACEMENT PARTS - please visit parts.elationlighting.com

LIMITED WARRANTY

For up-to-date warranty information regarding your device, please visit Elation's warranty information page online or scan the QR codes below.

USA: https://www.elationlighting.com/warranty-information

EU: https://www.elationlighting.eu/terms_and_conditions

THERE ARE NO USER SERVICEABLE PARTS INSIDE THIS UNIT. DO NOT ATTEMPT ANY REPAIRS YOURSELF, AS DOING SO WILL VOID YOUR MANUFACTURER'S WARRANTY. DAMAGES RESULTING FROM MODIFICATIONS TO THIS FIXTURE AND/OR THE DISREGARD OF SAFETY INSTRUCTIONS AND GUIDELINES IN THIS MANUAL VOID THE MANUFACTURER'S WARRANTY AND ARE NOT SUBJECT TO ANY WARRANTY CLAIMS AND/OR REPAIRS.

IP66 RATED - OPS

The International Protection (IP) rating system is commonly expressed as "**IP**" (Ingress Protection) followed by two numbers (i.e. IP66), where the numbers define the degree of protection. The first digit (Foreign Bodies Protection) indicates the extent of protection against particles entering the fixture, and the second digit (Water Protection) indicates the extent of protection against water entering the fixture. An **IP66** rated lighting fixture is designed and tested to protect against the ingress of dust (**6**), and high-pressure water jets from any direction (**6**).

The Atmospheric Corrosion rating indicates the degree of protection that a surface coating provides against corrosion. It is commonly expressed as the letter C, followed by a number from 1 to 5 or the letter X. This fixture is rated as **CX (extreme)**, which means it is designed to provide protection in areas of high salinity, industrial areas exposed to extreme humidity, aggressive atmospheres, or tropical areas.

Maritime/Seaside Environment Installations: A maritime/seaside environment is adjacent to the sea and caustic to electronics through exposure to atomized salt water and humidity, whereas a coastal environment extends 5 miles inland.

A duty-cycle may also be needed when units are not in use. During times of high humidity and colder temperatures, condensation may occur internally so the fixture may require a duty-cycle to bring it up to running temperature, allowing any accumulation of moisture to be expelled via the vent valve. Recommendations can change based on installation environmental circumstances.

NOTE: NOT ALL FEATURES LISTED ARE AVAILABLE ON ALL FIXTURES; THE FOLLOWING INSTRUCTIONS MAY NOT APPLY. CONTACT SUPPORT FOR ADDITIONAL DETAILS.

Exterior Maintenance: Please note that the following are best practices, which are recommended but not required. Inspect the exterior every 30-days. The unit must be powered off/disconnected. The chassis should be inspected for any signs of contaminants. Inspect optics to determine if the lens is obstructed, then clean optics and chassis accordingly. Based on initial finding, schedule maintenance accordingly, keeping in mind that exterior maintenance will be required. Even if the luminaires are NOT in use, maintenance will still be needed given its location (exterior use). The use of a durable type of wax on the chassis is recommended since it will help prevent contaminant build up. Inspect both power and data lines for any signs of contaminants or corrosion. Periodically reapplying di-electric grease, especially in coastal environments. If any signs of corrosion/contaminants are present, clean thoroughly, and/or replace connectors, then reapply di-electric grease. Typically, this should be done annually, or any time an opportunity presents itself. As a preventive measure, annual replacement of both vent valves is recommended. The vent valve membrane can become contaminated and/or clogged causing improper venting of humidity within the luminaire. Inspect all mounting hardware as a precaution.

Interior Maintenance: Inspect the interior every 30-days. The unit must be powered off/disconnected.

- Inspect zoom/focus mechanism, clean optics, lubricate linear bearings (Krytox oil) as needed, inspect belts for wear
- Inspect all rotating effect wheels, manually rotate them, note any resistance
- Inspect all remaining rotating belts for any wear
- Inspect all fans, clean as needed, check rotation, check connections
- Inspect CMY module, manually move flags and check for signs of resistance, and if needed, clean guide rods first, then reapply a thin layer of grease (moly lube)
- Clean interior with low-volume compressed air, then clean optics prior to reassembly of head covers

Although the base has limited moving parts, the pan belt should also be inspected for wear. Remember to always perform an IP test anytime a cover is removed.

There is no specific time frame regarding the routine replacement of parts such as belts/stepper motors, PCBs, or LEDs. These items should only be replaced on an as needed bases, except for cooling fans, which should be replaced once the luminaries reach 10,000-hours. This is a prophylactic measure intended to keep the unit running as cool as possible, insuring proper function of all internal components. A complete service breakdown is available, please contact service@elationlighting.com for any needed parts or manuals.

SAFETY GUIDELINES

This fixture is a sophisticated piece of electronic equipment. To guarantee a smooth operation, it is important to follow all instructions and guidelines in this manual. Elation Professional is not responsible for injury and/or damages resulting from the misuse of this fixture due to the disregard of the information printed in this manual. Only qualified and/or certified personnel should perform installation of this fixture and only the original rigging parts (omega brackets) included with this fixture should be used for installation. Any modifications to the fixture and/or the included mounting hardware will void the original manufactures warranty and increase the risk of damage and/or personal injury.

PROTECTION CLASS 1 - FIXTURE MUST BE PROPERLY GROUNDED.

THERE ARE NO USER SERVICEABLE PARTS INSIDE THIS UNIT.
DO NOT ATTEMPT ANY REPAIRS YOURSELF; DOING SO WILL VOID YOUR MANUFACTURER'S WARRANTY. DAMAGES RESULTING FROM MODIFICATIONS TO THIS FIXTURE AND/OR THE DISREGARD OF SAFETY INSTRUCTIONS AND GUIDELINES IN THIS MANUAL VOID THE MANUFACTURE'S WARRANTY AND ARE NOT SUBJECT TO ANY WARRANTY CLAIMS AND/OR REPAIRS.

DO NOT PLUG FIXTURE INTO A DIMMER PACK!
NEVER OPEN THIS FIXTURE WHILE IN USE!
DISCONNECT POWER BEFORE SERVICING FIXTURE!
NEVER TOUCH FIXTURE DURING OPERATION, AS IT MAY BE HOT!
KEEP FLAMMABLE MATERIALS AWAY FROM FIXTURE!

NEVER LOOK DIRECTLY INTO THE LIGHT SOURCE!
RETINA INJURY RISK - MAY INDUCE BLINDNESS!
SENSITIVE PERSONS MAY SUFFER AN EPILEPTIC SHOCK!

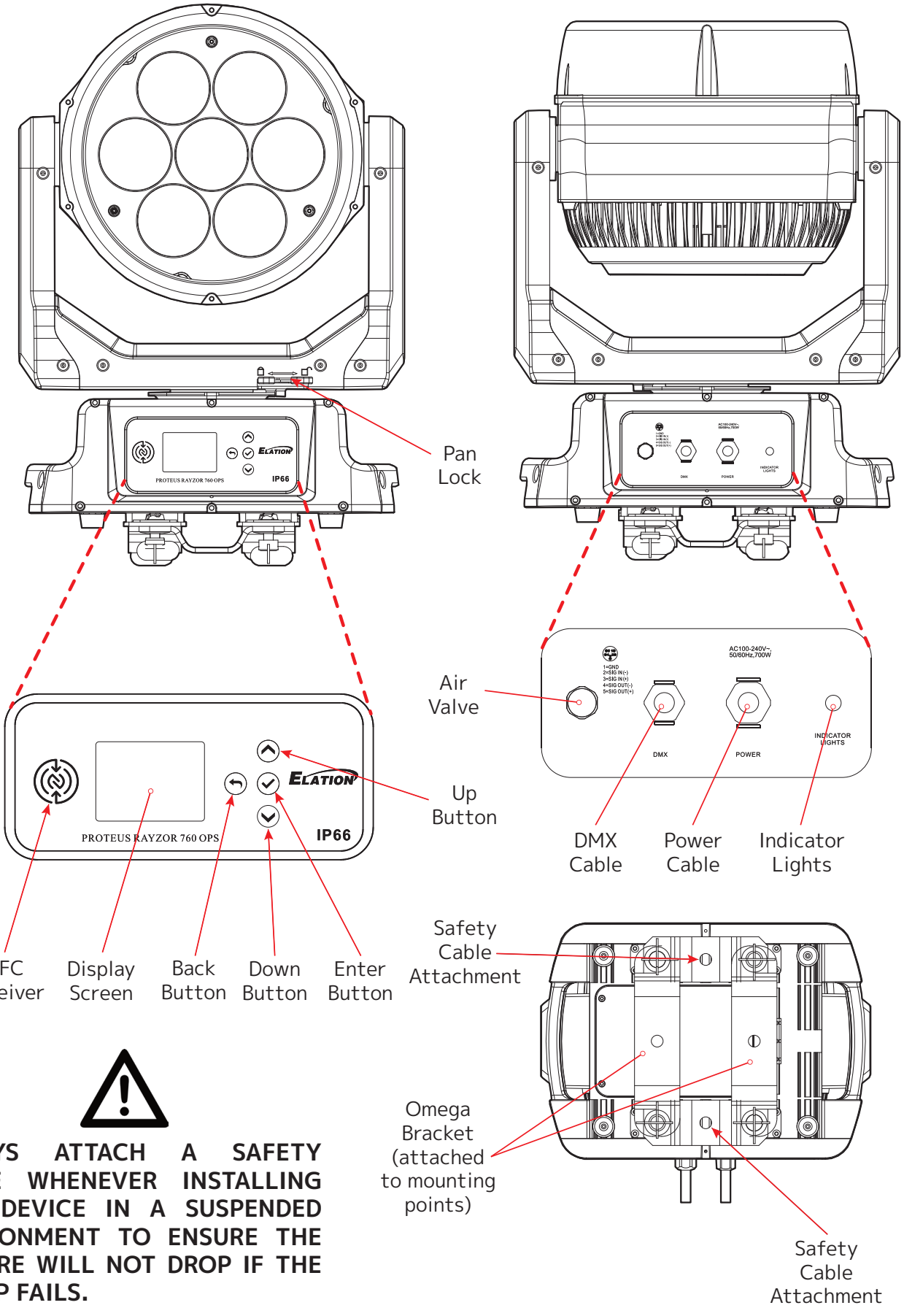
MINIMUM DISTANCE TO OBJECTS/SURFACES IS 3.3 FEET (1 METERS)
MAXIMUM TEMP OF EXTERNAL SURFACE 185° F (85°C)
MINIMUM DISTANCE TO FLAMMABLE MATERIALS IS 5 FEET (1.5 METER)

IT IS STRONGLY RECOMMENDED TO POWER THE FIXTURE DOWN COMPLETELY WHEN NOT IN USE. DOING SO WILL REDUCE WEAR ON THE FIXTURE DUE TO SUSTAINED OR EXTENDED OPERATIONAL PERIODS, THEREBY MAXIMIZING ITS OPERATIONAL LIFESPAN.

SAFETY GUIDELINES

- **DO NOT TOUCH** the fixture housing during operation. Turn OFF the power and allow approximately 15 minutes for the fixture to cool down before servicing.
- **DO NOT** shake fixture, and avoid brute force when installing and/or operating fixture.
- **DO NOT** block any air ventilation slots.
- All fan and air inlets must remain clean and never blocked.
- Allow approx. 6" (15cm) between fixture and other devices or a wall for proper cooling.
- Always disconnect fixture from main power source before performing any type of service and/or cleaning procedure.
- Only handle the power cord by the plug end. Never pull out the plug by tugging the wire portion of the cord.
- During the initial operation of this fixture, a light smoke or smell may emit from the interior of the fixture. This is a normal process and is caused by excess paint in the interior of the casing burning off from the heat associated with the lamp and will decrease gradually over time.
- Consistent operational breaks will ensure fixture will function properly for many years.
- **ONLY** use the original packaging and materials to transport the fixture in for service.
- OPS fixtures are **NOT** designed for 24/7 operation, and require periodic cooling intervals in high-heat environments. No more than 14 hours per day of operation should be allowed.

OVERVIEW



ALWAYS ATTACH A SAFETY CABLE WHENEVER INSTALLING THIS DEVICE IN A SUSPENDED ENVIRONMENT TO ENSURE THE FIXTURE WILL NOT DROP IF THE CLAMP FAILS.

INSTALLATION GUIDELINES

FLAMMABLE MATERIAL WARNING
Keep fixture minimum 5 feet (1.5m) away from flammable materials and/or pyrotechnics.

ELECTRICAL CONNECTIONS
A qualified electrician should be used for all electrical connections and/or installations.

MINIMUM DISTANCE TO SURFACES/OBJECTS IS 3.3 FEET (1 METER).
MINIMUM DISTANCE TO FLAMMABLE MATERIALS IS 5 FEET (1.5 METERS).
EXTERNAL SURFACE CAN REACH TEMPERATURES OF 185° F (85° C).

DO NOT INSTALL THE FIXTURE IF YOU ARE NOT QUALIFIED TO DO SO!

Fixture **MUST** be installed following all local, national, and country commercial electrical and construction codes and regulations.

Before rigging/mounting a single fixture or multiple fixtures to any metal truss/structure or placing the fixture(s) on any surface, a professional equipment installer **MUST** be consulted to determine if the metal truss/structure or surface is properly certified to safely hold the combined weight of the fixture(s), clamps, cables, and accessories.

Overhead rigging requires extensive experience, including calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the fixture, among other skills. If you lack these qualifications, do not attempt the installation yourself. Improper installation can result in bodily injury.

Fixture ambient operating temperature range is **-4° to 113°F (-20° to 45°C).** Do not operate the fixture when the ambient temperature falls outside of this range.

Fixture(s) should be installed away from walking paths, seating areas, or areas were unauthorized personnel might reach the fixture by hand.

NEVER stand directly below the fixture(s) when rigging, removing, or servicing.

Overhead fixture installation must always be secured with a secondary safety attachment, such as an appropriately rated safety cable.

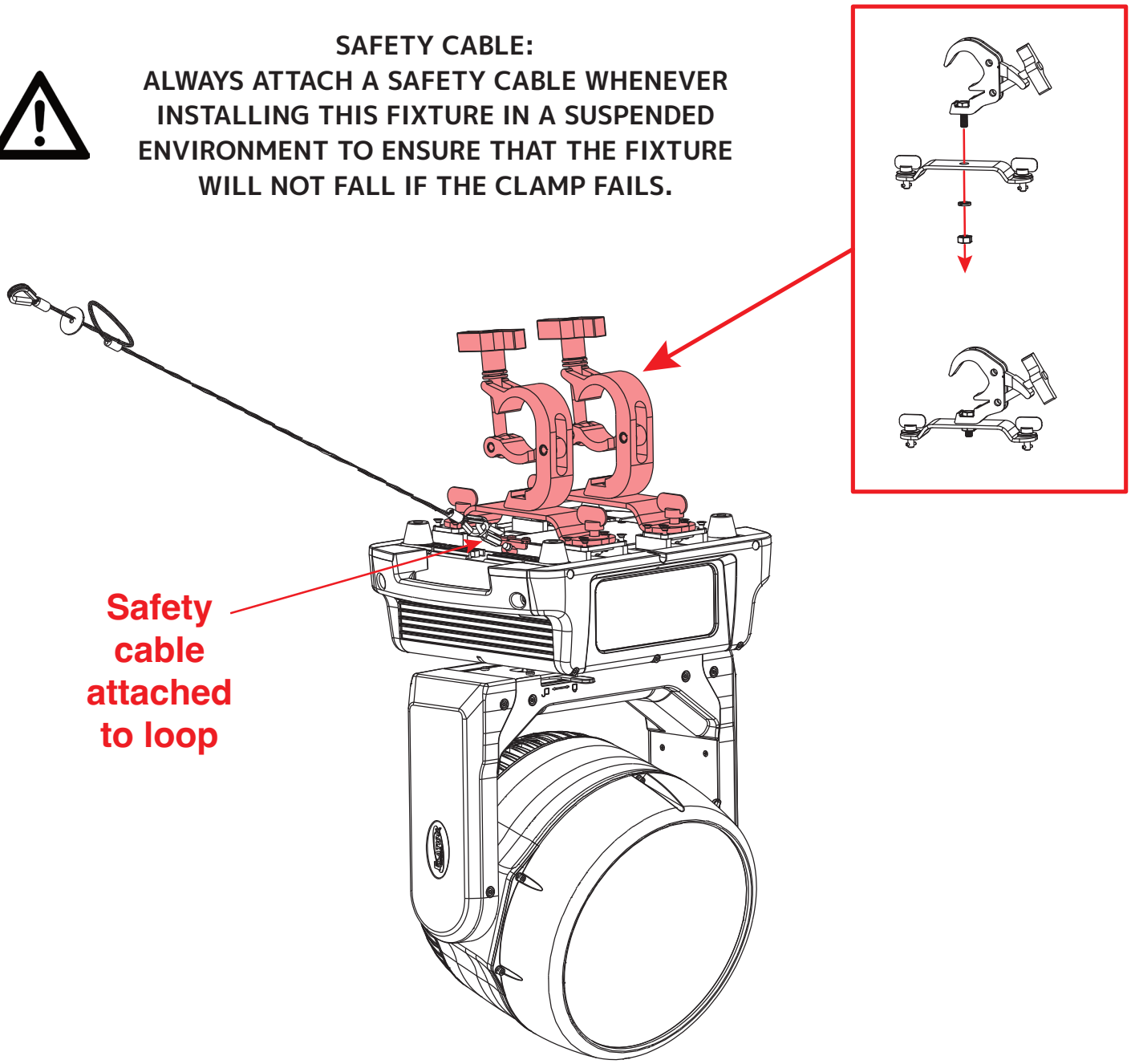
Allow approximately 15 minutes for the fixture to cool down before serving.

INSTALLATION GUIDELINES

OMEGA BRACKET INSTALLATION

When mounting the fixture to a truss, be sure to secure appropriately rated professional grade rigging clamps to the included Omega Brackets using an M10 screw fitted through the center hole of the Omega Brackets, then secure using a washer and nut of the appropriate rating. Attach the Omega Brackets to the unit by inserting the twist-lock fasteners into the mounting holes on the bottom of the fixture base, then twist to secure in place. **This fixture requires the installation of two Omega brackets and two clamps for secure truss mounting.** The fixture also provides built-in rigging points for a SAFETY CABLE on the bottom of the fixture base. Be sure to only use the designated rigging point for the safety cable and never secure a safety cable to a carrying handle.

SAFETY CABLE:
ALWAYS ATTACH A SAFETY CABLE WHENEVER INSTALLING THIS FIXTURE IN A SUSPENDED ENVIRONMENT TO ENSURE THAT THE FIXTURE WILL NOT FALL IF THE CLAMP FAILS.

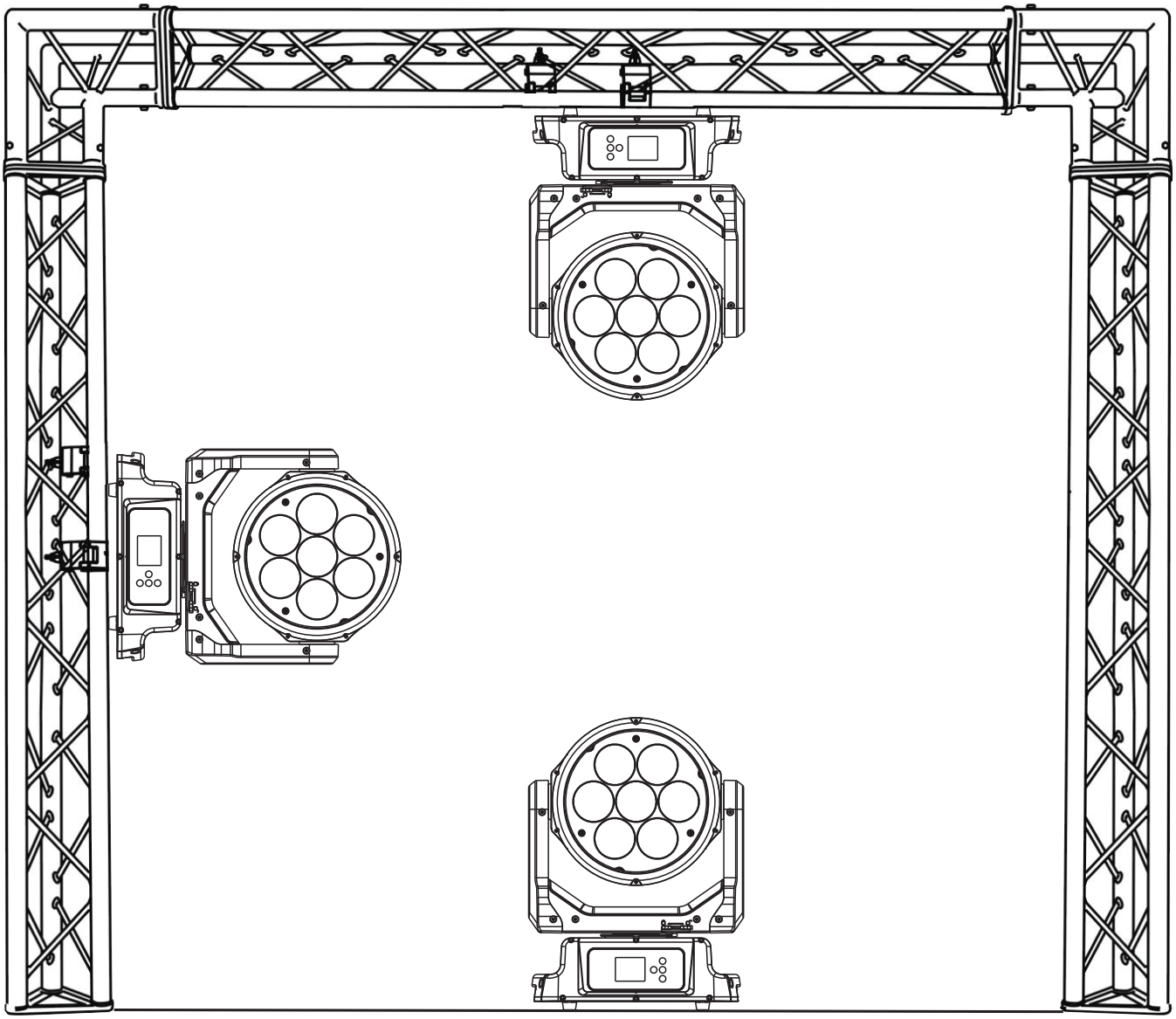


INSTALLATION GUIDELINES

RIGGING

Overhead rigging requires extensive experience, including calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the fixture, among other skills. If you lack these qualifications, do not attempt the installation yourself. Improper installation can result in bodily injury.

The fixture is fully operational in the following positions: hanging from a horizontal truss, suspended sideways from a vertical truss, or standing upright on a flat, level surface. See the illustration below for reference.



FALLING FIXTURES CAN CAUSE SEVERE INJURY OR SERIOUS EQUIPMENT DAMAGE! FOR THIS REASON, FIXTURES SHOULD BE INSTALLED AND INSPECTED ONLY BY QUALIFIED PERSONNEL. DO NOT INSTALL THE UNIT IF YOU LACK THE QUALIFICATIONS TO DO SO, OR IF YOU HAVE DOUBTS ABOUT THE SAFETY AND SECURITY OF THE INSTALLATION SETUP OR LOCATION!

ALWAYS ATTACH A SAFETY CABLE WHENEVER INSTALLING THIS FIXTURE IN A SUSPENDED ENVIRONMENT TO ENSURE THE FIXTURE WILL NOT FALL IF THE CLAMP FAILS.

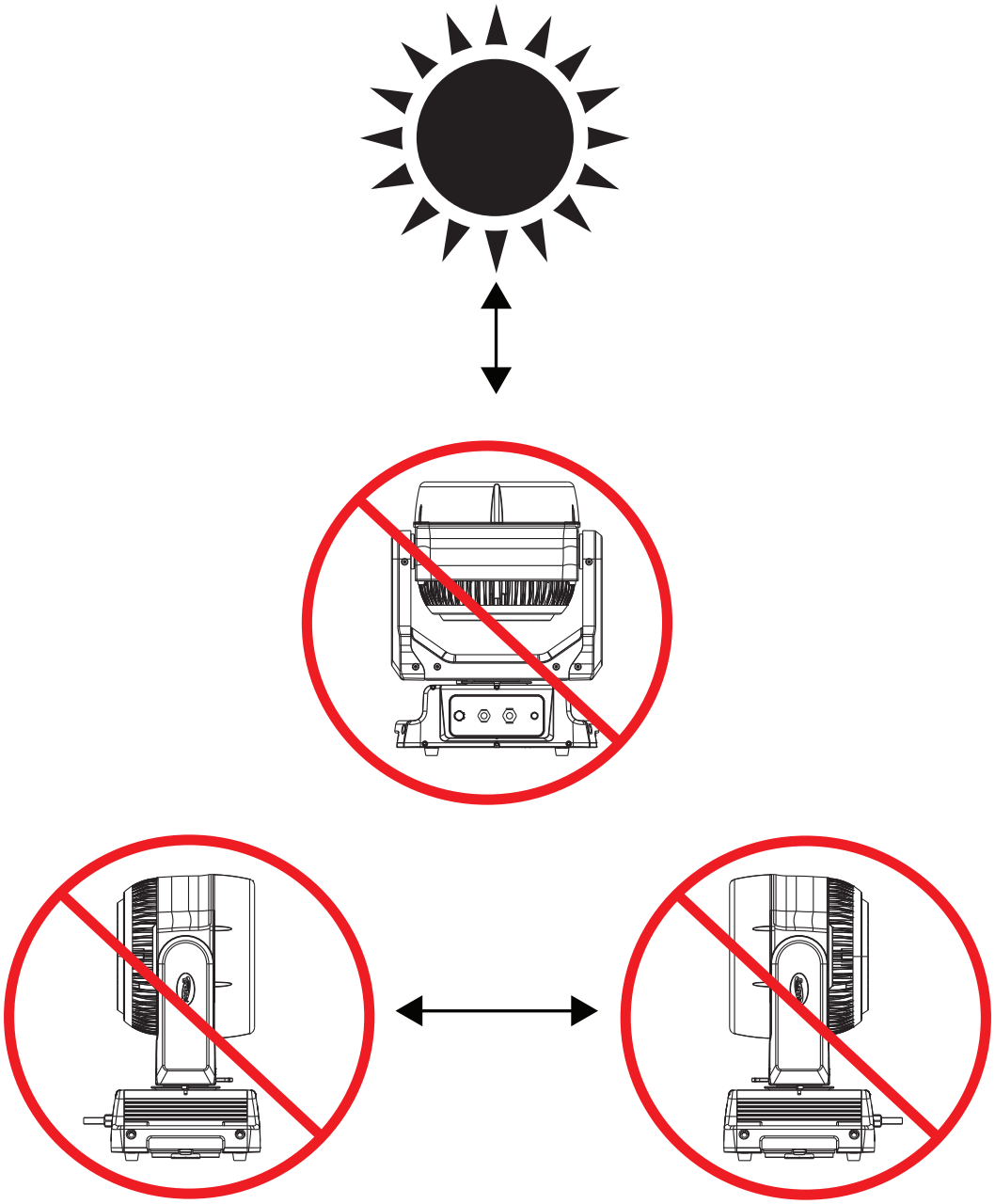
INSTALLATION GUIDELINES

POTENTIAL INTERNAL FIXTURE DAMAGE FROM EXTERNAL SOURCES OF LIGHT BEAMS

External sources of light beams from direct sunlight, lighting and moving head fixtures, and lasers, which are focused directly towards the exterior housing and/or penetrate the front lens opening of Elation lighting fixtures, can cause severe internal damage including burning of optics, dichroic color filters, glass and metal gobos, prisms, animation wheels, frost filters, iris, shutters, motors, belts, wiring, discharge lamps, and LEDs.

This issue is not specific only to Elation lighting fixtures, but rather it is a common issue with lighting fixtures from all manufacturers. Although there is no true way to fully prevent this issue from happening, the guidelines below can reduce the risk of potential damage. Contact Elation Service for more details.

DO NOT EXPOSE THE FIXTURE'S FRONT LENS OPENING TO LIGHT BEAMS FROM DIRECT SUNLIGHT, OTHER LIGHTING OR MOVING HEAD FIXTURES, AND LASERS DURING UNPACKING, INSTALLATION, USE, AND EXTENDED IDLE TIMES OUTDOORS. DO NOT FOCUS A LIGHT BEAM FROM ONE LIGHTING FIXTURE DIRECTLY TOWARDS ANOTHER.



NEAR FIELD COMMUNICATION (NFC)

Near Field Communication (NFC) is a short-range wireless technology, operating at 13.56 MHz, that enables secure data exchange between devices within a proximity of 6-inches. With NFC, one can use an Android or iOS device to configure an NFC compatible fixture. NFC has three modes of operation: Reader/Writer Mode, which allows an NFC device to read or write data to an NFC tag; Peer-to-Peer Mode, enabling data exchange between two NFC devices; and Card Emulation Mode, which lets an NFC device emulate a contactless smart card. The technology is built on RFID standards, including ISO/IEC 14443 and ISO/IEC 18092, ensuring compatibility between NFC devices. Despite its lower data transfer rates compared to Wi-Fi or Bluetooth, ranging from 106 kbps to 424 kbps, NFC incorporates encryption and authentication protocols. NFC tags on lighting fixtures simplify setup and adjustments, and aid in tracking and maintenance when integrated into lighting equipment.

NFC Setup and Usage

- Enable NFC: Activate NFC on both the control device and the fixture.
- Physical Proximity: Bring the control device near the designated NFC area of the fixture indicated by the NFC directional mark shown here.

- Initiate Connection: The NFC-enabled device should automatically detect the fixture, prompting a connection notification.
- Confirmation: Accept the connection request to establish a link between the control device and the fixture.
- Configuration Options: Adjust lighting settings, presets, and modes via the control device, depending on fixture capabilities.
- Data Exchange: Use NFC to transfer presets, scenes, and firmware updates between devices, simplifying data sharing.

Tips for Successful NFC Interaction

- Proximity: Maintain a short-range distance, within 6-inches, between the control device and the indicated NFC area of the fixture.
- Device Compatibility: Ensure your device supports NFC, and has the necessary apps for interaction.
- Interference: Avoid obstacles between the devices, like metal objects, to ensure smooth communication.
- Security: Disable NFC when not in use for added security against unauthorized access.

REMOTE DEVICE MANAGEMENT (RDM)

NOTE: In order for RDM to work properly, RDM enabled equipment must be used throughout the entire system, including DMX data splitters and wireless systems.

Remote Device Management (RDM) is a protocol that sits on top of the DMX512 data standard for lighting, allowing the DMX systems of the fixtures to be modified and monitored remotely. This protocol is ideal for instances in which a unit is installed in a location that is not easily accessible.

With RDM, the DMX512 system becomes bi-directional, allowing a compatible RDM enabled controller to send out a signal to devices on the wire, as well as allowing the fixture to respond (known as a GET command). The controller can then use its SET command to modify settings that would typically have to be changed or viewed directly via the unit's display screen, including the DMX Address, DMX Channel Mode, and Temperature Sensors.

FIXTURE RDM INFORMATION:

RDM Code	Device ID	Device Model ID	Personality ID
0x608	1544	Open	Open

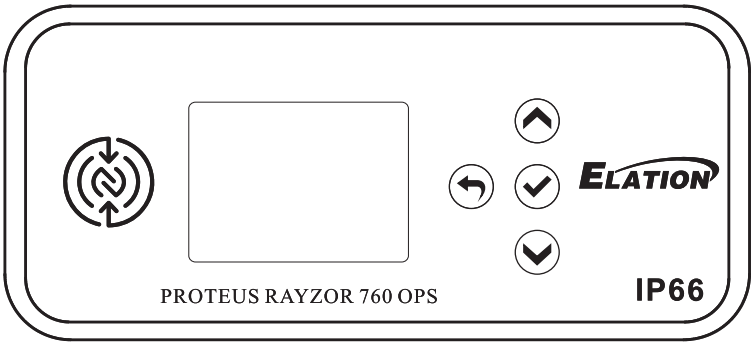
Please be aware that not all RDM devices support all RDM features, and therefore it is important to check beforehand to ensure that the equipment that you are considering includes all of the features that you require.

The following parameters are accessible in RDM on this device:

Code	Parameter
0x0200	Sensor Definition
0x0201	Sensor Value
0x0080	Device Model Description
0x0081	Manufacturer Label
0x0082	Device Label
0x00E0	DMX Personality
0x00E1	DMX Personality Description
0x0400	Device Hours
0x0600	Pan Invert
0x0601	Tilt Invert
0x0500	Display Invert

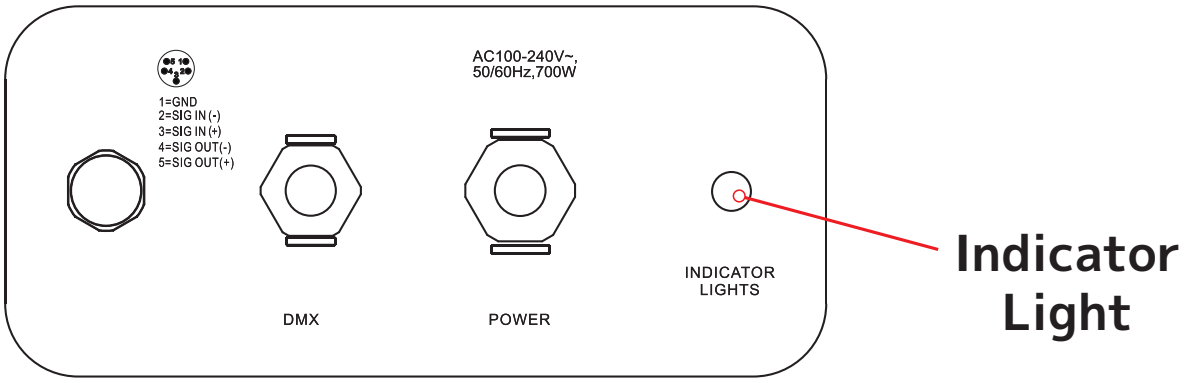
SYSTEM MENU

The fixture includes an easy to navigate system menu. The control panel (see image below) is located on the front of the fixture and provides access to the main system menu where all necessary system adjustments can be made. From the main menu, you can navigate through the different functions and access the sub-menus with the UP, and DOWN buttons. Once you reach a field that requires adjusting, press the ENTER button to activate that field and use the UP and DOWN buttons to adjust the field. Pressing the ENTER button once more will confirm your setting. You may exit the main menu at any time without making any adjustments by pressing the BACK button. **Please note that the display screen never activates unless explicitly enabled via NFC or DMX.**



LED INDICATOR

An LED indicator is located on the rear panel of the fixture's base, as shown below. The LED displays different colors to indicate various fixture statuses, as listed in the accompanying table.



FIXTURE STATUS	LED	DISPLAY
Power On	Green (turns off after 5 min)	Off
Reset	Green (turns off after 5 min)	Off
Display Enable (via NFC or DMX)	Green	On
Error Detected	Red	Off
Hibernate	Amber	Off
Hibernate Resume	Green (turns off after 5 min)	Off
DMX Signal Lost	Blinking Amber	Off

SYSTEM MENU

MAIN MENU	SUB MENU	OPTIONS / VALUES	
DMX	DMX Address	**001** - 512	
	DMX Mode	**Standard**	
		Pixels	
		Extended	
	No DMX Status	**Hold Last**	
		Fade to Black	
		Sun Protection	
		Hibernation	Off, 1min - 99min **Default = 15min**
	Protocol	Select Signal	**DMX**
			Aria In - DMX Out
			DMX In - Aria Out
	Aria	Enable Aria	**Off** / On
		Frequency	**2.4 GHz**
			Sub Gig US
			Sub Gig EU
		2.4 GHz Chan	**0** - 15
		Sub Gig Chan	**0** - 9
		Enable Mesh	**Off** / On
		Enable Bluetooth	Off / **On**
CONTROL	Manual Control	Control	
		Pan	
		Tilt	
		...	
	Reset	All	
		Pan Tilt	
		Others	
	Self Test	All	
		Dimmer	
		Movement	
SETTINGS	Movement	Pan Invert	**Off** / On
		Tilt Invert	**Off** / On
		Pan Tilt Speed	**Speed 1**
			Speed 2
			Speed 3
			Speed 4
		Pan Degree	540 / **360**
		Tilt Degree	270 / **360**
		Pan Tilt Path	Shortest / **Continue**
		Pan Tilt Feedback	Off / **On**
	Fans Control	**Auto**	
		High	
		Silent	
	Refresh Rate	900 - 25000 Hz (Default = **1200 Hz**)	

SYSTEM MENU

MAIN MENU	SUB MENU	OPTIONS / VALUES	
SETTINGS (continued)	Dimmer Curve	**Linear**	
		Square	
		Square Inverse	
		S-Curve	
	Display	Screen Delay	10s - 5min (Default = **1min**)
		Screen Lock	**Off**, 10s - 5min
		Auto Rotate	Off / **On**
		Activate LCD	Off / **On**
	Reset Defaults	Yes / No	
INFORMATION	Time	Current Time	
		Total Run Time	
		Last Run Time	
	Temperature	Head	
		Base	
		Lamp	
	Humidity	Head	
		Base	
	Fan	Fan 1U (Position)	
		Fan 1U (Position)	
	DMX Values	Pan	
		Tilt	
		...	
	Product IDs	RDM UID	
	Error Logs	Fixture Errors	
	Software Version	Vx.x	
SERVICE Passcode = 050	Calibration	Dimmer	
		Pan	
		Tilt	
		...	
	Reset Last Run	Yes / No	
	Reset Error Logs	Yes / No	

DISPLAY SHORTCUTS

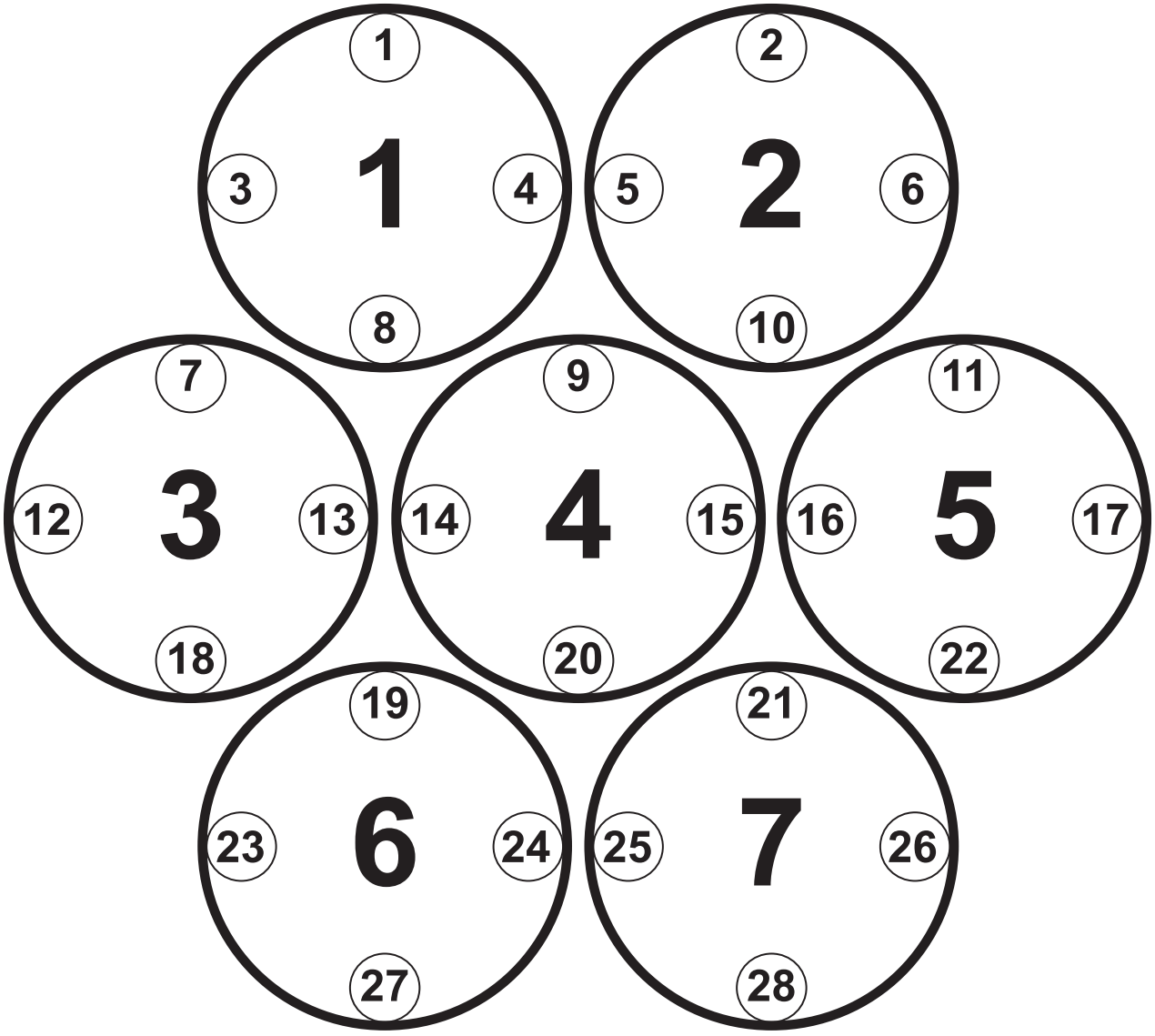
FUNCTION	CONTROL INPUT
Activate battery mode	With power off, press and hold ENTER for 3 s

LIGHTING CONSOLE PATCHING GUIDELINES

The PROTEUS RAYZOR 760 OPS is a versatile luminaire which combines two fixtures into one housing, allowing it to produce multiple unique lighting effects typically not found in a single lighting fixture. The DMX layout is designed to offer a variety of options for controlling each fixture efficiently.

The main fixture contains 7x 60W RGBW pixel cells, while the SparkLED fixture contains 28 x 2W white LEDs. For ease of use the DMX layout is arranged to allow lighting consoles to separate the fixture into multiple segments or parts. It is especially important to arrange the fixture in such segments or parts when using the fixture in the full extended 80 channel DMX mode. For simpler programming, reduced DMX channel modes can be used. However, for easy recall of interesting pixel animations, both the RGBW and SparkLED fixtures contain two FX systems: one which controls the RGBW cells, and a second that is dedicated to the Spark LEDs.

The pixels are arranged in a grid pattern as illustrated below. (RGBW 1-7 | SparkLED 1-28)



LIGHTING CONSOLE PATCHING GUIDELINES

PIXEL LAYOUT	PIXEL NUMBERS
RGBW Row 1	1, 2
RGBW Row 2	3, 4, 5
RGBW Row 3	6, 7
RGBW Column 1	3
RGBW Column 2	1, 3, 6
RGBW Column 3	1, 4, 6
RGBW Column 4	4
RGBW Column 5	2, 4, 7
RGBW Column 6	2, 5, 7
RGBW Column 7	5
Spark LED Row 1	1, 2
Spark LED Row 2	3, 4, 5, 6
Spark LED Row 3	7, 8, 9, 10, 11
Spark LED Row 4	12, 13, 14, 15, 16, 17
Spark LED Row 5	18, 19, 20, 21, 22
Spark LED Row 6	23, 24, 25, 26
Spark LED Row 7	27, 28
Spark LED Ring 1	1, 2, 6, 11, 17, 22, 26, 28, 27, 23, 18, 12, 7, 3
Spark LED Ring 2	4, 5, 10, 16, 21, 25, 24, 19, 13, 8
Spark LED Ring 3	9, 15, 20, 14

LIGHTING CONSOLE PATCHING GUIDELINES

There are also two additional parts for a primary control of the PROTEUS RAYZOR 760 OPS, which creates four separate control areas for the fixture. It is recommended to create fixture groups on the lighting controller for each area of the fixture. (see below)

Main Fixture	Primary Pan, Tilt, RGBW Color, Strobe, Dimmer, Zoom, FX Controls
RGBW Cells 1-7	Red, Green, Blue, White per each individual cell
Spark LED Main	Primary Spark LED Strobe, Dimmer
Spark LEDs 1-28	Spark LED Dimmer per each individual LED

SparkLED is not available as a mode in the fixture menu but must be provided as a console control profile for easy programming of the fixture. Use the PROTEUS RAYZOR 760 OPS in Extended mode and patch appropriate parts of the RGBW Pixels and SparkLED fixtures on your control system to access all 80 channels.

On the lighting controller, patch the two fixture types (RGBW and SparkLED), separating the SparkLEDs into a different ID range. (see below)

RGBW Pixels for Channels 1-52

SparkLEDs for Channels 53-80

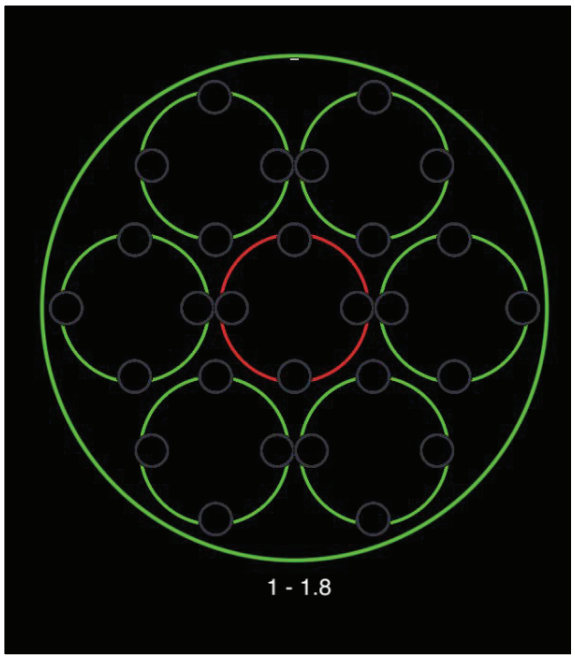
ONYX Main and Sub Fixture ID patch example below for a single PROTEUS RAYZOR 760 OPS fixture.

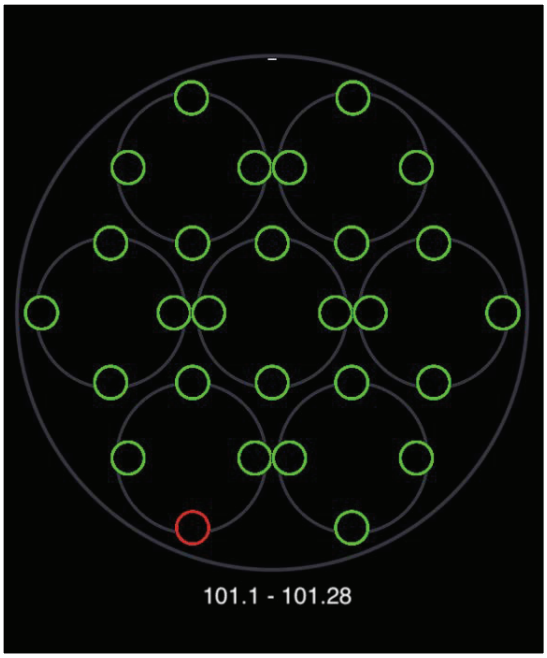
ID	TYPE	ADDRESS
1.0	RGBW Pixels Main	1
1.1	Pixel 1	22
1.2	Pixel 2	26
1.3	Pixel 3	30
1.4	Pixel 4	34
1.5	Pixel 5	38
1.6	Pixel 6	42
1.7	Pixel 7	46
1.8	Spark LED Main	50

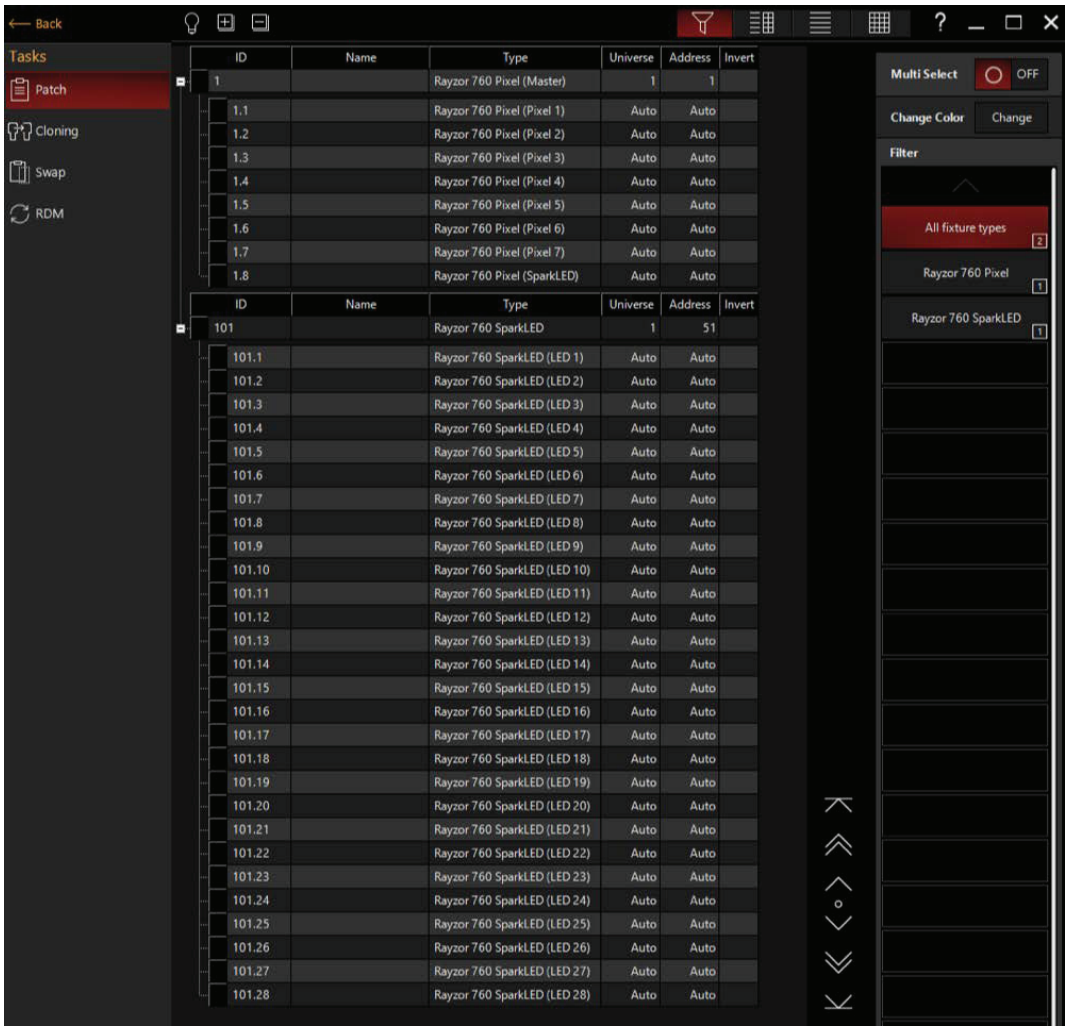
101.1	Spark LED 1	53
101.2	Spark LED 2	54
101.3	Spark LED 3	55
101.4	Spark LED 4	56
...	...	...
101.28	Spark LED 28	80

LIGHTING CONSOLE PATCHING GUIDELINES

ONYX screen shots below illustrate Main and Sub Fixture ID patch for a single PROTEUS RAYZOR 760 OPS fixture.



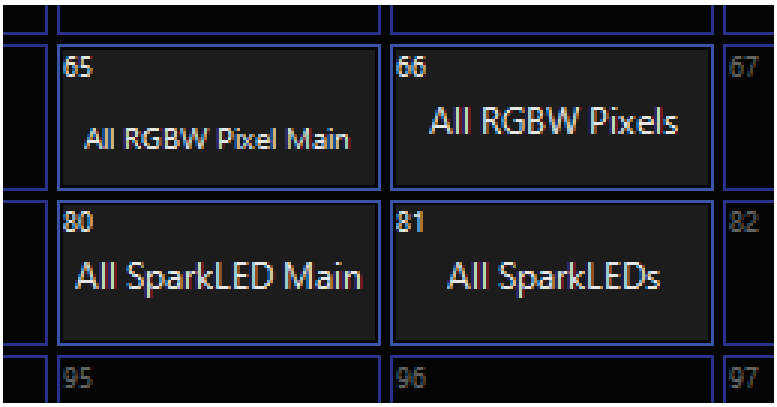




LIGHTING CONSOLE PATCHING GUIDELINES

ONYX groups example below for easier selection of a single PROTEUS RAYZOR 760 OPS fixture.

Group Name	Group Content
All RGBW Pixels Main	1
All RGBW Pixels	1.1, 1.2, 1.3, ... 1.8
All Spark LEDs Main	1.8
All Spark LEDs	101.1, 101.2, ... 101.28



DMX TRAITS: MAIN FIXTURE CONTROL

Features subject to change without notice

MODE/CHANNEL			VALUES	FUNCTION	FADE	DEFAULT VALUE
STD	PIXELS	EXT				
1	1	1		**Pan**	Fade	127
			000 - 255	Pan Movement		
2	2	2		**Pan Fine**	Fade	127
			000 - 255	Fine Movement		
3	3	3		**Tilt**	Fade	127
			000 - 255	Tilt Movement		
4	4	4		**Tilt Fine**	Fade	127
			000 - 255	Fine Movement		
5	5	5		**Pan Rotate**	Fade	0
			000 - 002	Disabled		
			003 - 126	Rotating Clockwise, fast to slow		
			127 - 129	No Rotation		
			130 - 253	Rotating Counter-clockwise, slow to fast		
			254 - 255	No Rotation		
6	6	6		**Tilt Rotate**	Fade	0
			000 - 002	Disabled		
			003 - 126	Rotating Clockwise, fast to slow		
			127 - 129	No Rotation		
			130 - 253	Rotating Counter-clockwise, slow to fast		
			254 - 255	No Rotation		
7	7	7		**Color Temperature Control**	Fade	0
			000 - 010	Disabled		
			011 - 171	Color Temperature, 2000K to 10000K (see Color Temperature Table)		
			172 - 255	10000K		
8	8	8		**Color Wheel**	Snap	0
			000 - 009	Open		
			010 - 014	Red		
			015 - 019	Red Orange		
			020 - 024	Light Amber		
			025 - 029	Yellow Amber		
			030 - 034	Greenish Yellow		
			035 - 039	Light Yellow Green		
			040 - 044	Dark Yellow Green		
			045 - 049	Green		
			050 - 054	Teal		
			055 - 059	Cyan		
			060 - 064	Light Blue		

DMX TRAITS: MAIN FIXTURE CONTROL

Features subject to change without notice

MODE/CHANNEL			VALUES	FUNCTION	FADE	DEFAULT VALUE
STD	PIXELS	EXT				
8	8	8		**Color Wheel (continued)**	Snap	0
			065 - 069	Aqua		
			070 - 074	Dark Aqua		
			075 - 079	Green Blue		
			080 - 084	Light Lavender		
			085 - 089	Dark Purple		
			090 - 094	Medium Purple		
			095 - 099	Mid Rose		
			100 - 104	Mauve		
			105 - 109	Nice Magenta		
			110 - 114	Warm Magenta		
			115 - 119	Light Red		
			120 - 124	Straw		
			125 - 129	Dark CTB		
			130 - 139	Purple		
			140 - 144	Lighter Purple		
			145 - 149	Pink		
			150 - 154	Rose		
			155 - 159	White		
			160 - 179	Open		
				Color Scroll		
			180 - 201	Clockwise, fast to slow		
			202 - 207	Stop		
			208 - 229	Counter-clockwise, slow to fast		
			230 - 234	Open		
				Random Slots		
			235 - 239	Fast		
			240 - 244	Medium		
			245 - 249	Slow		
			250 - 255	Open		
9	9	9		**Strobe**	Snap	50
			000 - 031	Shutter closed		
			032 - 063	Shutter open		
			064 - 095	Strobe, slow to fast		
			096 - 127	Fast close, slow open		
			128 - 159	Fast open, slow close		
			160 - 191	Pulse effects		
			192 - 223	Random strobe, slow to fast		
			224 - 255	Shutter open		

DMX TRAITS: MAIN FIXTURE CONTROL

Features subject to change without notice

MODE/CHANNEL			VALUES	FUNCTION	FADE	DEFAULT VALUE
STD	PIXELS	EXT				
10	10	10		**Dimmer**	Fade	0
			000 - 255	0% to 100%		
11	11	11		**Dimmer Fine**	Fade	0
			000 - 255	Fine Dimming		
12	12	12		**Dim Modes**	Snap	0
			000 - 020	Standard		
			021 - 040	Stage		
			041 - 060	TV		
			061 - 080	Architectural		
			081 - 100	Theatre		
			101 - 120	Stage 2		
				Dimmer Delay Time		
			121	0s		
			122	0.1s		
			123	0.2s		
			124	0.3s		
			125	0.4s		
			126	0.5s		
			127	0.6s		
			128	0.7s		
			129	0.8s		
			130	0.9s		
			131	1.0s		
			132	1.5s		
			133	2.0s		
			134	3.0s		
			135	4.0s		
			136	5.0s		
			137	6.0s		
			138	7.0s		
			139	8.0s		
			140	9.0s		
			141	10.0s		
			142 - 255	Idle		
13	13	13		**Zoom**	Fade	0
			000 - 245	Zoom wide to narrow		
			246 - 255	Overdrive, minimum to maximum		
	14	14		**Zoom Fine**	Fade	0
			000 - 255	Fine zoom		

DMX TRAITS: MAIN FIXTURE CONTROL

Features subject to change without notice

MODE/CHANNEL			VALUES	FUNCTION	FADE	DEFAULT VALUE
STD	PIXELS	EXT				
	15	15		**Pan / Tilt Speed**	Snap	0
			000 - 225	Maximum to minimum speed		
			226 - 235	Blackout when pan/tilt move		
			236 - 245	Blackout when all wheels change		
			246 - 255	No function		
14	16	16		**Control**	Snap	0
			000 - 010	Idle		
			011 - 012	Pan/Tilt Shortest Path		
			013 - 014	Pan/Tilt Continue Path (default)		
			015 - 016	Pan Range 540 (default)		
			017 - 018	Pan Range 360		
			019 - 020	Tilt Range 270 (default)		
			021 - 022	Tilt Range 360		
			023 - 039	Idle		
			040 - 059	Fan Mode Silent		
			060 - 079	Fan Mode Auto (default)		
			080 - 084	Reset All		
			085 - 087	Reset Movement		
			088 - 091	Reset Zoom		
			092 - 100	Idle		
				Refresh Rate (Hz)		
			100	900		
			101	910		
			102	920		
			103	930		
			104	940		
			105	950		
			106	960		
			107	970		
			108	980		
			109	990		
			110	1000		
			111	1010		
			112	1020		
			113	1030		
			114	1040		
			115	1050		
			116	1060		
			117	1070		
			118	1080		

DMX TRAITS: MAIN FIXTURE CONTROL

Features subject to change without notice

MODE/CHANNEL			VALUES	FUNCTION	FADE	DEFAULT VALUE
STD	PIXELS	EXT				
14	16	16		**Refresh Rate (Hz) (continued)**	Snap	0
			119	1090		
			120	1100		
			121	1110		
			122	1120		
			123	1130		
			124	1140		
			125	1150		
			126	1160		
			127	1170		
			128	1180		
			129	1190		
			130	1200		
			131	1210		
			132	1220		
			133	1230		
			134	1240		
			135	1250		
			136	1260		
			137	1270		
			138	1280		
			139	1290		
			140	1300		
			141	1310		
			142	1320		
			143	1330		
			144	1340		
			145	1350		
			146	1360		
			147	1370		
			148	1380		
			149	1390		
			150	1400		
			151	1410		
			152	1420		
			153	1430		
			154	1440		
			155	1450		
			156	1460		
			157	1470		

DMX TRAITS: MAIN FIXTURE CONTROL

Features subject to change without notice

MODE/CHANNEL			VALUES	FUNCTION	FADE	DEFAULT VALUE
STD	PIXELS	EXT				
14	16	16		**Refresh Rate (Hz) (continued)**	Snap	0
			158	1480		
			159	1490		
			160	1500		
			161	2500		
			162	4000		
			163	5000		
			164	6000		
			165	10000		
			166	15000		
			167	20000		
			168	25000		
			169 - 192	Idle		
			193 - 194	Hibernate Off		
			195 - 196	Hibernate		
			197 - 198	Sun Protection Position		
			199 - 200	Sun Protection Off		
				Dimmer Curve		
			201 - 210	Linear (default)		
			211 - 220	Square		
			221 - 230	Inverse Square		
			231 - 240	S-Curve		
				Display Status		
			241 - 242	Display Disable		
			243 - 244	Display Enable - 1 hour (default)		
			245 - 255	Idle		
15	17	17		**RGBW FX (see FX Table)**	Snap	0
			000 - 255	FX Selection, 1 - 255		
16	18	18		**RGBW FX Speed**	Fade	160
			000 - 126	Fast to slow		
			127 - 128	Stop		
			129 - 255	Slow to fast		
17	19	19		**SparkLED FX (see SparkLED FX Table)**	Snap	0
			000 - 255	FX Selection, 1 - 255		
18	20	20		**SparkLED FX Speed**	Fade	160
			000 - 126	Fast to slow		
			127 - 128	Stop		
			129 - 255	Slow to fast		

DMX TRAITS: MAIN FIXTURE CONTROL

Features subject to change without notice						
MODE/CHANNEL			**VALUES**	**FUNCTION**	**FADE**	**DEFAULT VALUE**
STD	**PIXELS**	**EXT**				
19	21	21		**FX Offset**	Snap	0
			000	Idle		
			001 - 035	Fixture Offset, 10 degrees to 350 degrees		
			036	Synchronized		
			037 - 100	No function		
			101 - 120	Random Fixture Offset		
			121 - 140	Random Pixel Order		
			141 - 255	Random Steps		

DMX TRAITS: RGB PIXELS

Features subject to change without notice

MODE/CHANNEL			VALUES	FUNCTION	FADE	DEFAULT VALUE
STD	PIXELS	EXT				
20	22	22		**Red**	Fade	255
			000 - 255	0% to 100%		
21	23	23		**Green**	Fade	255
			000 - 255	0% to 100%		
22	24	24		**Blue**	Fade	255
			000 - 255	0% to 100%		
23	25	25		**White**	Fade	255
			000 - 255	0% to 100%		
	26	26		**Red 2**	Fade	255
			000 - 255	0% to 100%		
	27	27		**Green 2**	Fade	255
			000 - 255	0% to 100%		
	28	28		**Blue 2**	Fade	255
			000 - 255	0% to 100%		
	29	29		**White 2**	Fade	255
			000 - 255	0% to 100%		
	30	30		**Red 3**	Fade	255
			000 - 255	0% to 100%		
	31	31		**Green 3**	Fade	255
			000 - 255	0% to 100%		
	32	32		**Blue 3**	Fade	255
			000 - 255	0% to 100%		
	33	33		**White 3**	Fade	255
			000 - 255	0% to 100%		
	34	34		**Red 4**	Fade	255
			000 - 255	0% to 100%		
	35	35		**Green 4**	Fade	255
			000 - 255	0% to 100%		
	36	36		**Blue 4**	Fade	255
			000 - 255	0% to 100%		
	37	37		**White 4**	Fade	255
			000 - 255	0% to 100%		
	38	38		**Red 5**	Fade	255
			000 - 255	0% to 100%		
	39	39		**Green 5**	Fade	255
			000 - 255	0% to 100%		
	40	40		**Blue 5**	Fade	255
			000 - 255	0% to 100%		
	41	41		**White 5**	Fade	255
			000 - 255	0% to 100%		

DMX TRAITS: RGB PIXELS

Features subject to change without notice						
MODE/CHANNEL			VALUES	FUNCTION	FADE	DEFAULT VALUE
STD	PIXELS	EXT				
	42	42		**Red 6**	Fade	255
			000 - 255	0% to 100%		
	43	43		**Green 6**	Fade	255
			000 - 255	0% to 100%		
	44	44		**Blue 6**	Fade	255
			000 - 255	0% to 100%		
	45	45		**White 6**	Fade	255
			000 - 255	0% to 100%		
	46	46		**Red 7**	Fade	255
			000 - 255	0% to 100%		
	47	47		**Green 7**	Fade	255
			000 - 255	0% to 100%		
	48	48		**Blue 7**	Fade	255
			000 - 255	0% to 100%		
	49	49		**White 7**	Fade	255
			000 - 255	0% to 100%		

DMX TRAITS: SPARK LED

Features subject to change without notice

MODE/CHANNEL			VALUES	FUNCTION	FADE	DEFAULT VALUE
STD	PIXELS	EXT				
24	50	50		**Strobe**	Snap	50
			000 - 031	Shutter closed		
			032 - 063	Shutter open		
			064 - 095	Strobe, slow to fast		
			096 - 127	Fast close, slow open		
			128 - 159	Fast open, slow close		
			160 - 191	Pulse effects		
			192 - 223	Random strobe all, slow to fast		
			224 - 254	Random strobe pixels, slow to fast		
			255	Sync dim and strobe with main		
25	51	51		**Dimmer**	Fade	0
			000 - 255	0% to 100%		
	52	52		**Dimmer Fine**	Fade	0
			000 - 255	Fine dimming		
		53		**Dimmer 1**	Fade	255
			000 - 255	0% to 100%		
		54		**Dimmer 2**	Fade	255
			000 - 255	0% to 100%		
		55		**Dimmer 3**	Fade	255
			000 - 255	0% to 100%		
		56		**Dimmer 4**	Fade	255
			000 - 255	0% to 100%		
		57		**Dimmer 5**	Fade	255
			000 - 255	0% to 100%		
		58		**Dimmer 6**	Fade	255
			000 - 255	0% to 100%		
		59		**Dimmer 7**	Fade	255
			000 - 255	0% to 100%		
		60		**Dimmer 8**	Fade	255
			000 - 255	0% to 100%		
		61		**Dimmer 9**	Fade	255
			000 - 255	0% to 100%		
		62		**Dimmer 10**	Fade	255
			000 - 255	0% to 100%		
		63		**Dimmer 11**	Fade	255
			000 - 255	0% to 100%		
		64		**Dimmer 12**	Fade	255
			000 - 255	0% to 100%		
		65		**Dimmer 13**	Fade	255
			000 - 255	0% to 100%		

DMX TRAITS: SPARK LED

Features subject to change without notice						
MODE/CHANNEL			VALUES	FUNCTION	FADE	DEFAULT VALUE
STD	PIXELS	EXT				
		66		**Dimmer 14**	Fade	255
			000 - 255	0% to 100%		
		67		**Dimmer 15**	Fade	255
			000 - 255	0% to 100%		
		68		**Dimmer 16**	Fade	255
			000 - 255	0% to 100%		
		69		**Dimmer 17**	Fade	255
			000 - 255	0% to 100%		
		70		**Dimmer 18**	Fade	255
			000 - 255	0% to 100%		
		71		**Dimmer 19**	Fade	255
			000 - 255	0% to 100%		
		72		**Dimmer 20**	Fade	255
			000 - 255	0% to 100%		
		73		**Dimmer 21**	Fade	255
			000 - 255	0% to 100%		
		74		**Dimmer 22**	Fade	255
			000 - 255	0% to 100%		
		75		**Dimmer 23**	Fade	255
			000 - 255	0% to 100%		
		76		**Dimmer 24**	Fade	255
			000 - 255	0% to 100%		
		77		**Dimmer 25**	Fade	255
			000 - 255	0% to 100%		
		78		**Dimmer 26**	Fade	255
			000 - 255	0% to 100%		
		79		**Dimmer 27**	Fade	255
			000 - 255	0% to 100%		
		80		**Dimmer 28**	Fade	255
			000 - 255	0% to 100%		

NOTE: Spark LED is not available as a mode in the fixture menu, but must be provided as a console control profile for easy programming of the fixture. Use this fixture in Extended mode and patch appropriate parts of the RGBW pixels and Spark LED fixtures on your control system to access all 80 channels. See the **Lighting Console Patch Guidelines** section of this manual for further instructions.

COLOR TEMPERATURE CONTROL TABLE

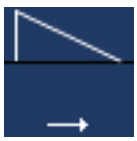
COLOR TEMP	DMX VALUE	COLOR TEMP	DMX VALUE	COLOR TEMP	DMX VALUE	COLOR TEMP	DMX VALUE
2000	011	4150	054	6300	097	8450	140
2050	012	4200	055	6350	098	8500	141
2100	013	4250	056	6400	099	8550	142
2150	014	4300	057	6450	100	8600	143
2200	015	4350	058	6500	101	8650	144
2250	016	4400	059	6550	102	8700	145
2300	017	4450	060	6600	103	8750	146
2350	018	4500	061	6650	104	8800	147
2400	019	4550	062	6700	105	8850	148
2450	020	4600	063	6750	106	8900	149
2500	021	4650	064	6800	107	8950	150
2550	022	4700	065	6850	108	9000	151
2600	023	4750	066	6900	109	9050	152
2650	024	4800	067	6950	110	9100	153
2700	025	4850	068	7000	111	9150	154
2750	026	4900	069	7050	112	9200	155
2800	027	4950	070	7100	113	9250	156
2850	028	5000	071	7150	114	9300	157
2900	029	5050	072	7200	115	9350	158
2950	030	5100	073	7250	116	9400	159
3000	031	5150	074	7300	117	9450	160
3050	032	5200	075	7350	118	9500	161
3100	033	5250	076	7400	119	9550	162
3150	034	5300	077	7450	120	9600	163
3200	035	5350	078	7500	121	9650	164
3250	036	5400	079	7550	122	9700	165
3300	037	5450	080	7600	123	9750	166
3350	038	5500	081	7650	124	9800	167
3400	039	5550	082	7700	125	9850	168
3450	040	5600	083	7750	126	9900	169
3500	041	5650	084	7800	127	9950	170
3550	042	5700	085	7850	128	10000	171
3600	043	5750	086	7900	129		
3650	044	5800	087	7950	130		
3700	045	5850	088	8000	131		
3750	046	5900	089	8050	132		
3800	047	5950	090	8100	133		
3850	048	6000	091	8150	134		
3900	049	6050	092	8200	135		
3950	050	6100	093	8250	136		
4000	051	6150	094	8300	137		
4050	052	6200	095	8350	138		
4100	053	6250	096	8400	139		

FX GENERATOR GUIDELINES

Selection and control of the integrated FX on the PROTUES RAYZOR 760 OPS is found in the Main Fixture section. All FX are available even in the smallest DMX control modes.

DMX VALUES	FUNCTION
000 - 255	**RGBW FX Selection,** 1 - 255 (see RGBW FX Table)
	RGBW FX Speed
000 - 126	Rev, fast to slow
127 - 128	Stop
129 - 255	Slow to fast
000 - 255	**Spark LED FX Selection,** 1 - 255, (see Spark LED FX Table)
	Spark LED FX Speed
000 - 126	Rev, fast to slow
127 - 128	Stop
129 - 255	Slow to fast

FX for RGBW and SparkLED contain a selection channel to recall the desired pattern. The pattern direction and speed is then adjusted using the associated Speed channels. FX can run forward or reverse and can also be frozen at any time by using “Stop”. The FX tables show the available patterns which are grouped for easier browsing. The first 10 DMX steps of the FX channel are used to change the type of curve for smooth or stepped FX. Once a curve is selected, it will be used for all FX recalled afterwards. When programming curves for fixtures, the user must ensure to change the curve first before selecting the pattern. The fixture defaults to the Sinewave pattern after every power cycle.

Sinewave (default)	
Step	
Sawtooth	
Ramp Up	
Ramp Down	

Ramp Up

FX GENERATOR GUIDELINES

In addition to FX direction and speed control, a Sync channel allows to offset or randomize the fixtures or the FX steps.

DMX VALUES	FUNCTION
	FX Offset
000	No Sync
001 - 035	Fixture Offset, 10 degrees to 350 degrees
036	Synchronized
037 - 100	No Function
101 - 120	Random Fixture Offset
121 - 140	Random Pixel Order
141 - 255	Random Steps

A full FX cycle is 360 degrees, and the fixture offsets can be set in 10-degree increments. Offsetting a fixture by 180 would mean it is exactly halfway ahead through the FX cycle.

Three randomization options are provided:

Random Fixture Offset
Every fixture randomly selects any of the 36 offset points. It will then use this until the offset is changed or random offset is selected again.

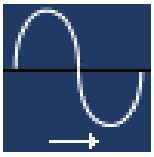
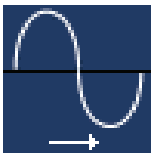
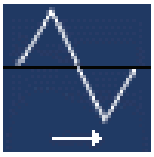
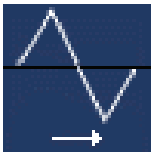
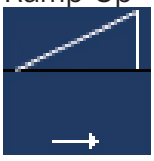
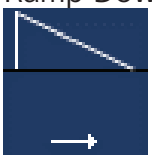
Random Pixel Order
The actual FX steps are randomized. This shuffling of the fixture order is done once, then the fixture will use this shuffled order across all FX until changed.

Random Steps
Every step is randomly chosen every time, giving the most random sequence possible.

To reshuffle the randomization, set the channel to Idle and reselect the desired random option.

The FX system of the PROTEUS RAYZOR 760 OPS allows many different combinations by changing the curves, offsets and speed parameters. The RGBW and SparkLED systems are separate, and by adjusting color, dimming and strobe channels there are endless creative designs possible.

RGBW FX TABLE

TYPE	SLOT	DMX VALUES	NAME	FX ADJUSTMENT
Waveform	0	000	Off	
	1	001	Sinewave Cross (default) 	
	2	002	Sinewave Full 	
	3	003	Sawtooth Cross 	
	4	004	Sawtooth Full 	
	5	005	Ramp Up 	
	6	006	Ramp Down 	
	7	007	Step 	
	8-10	008 - 010	No Function	

RGBW FX TABLE

TYPE	SLOT	DMX VALUES	NAME	FX ADJUSTMENT
Intensity	11	011	Single	Reverse, Stop, Forward
	12	012	Single Bounce	Reverse, Stop, Forward
	13	013	Snake	Reverse, Stop, Forward
	14	014	Snake Bounce	Reverse, Stop, Forward
	15	015	Rows	Reverse, Stop, Forward
	16	016	Rows Bounce	Reverse, Stop, Forward
	17	017	Column	Reverse, Stop, Forward
	18	018	Column Bounce	Reverse, Stop, Forward
	19	019	Columns 2	Reverse, Stop, Forward
	20	020	Slash	Reverse, Stop, Forward
	21	021	Backslash	Reverse, Stop, Forward
	22	022	Slash Back	Reverse, Stop, Forward
	23	023	<>	Reverse, Stop, Forward
	24	024	><	Reverse, Stop, Forward
	25	025	>>	Reverse, Stop, Forward
	26	026	<<	Reverse, Stop, Forward
	27	027	Rotating Bar	Reverse, Stop, Forward
	28	028	Rotating Dot	Reverse, Stop, Forward
	29	029	Rotating 2 Dot	Reverse, Stop, Forward
	30	030	Ring 2 Cell	Reverse, Stop, Forward
	31	031	Ring 2 Cell Overlap	Reverse, Stop, Forward
	32	032	Ring 3 Cell Blend	Reverse, Stop, Forward
	33	033	Ring - Center Fade	Reverse, Stop, Forward
	34	034	X-Bar	Reverse, Stop, Forward
	35	035	Diagonals	Reverse, Stop, Forward
	36	036	Arrow Left	Reverse, Stop, Forward
	37	037	Arrow Right	Reverse, Stop, Forward
	38	038	2 Pixels	Reverse, Stop, Forward
	39	039	3 Pixels	Reverse, Stop, Forward
	40	040	4 Pixels	Reverse, Stop, Forward
	41	041	1, 2, 3, 4 Pixels	Reverse, Stop, Forward
	42	042	Ring Build	Reverse, Stop, Forward
	43	043	Ring Build Erase	Reverse, Stop, Forward
	44	044	Ring Build Erase 2	Reverse, Stop, Forward
	45	045	Chase 1	Reverse, Stop, Forward
	46	046	Chase 2	Reverse, Stop, Forward2

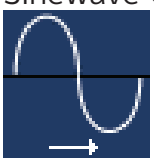
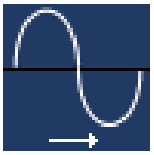
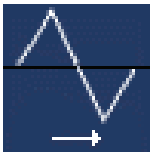
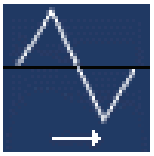
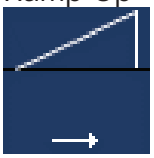
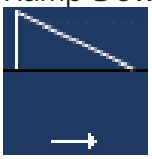
RGBW FX TABLE

TYPE	SLOT	DMX VALUES	NAME	FX ADJUSTMENT
Intensity (continued)	47	047	Chase 3	Reverse, Stop, Forward
	48	048	Chase 4	Reverse, Stop, Forward
	49	049	Chase 5	Reverse, Stop, Forward
	50	050	Chase 6	Reverse, Stop, Forward
	51	051	Chase 7	Reverse, Stop, Forward
	52	052	Chase 8	Reverse, Stop, Forward
	53	053	Chase 9	Reverse, Stop, Forward
	54	054	Chase 10	Reverse, Stop, Forward
	55	055	Center Chase	Reverse, Stop, Forward
	56	056	Center Chase 2	Reverse, Stop, Forward
	57	057	Alternate	Reverse, Stop, Forward
	58	058	Burst Spark LED	Reverse, Stop, Forward
	59	059	Burst RGBW	Reverse, Stop, Forward
	60	060	Strobe Alternate	Reverse, Stop, Forward
	62	062	Lens/Spark LED Alternate	Reverse, Stop, Forward
	66-100	066 - 100	No Function	No Function
Static Patterns	101	101	Top 2	Disabled
	102	102	Center 3	Disabled
	103	103	Bottom 2	Disabled
	104	104	Top and Bottom	Disabled
	105	105	X	Disabled
	106	106	Ring	Disabled
	107	107	Center Dot	Disabled
	108	108	Slash	Disabled
	109	109	Backslash	Disabled
	110	110	Arrow Left	Disabled
	111	111	Arrow Right	Disabled
	112	112	<	Disabled
	113	113	>	Disabled
	114-130	114 - 130	No Function	No Function

RGBW FX TABLE

TYPE	SLOT	DMX VALUES	NAME	FX ADJUSTMENT
Color	131	131	RGBW Cells	Reverse, Stop, Forward
	132	132	RGBWCMY Cells	Reverse, Stop, Forward
	133	133	Color Wheel Cells	Reverse, Stop, Forward
	134	134	RGBW Rows	Reverse, Stop, Forward
	135	135	RGBWCMY Rows	Reverse, Stop, Forward
	136	136	Color Wheel Rows	Reverse, Stop, Forward
	137	137	RGBW Columns	Reverse, Stop, Forward
	138	138	RGBWCMY Columns	Reverse, Stop, Forward
	139	139	Color Wheel Columns	Reverse, Stop, Forward
	140	140	RGBW Single Row	Reverse, Stop, Forward
	141	141	RGBWCMY Single Row	Reverse, Stop, Forward
	142	142	Color Wheel Single Row	Reverse, Stop, Forward
	143	143	RGBW Single Columns	Reverse, Stop, Forward
	144	144	RGBWCMY Single Columns	Reverse, Stop, Forward
	145	145	Color Wheel Single Columns	Reverse, Stop, Forward
	146	146	RGB Rows	Reverse, Stop, Forward
	147	147	RGB Columns	Reverse, Stop, Forward
	148	148	Red White Cells	Reverse, Stop, Forward
	149	149	Green White Cells	Reverse, Stop, Forward
	150	150	Blue White Cells	Reverse, Stop, Forward
	151	151	Red Green Cells	Reverse, Stop, Forward
	152	152	Red Blue Cells	Reverse, Stop, Forward
	153	153	Blue Green Cells	Reverse, Stop, Forward
	154	154	Ring - Center Mix to Color Wheel	Reverse, Stop, Forward
	155	155	Random White Cell	Reverse, Stop, Forward
	156	156	Random White Row	Reverse, Stop, Forward
	157	157	Random White Column	Reverse, Stop, Forward
	158	158	White Flash	Reverse, Stop, Forward
	159	159	Red Flash	Reverse, Stop, Forward
	160	160	Green Flash	Reverse, Stop, Forward
	161	161	Blue Flash	Reverse, Stop, Forward
	162	162	Color Wheel Flash	Reverse, Stop, Forward
	163	163	Alternate Color	Reverse, Stop, Forward
	164-255	164 - 255	No Function	No Function

SPARK LED FX TABLE

TYPE	SLOT	DMX VALUES	NAME	FX ADJUSTMENT
Waveform	0	000	Off	
	1	001	Sinewave Cross (default) 	
	2	002	Sinewave Full 	
	3	003	Sawtooth Cross 	
	4	004	Sawtooth Full 	
	5	005	Ramp Up 	
	6	006	Ramp Down 	
	7	007	Step 	
	8-10	008 - 010	No Function	

SPARK LED FX TABLE

TYPE	SLOT	DMX VALUES	NAME	FX ADJUSTMENT
Spark LED FX	11	011	Starfield	Reverse, Stop, Forward
	12	012	1 Pixel	Reverse, Stop, Forward
	13	013	2 Pixels	Reverse, Stop, Forward
	14	014	3 Pixels	Reverse, Stop, Forward
	15	015	4 Pixels	Reverse, Stop, Forward
	16	016	5 Pixels	Reverse, Stop, Forward
	17	017	7 Pixels	Reverse, Stop, Forward
	18	018	14 Pixels	Reverse, Stop, Forward
	19	019	Single Row	Reverse, Stop, Forward
	20	020	3 Rows	Reverse, Stop, Forward
	21	021	Single Column	Reverse, Stop, Forward
	22	022	3 Columns	Reverse, Stop, Forward
	23	023	Pixel Ring Chase	Reverse, Stop, Forward
	24	024	Pixel Row Chase	Reverse, Stop, Forward
	25	025	Pixel Ring Chase 2	Reverse, Stop, Forward
	26	026	Center Out	Reverse, Stop, Forward
	27	027	Fireworks	Reverse, Stop, Forward
	28	028	Ring	Reverse, Stop, Forward
	29	029	Row	Reverse, Stop, Forward
	30	030	Snake	Reverse, Stop, Forward
	31-90	031 - 090	No Function	No Function
Spark LED Lens Combos	91-100	091 - 100	No Function	No Function

SPARK LED FX TABLE

TYPE	SLOT	DMX VALUES	NAME	FX ADJUSTMENT
Full Lens Patterns	101	101	Single	Reverse, Stop, Forward
	102	102	Single Bounce	Reverse, Stop, Forward
	103	103	Snake	Reverse, Stop, Forward
	104	104	Snake Bounce	Reverse, Stop, Forward
	105	105	Rows	Reverse, Stop, Forward
	106	106	Rows Bounce	Reverse, Stop, Forward
	107	107	Column	Reverse, Stop, Forward
	108	108	Column Bounce	Reverse, Stop, Forward
	109	109	Columns 2	Reverse, Stop, Forward
	110	110	Slash	Reverse, Stop, Forward
	111	111	Backslash	Reverse, Stop, Forward
	112	112	Slash Back	Reverse, Stop, Forward
	113	113	<>	Reverse, Stop, Forward
	114	114	><	Reverse, Stop, Forward
	115	115	>>	Reverse, Stop, Forward
	116	116	<<	Reverse, Stop, Forward
	117	117	Rotating Bar	Reverse, Stop, Forward
	118	118	Rotating Dot	Reverse, Stop, Forward
	119	119	Rotating 2 Dot	Reverse, Stop, Forward
	120	120	Ring 2 Cell	Reverse, Stop, Forward
	121	121	Ring 2 Cell Overlap	Reverse, Stop, Forward
	122	122	Ring 3 Cell Blend	Reverse, Stop, Forward
	123	123	Ring - Center Fade	Reverse, Stop, Forward
	124	124	X-Bar	Reverse, Stop, Forward
	125	125	Diagonals	Reverse, Stop, Forward
	126	126	Arrow Left	Reverse, Stop, Forward
	127	127	Arrow Right	Reverse, Stop, Forward
	128	128	2 Pixels	Reverse, Stop, Forward
	129	129	3 Pixels	Reverse, Stop, Forward
	130	130	4 Pixels	Reverse, Stop, Forward
	131	131	1, 2, 3, 4 Pixels	Reverse, Stop, Forward
	132	132	Ring Build	Reverse, Stop, Forward
	133	133	Ring Build Erase	Reverse, Stop, Forward
	134	134	Ring Build Erase 2	Reverse, Stop, Forward
	135	135	Chase 1	Reverse, Stop, Forward
	136	136	Chase 2	Reverse, Stop, Forward

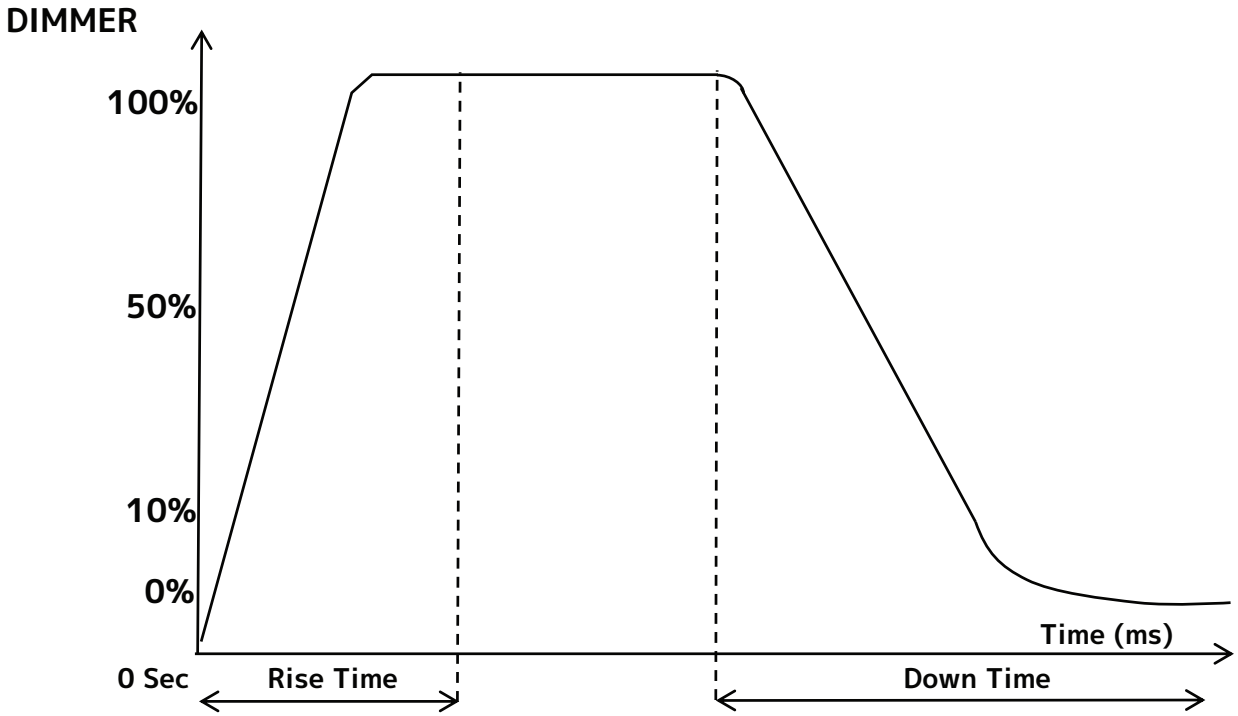
SPARK LED FX TABLE

TYPE	SLOT	DMX VALUES	NAME	FX ADJUSTMENT
Full Lens Static Patterns	137	137	Chase 3	Reverse, Stop, Forward
	138	138	Chase 4	Reverse, Stop, Forward
	139	139	Chase 5	Reverse, Stop, Forward
	140	140	Chase 6	Reverse, Stop, Forward
	141	141	Chase 7	Reverse, Stop, Forward
	142	142	Chase 8	Reverse, Stop, Forward
	143	143	Chase 9	Reverse, Stop, Forward
	144	144	Chase 10	Reverse, Stop, Forward
	145	145	Center Chase	Reverse, Stop, Forward
	146	146	Center Chase 2	Reverse, Stop, Forward
	147-200	147 - 200	No Function	No Function
	201	201	Top 2	Disabled
	202	202	Center 3	Disabled
	203	203	Bottom 2	Disabled
	204	204	Top and Bottom	Disabled
	205	205	X	Disabled
	206	206	Ring	Disabled
	207	207	Center Dot	Disabled
	208	208	Slash	Disabled
	209	209	Backslash	Disabled
	210	210	Arrow Left	Disabled
	211	211	Arrow Right	Disabled
	212	212	<	Disabled
	213	213	>	Disabled
	214-225	214 - 225	No Function	No Function

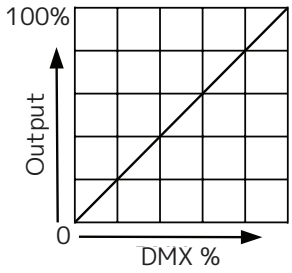
SPARK LED FX TABLE

TYPE	SLOT	DMX VALUES	NAME	FX ADJUSTMENT
Spark LED Pattern	226	226	Row 1	Disabled
	227	227	Row 2	Disabled
	228	228	Row 3	Disabled
	229	229	Row 4	Disabled
	230	230	Row 5	Disabled
	231	231	Row 6	Disabled
	232	232	Row 7	Disabled
	233	233	Column 1	Disabled
	234	234	Column 2	Disabled
	235	235	Column 3	Disabled
	236	236	Column 4	Disabled
	237	237	Column 5	Disabled
	238	238	Column 6	Disabled
	239	239	Column 7	Disabled
	240	240	Ring 1	Disabled
	241	241	Ring 2	Disabled
	242	242	Ring 3	Disabled
	243-255	243 - 255	No Function	No Function

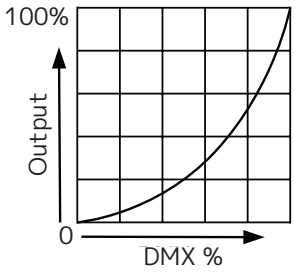
DIMMER CONTROL



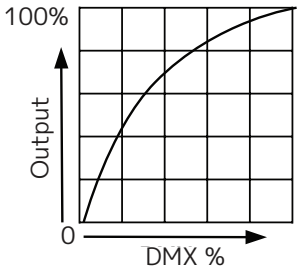
Dimming Curve Ramp Effect	0 sec Fade Time (255 / 0)		1 sec Fade Time (255 / 0)	
	Rise Time (ms)	Down Time (ms)	Rise Time (ms)	Down Time (ms)
Standard (default)	0	0	0	0
Stage	780	1100	1540	1660
TV	1180	1520	1860	1940
Architectural	1380	1730	2040	2120
Theatre	1580	1940	2230	2280
Stage 2	0	1100	0	1660



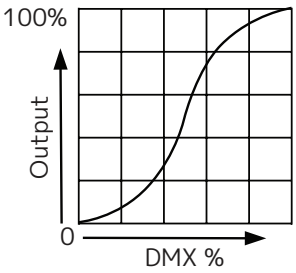
LINEAR



SQUARE



INVERSE SQUARE



S-CURVE

MAINTENANCE GUIDELINES

SPECIALIZED OPS MAINTENANCE

Fixtures in Elation Lighting's OPS Series are high-performance, IP-rated moving light fixtures designed for professional use in extreme conditions. To maintain peak performance and ensure maximized longevity, regular maintenance and proper operational practices are essential. This section provides guidance on maintenance schedules, best practices for cleanliness, and duty cycle recommendations. Please refer all service issues to an authorized Elation service technician. Should you need any spare parts, please order genuine parts from an authorized Elation dealer.

Weekly Maintenance

- Clean the external housing using a soft cloth with mild detergent.
- Inspect the cooling fans and vents for dust buildup and clean as needed.
- Perform a quick function test (pan, tilt, color, gobo, zoom, focus, etc.).

Monthly Maintenance

- Inspect and clean the lens assembly with an approved optical-grade lens cleaner.
- Check all moving parts for smooth operation and apply manufacturer-approved lubricants if necessary.
- Inspect gobo wheels, color wheels, and effects for dust accumulation. Please note that only authorized personnel should perform these procedures, and any IP-rated areas must be resealed properly during re-assembly.
- Check firmware versions and update if needed.

Quarterly Maintenance

- Open fixture housing and inspect for internal dust buildup. Please note that only authorized personnel should perform these procedures, and any IP-rated areas must be resealed properly during re-assembly.
- Verify that seals and gaskets maintain IP rating integrity.
- Tighten any loose screws or fasteners.
- Test fixture for proper operation in extreme conditions (if applicable to the environment).

Annual Maintenance

- Perform a full diagnostic check using the fixture's built-in test functions.
- Disassemble and clean optical components, ensuring all are free of residue or buildup.
- Replace any worn-out gaskets, filters, or seals.
- Perform a full recalibration of pan/tilt and effect mechanisms.
- Check internal power supply and ballast for any irregularities.
- Please note that only authorized personnel should perform these procedures, and any IP-rated areas must be resealed properly during re-assembly.

Indicator LEDs

This fixture features an LED light that indicates fixture status as follows:

- Green (turns off after 5 min): Fixture is working normally, fixture is resetting, or fixture is returning to hibernation.
- Green: Display enabled via NFC or DMX.
- Red: Fixture is experiencing an error.
- Amber: Fixture is in hiberation mode.
- Blinking Amber: DMX connection has been lost.

MAINTENANCE GUIDELINES

BEST PRACTICES FOR CLEANING

To maintain optimal performance and prevent premature damage, adhere to the following guidelines:

General Cleaning Guidelines

- Always power down the fixture and disconnect the power cord before cleaning.
- Use a soft, lint-free cloth with mild detergent for external surfaces.
- For internal cleaning, use compressed air to remove dust from sensitive areas.
- Avoid using alcohol-based or abrasive cleaners on optical components.

Lens and Optical Component Care

- Use a microfiber cloth and lens-specific cleaner to remove smudges and dust.
- Avoid touching the lens directly with your fingers, as doing so can leave oil residue on the lens.
- Check for condensation inside the lens and ensure proper ventilation.

Protecting Against Environmental Damage

- When installed in extreme environments, more frequent maintenance will be required.
- For long-term storage, use protective covers to prevent dust accumulation.
- After use in high humidity environments, ensure the fixture is completely dry before it is packed away for storage or transporation.

DUTY CYCLE USAGE AND THERMAL MANAGEMENT

Proper usage will maximize the longevity of OPS fixtures, and adhering to duty cycle guidelines helps prevent overheating and component wear.

Recommended Duty Cycles

- Continuous Operation: OPS fixtures are **NOT** designed for 24/7 operation, and require periodic cooling intervals in high-heat environments. No more than 14 hours per day of operation should be allowed.
- Intermittent Use: When used in show environments with frequent starts/stops, allow for cool-down intervals in order to maintain optimal performance.
- Extreme Weather Use: Ensure fixtures are adequately ventilated and monitored for any excessive moisture ingress.

Thermal Protection Measures

- Monitor temperature warnings via RDM, NFC, or Aria X2.
- Ensure unobstructed airflow around the unit.
- If running fixtures in direct sunlight, utilize shading to reduce the thermal impact.

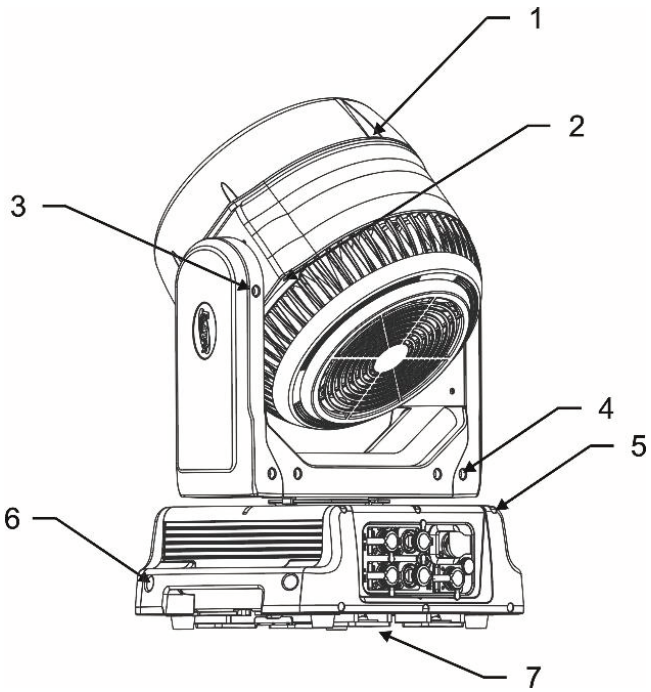
TORQUE SETTINGS FOR SCREWS

IN ORDER TO MAINTAIN THE IP65 RATING ON THE LIGHTING FIXTURES, ALL SCREWS MUST BE TIGHTENED TO THE FOLLOWING TORQUE SPECIFICATION USING A TORQUE DRIVER.

Refer to the table and diagram below for torque specifications.

TORQUE DRIVERS (Recommended): UTICA TS-30 (shown)
ALTERNATE DRIVERS:
- Proto J6107A
- Wiha 28887

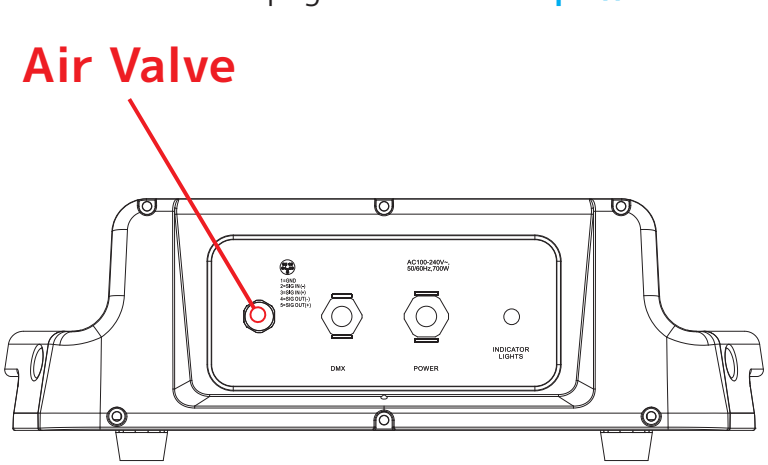
CAUTION! DO NOT OVER TORQUE SCREWS, AS THIS CAN CAUSE LEAKAGE ISSUES!



NO.	LOCATION	QTY.	TORQUE
1	Lens Frame	6	10.4 ± 1.0 lb-in (12.0 ± 1.2 Kg-cm)
2	Head Covers	6	5.2 ± 0.5 lb-in (6.0 ± 0.6 Kg-cm)
3	Arm Upper Covers	4	5.2 ± 0.5 lb-in (6.0 ± 0.6 Kg-cm)
4	Arm Lower Covers	8	5.2 ± 0.5 lb-in (6.0 ± 0.6 Kg-cm)
5	Control Panel	12	12.2 ± 1.2 lb-in (14.0 ± 1.4 Kg-cm)
6	Handle Assembly	4	23.4 ± 2.3 lb-in (27.0 ± 2.7 Kg-cm)
7	Base Cover	6	6.9 ± 0.7 lb-in (8.0 ± 0.8 Kg-cm)

IP TEST PARAMETERS

Following any repair or maintenance procedure that requires disassembly of the fixture, use Elation's IP Tester to confirm the IP integrity of the fixture. The air valve is located on the back panel of the base next to the wiring pass-throughs, as shown in the diagram below. Please contact Elation Service for information regarding the Elation IP Tester, or visit the product information page online at: **https://www.elationlighting.com/ip-tester**



CAUTION! THE USE OF PROTECTIVE GLOVES AND SAFETY GOGGLES IS STRONGLY RECOMMENDED WHILE PERFORMING THE IP PRESSURE TEST! AVOID PLACING YOUR FACE, EYES, HANDS, ETC IN PROXIMITY TO THE LENS OF THE FIXTURE WHILE PERFORMING THE TEST!

DE-HUMIDIFICATION: IP65 fixtures operating in high-humidity environments may experience residual fogging or condensation. Such fogging will not affect the fixture, and can be removed using the following procedure: position the unit with the air valve pointing upwards, then open the air valve and run the unit for 1-2 hours after reaching operating temperature. Then, while the fixture is still hot, re-install the air valve and allow the unit to cool down. Please note: this procedure should be performed in a dry, climate-controlled environment. Avoid additional fogging by drying the fixture completely before placing into a road case.

IP PRESSURE TESTING PARAMETERS			
Test Type	**Minimum Pressure**	**Maximum Pressure**	**Steady/Hold Time**
Vacuum Test	-1.88 psi (-13.00 KPa)	-2.46 psi (-17.00 KPa)	10 sec
Pressure Test	1.88 psi (13.00 KPa)	2.46 psi (17.00 KPa)	10 sec

ERROR CODES

When power is applied, the unit will automatically enter a “Reset/Test” mode, which brings all the internal motors to a home position. If there is an internal problem with one or more of the motors, an error code will flash on the display screen. For example, when the display shows “Pan Er” it means there is some type of error with the Pan motor. If there are multiple errors during the start-up process they will all flash in the display. For example: if the fixtures has Pan, Tilt, and Zoom errors all at the same time, you will see the error message “Pan Er”, “Tilt Er”, and ”Zoom Er” flash in sequence 5 times.

If an error occurs during the initial start-up procedure, the fixture will self-generate a second reset signal and try to realign all the motors and correct the errors. If the error persists after a second attempt, a third attempt will be made. If after a third attempt all the errors have not been corrected, the fixture will make the following determinations:

- **3 or More Errors -** The fixture cannot function properly with three or more errors, and therefore the fixture will place itself in stand-by mode until subsequent repairs can be made.
- **Less Than 3 Errors -** The fixture has less than 3 errors, and therefore most other functions will work properly. The fixture will attempt to operate normally until the errors can be corrected by a technician. The errors in question will remain flashing in the display as a reminder of internal errors.

Note: Error Codes are subject to change without any prior written notice.	
ERROR CODES	**DESCRIPTION**
Pan Er	Movement is not located in the default position after the reset. This message will appear after a fixture reset if the magnetic-indexing circuit malfunctions (sensor failed, or magnet is missing) or there is a motor failure (defective motor or a defective motor IC drive on the main PCB). This error may also be displayed if the head/yoke was blocked during a reset function.
Tilt Er	
Zoom Er	Movement is not located in the default position after the reset. This message will appear after a fixture reset if the magnetic-indexing circuit malfunctions (sensor failed, or magnet is missing) or there is a motor failure (defective motor or a defective motor IC drive on the main PCB).

SPECIFICATIONS

SOURCE

(7) 60W Osram RGBW LEDs
(28) 2W White SparkLED™
50,000 Hour Average LED Life*
*Test lab conditions. May vary depending on several factors including but not limited to: Environmental Conditions, Power/Voltage, Usage Patterns (On-Off Cycling), Control, and Dimming.

PHOTOMETRIC DATA

7,200 Total Lumen Output
CRI 80
Zoom Range 5° - 77°
Beam Angle 5.4° - 56.4°
Field Angle 8.1° - 74°

EFFECTS

Motorized Zoom
Linear Color Temperature Presets (2000-10000K)
RGBW Color Mixing and Pixel Control
White SparkLED Lens Effect
Color Presets and Macros
Electronic Strobe and Variable Dimming Curves
16-bit Dimming
Pan Angle: 540°/630°
Tilt Angle: 270°/360°

CONTROL / CONNECTIONS

3 DMX Channel Modes (25 / 52 / 80 channels)
360° Continuous Pan and Tilt Movement
DMX Adjustable Refresh Rate (900 -25000 Hz)
DMX and RDM Protocol Support
(4) Button Touch Control Panel
Full Color 180° Reversible LCD Menu Display
NFC Support
10’ (3m) DMX In/Out combo cable
10’ (3m) Power cable

SIZE / WEIGHT

Length: 14.3 in (363mm)
Width: 10.2 in (260mm)
Height: 19.4 in (493mm)
Center-to-Center: 16.6” (422mm)
Weight: 41.0 lbs. (18.6kg)

EXTERIOR FINISH

RAL9016 (custom colors available on request)
CX Extreme Marine Grade Coating
Stainless Steel 316 Fasteners

ELECTRICAL / THERMAL

AC 100-240V 50/60Hz
700W Max Power Consumption
BTU/hr (+/- 10%) 2387
Ambient Temperature Range: -4° F to 113° F (-20° C to 45° C)

APPROVALS / RATINGS

CE | cETLus | FCC | IP66

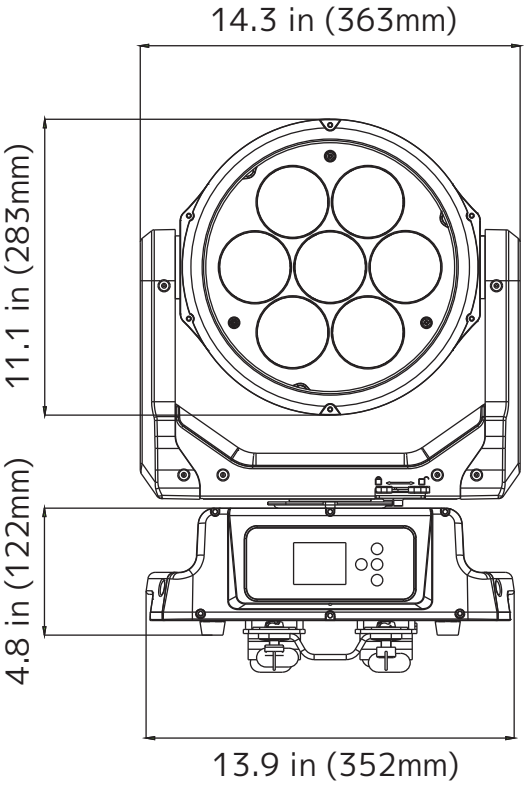
Specifications and documentation subject to change without notice.

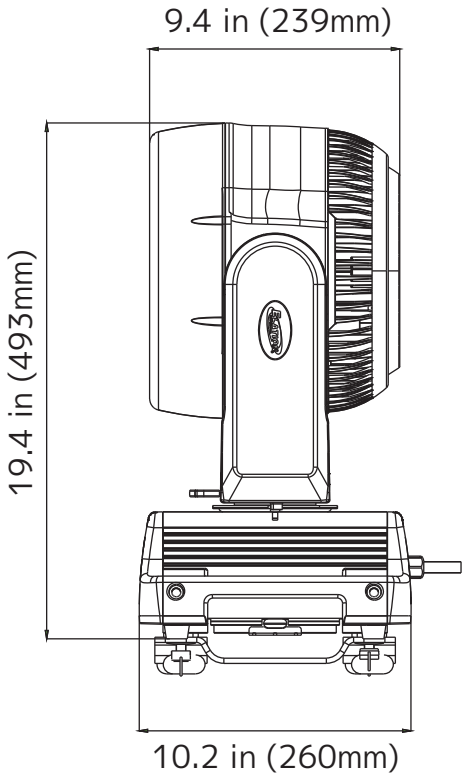
Intertek 3104374

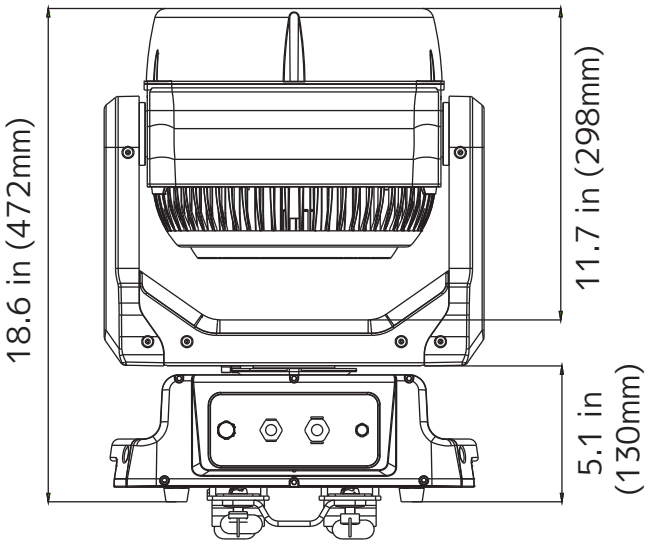
IP66

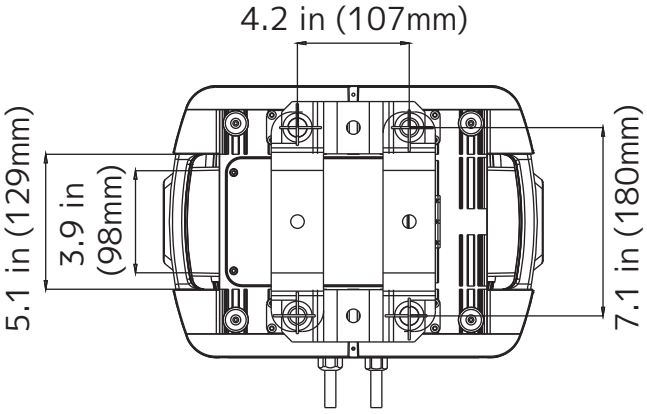
DIMENSIONAL DRAWINGS

DRAWINGS NOT TO SCALE









Specifications and documentation subject to change without notice.

OPTIONAL ACCESSORIES

ORDER CODE	ITEM
IP TESTER	IP Fixture Vacuum and Pressure Leak Tester
TRIGGER CAMP	Heavy Duty Wrap Around Hook Style Clamp

FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC RADIO FREQUENCY INTERFERENCE WARNINGS & INSTRUCTIONS

This product has been tested and found to comply with the limits as per Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device uses and can radiate radio frequency energy and, if not installed and used in accordance with the included instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following methods:

- Reorient or relocate the device.
- Increase the separation between the device and the receiver.
- Connect the device and the radio receiver to electrical outlets on two different circuits.
- Consult the dealer or an experienced radio/TV technician for help.