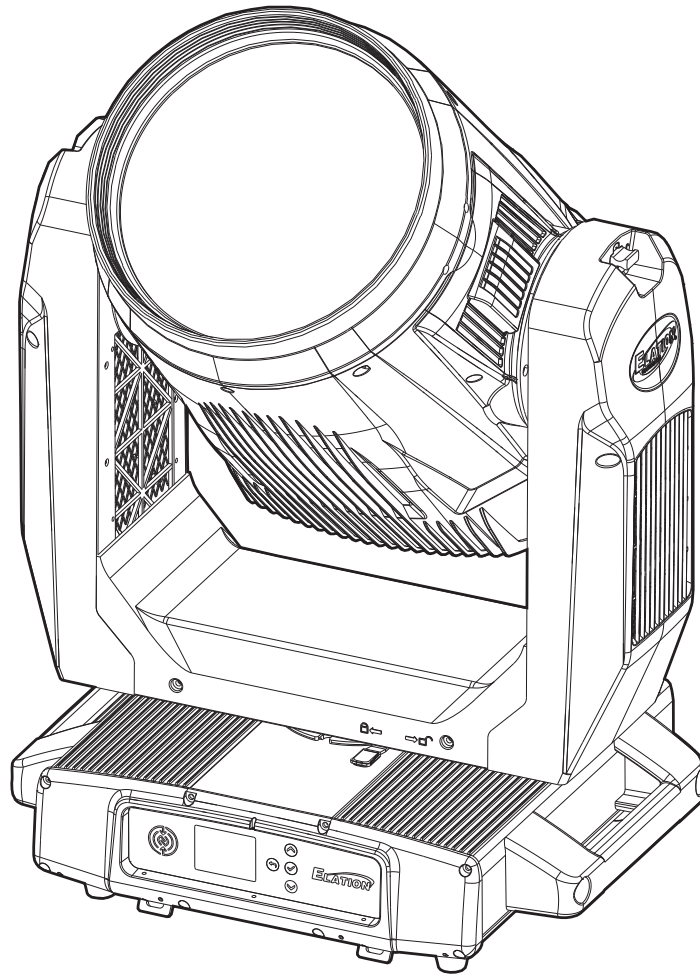


# **ELATION**<sup>®</sup>



# PROTEUS EXCALIBUR

## 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](http://www.elationlighting.com) for the latest revision/update of this manual, before installation and/or programming.

Date	Document Version	Software Version	DMX Channel Mode	Notes
07/15/25	1.0	1.0.0	26 Ch	Initial Release

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# GENERAL INFORMATION

## 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 professionally trained personnel only, and is not suitable for private use.**

## COOLING

After usage, the lamp may be switched off, but the fixture should remain connected to power in order to allow the fan time to cool down the fixture. OPS fixtures are not designed for 24/7 operation, and require periodic cooling intervals, especially in high temperature environments. Please refer to the **Duty Cycle and Thermal Management** section for detailed information.

## 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 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](https://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](mailto: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](mailto:support@elationlighting.eu)**

**REPLACEMENT PARTS** please visit [parts.elationlighting.com](https://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 code below.



**USA: <https://www.elationlighting.com/warranty-information>**



**EU: [https://www.elationlighting.eu/terms\\_and\\_conditions](https://www.elationlighting.eu/terms_and_conditions)**

# 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](mailto: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 manufacturer's warranty and increase the risk of damage and/or personal injury.



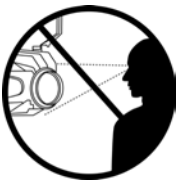
**PROTECTION CLASS 1 - FIXTURE MUST BE PROPERLY GROUNDED.**



**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 MANUFACTURER'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!  
UNPLUG 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 LIGHTED OBJECTS/SURFACES MUST BE 65.6 FEET  
(20 METERS)  
MAXIMUM TEMP OF EXTERNAL SURFACE 212° F (100°C)  
MINIMUM DISTANCE OF FLAMMABLE MATERIALS FROM THE SURFACE 5 FEET  
(1.5 METER)**

# SAFETY GUIDELINES

 <p><b>108 Lbs / 49 Kgs</b></p>	<p><b>WARNING</b></p> <p><b>TWO PERSON LIFT REQUIRED</b></p>
--	--

## **! CAUTION**

### **HIGH INTENSITY ULTRAVIOLET LIGHT**



**AVOID DIRECT EYE & SKIN EXPOSURE.  
WEAR PROPER EYE & SKIN PROTECTION.  
SEE MANUAL FOR SAFETY INSTRUCTIONS.**

**RISK GROUP 3 - RISK OF EXPOSURE TO ULTRAVIOLET UV RADIATION! FIXTURE EMITS HIGH INTENSITY WAVELENGTH OF ULTRAVIOLET UV LIGHT FROM THE UV COLOR FILTER. WEAR PROPER EYE AND SKIN PROTECTION. AVOID PROLONGED PERIODS OF EXPOSURE TO UV COLOR FILTER. AVOID WEARING WHITE COLOR CLOTHING AND/OR USING UV PAINTS ON SKIN. AVOID DIRECT EYE AND/OR SKIN EXPOSURE AT DISTANCES LESS THAN 65.6 feet (20m). DO NOT OPERATE FIXTURE WITH DAMAGED/MISSING EXTERNAL COVERS. DO NOT LOOK DIRECTLY INTO THE UV LIGHT AND/OR VIEW UV LIGHT DIRECTLY WITH OPTICAL INSTRUMENTS THAT MAY CONCENTRATE THE LIGHT/RADIATION OUTPUT. INDIVIDUALS SUFFERING FROM A RANGE OF EYE CONDITIONS, SUNLIGHT EXPOSURE DISORDERS, OR INDIVIDUALS USING PHOTSENSITIVE MEDICATION, MAY RECEIVE DISCOMFORT IF EXPOSED TO THE ULTRAVIOLET UV LIGHT EMITTED FROM THE UV LED.**

**DO NOT TOUCH** the fixture housing during operation. Turn OFF the power and allow approximately 15 minutes for the fixture to cool down before serving.

**DO NOT** shake fixture, avoid brute force when installing and/or operating fixture.

**DO NOT** operate fixture if the power cord is frayed, crimped, and/or damaged and/or if any of the power cord connectors are damaged. If the power cord or any of its connectors are damaged, have it replaced immediately with a new one of similar power rating.

**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.

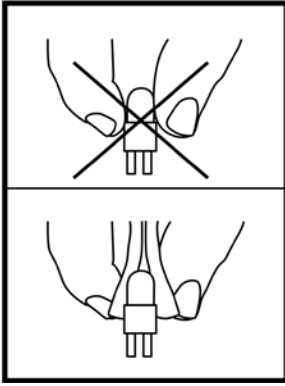
Always disconnect fixture from main power source before performing any type of service and/or cleaning procedure. Only handle the power cord by the plug end, never pull out the plug by tugging the wire portion of the cord.

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.

# DISCHARGE LAMP WARNING



This fixture is fitted with a DISCHARGE LAMP, which is highly susceptible to damage if improperly handled. NEVER touch the lamp with your bare hands, as the oil from your hands will shorten the life of the lamp. Also, NEVER move the fixture until the lamp has had ample time to cool. Lamps are NOT covered under warranty conditions. Avoid switching the fixture ON and OFF repeatedly in short intervals, as this will reduce lamp life and intensity. To achieve the intensity associated with discharge lamps, these lamps use gas sealed in a high-pressure environment to emit a brilliant output.

Due to the high pressure involved with the construction of the lamp, the lamp MAY EXPLODE DURING PROLONGED EXTENSIVE USE. This risk is increased with age; added care is encouraged when dealing with older lamps. Thus, the lamp must always be replaced at the end of their recommended duty cycle. Extreme caution should be used when operating this or any fixture fitted with a gas discharge lamp.



## UV RADIATION NOTICE

This fixture emits intense UV radiation, which is harmful to the eyes and skin. The intense luminance of the lamp can cause severe damage to the retina. NEVER operate this fixture with ANY of the protective covers removed. These covers have been specially designed to shield against UV radiation.



## LAMP REPLACEMENT

Please note that the lamp must be replaced between 1500-1600 hours based on usage as indicated on display. Use only genuine Philips™ Platinum Flex Lamps. Other lamp brands may cause damage and void the warranty.

# DISCHARGE LAMP PROTECTION

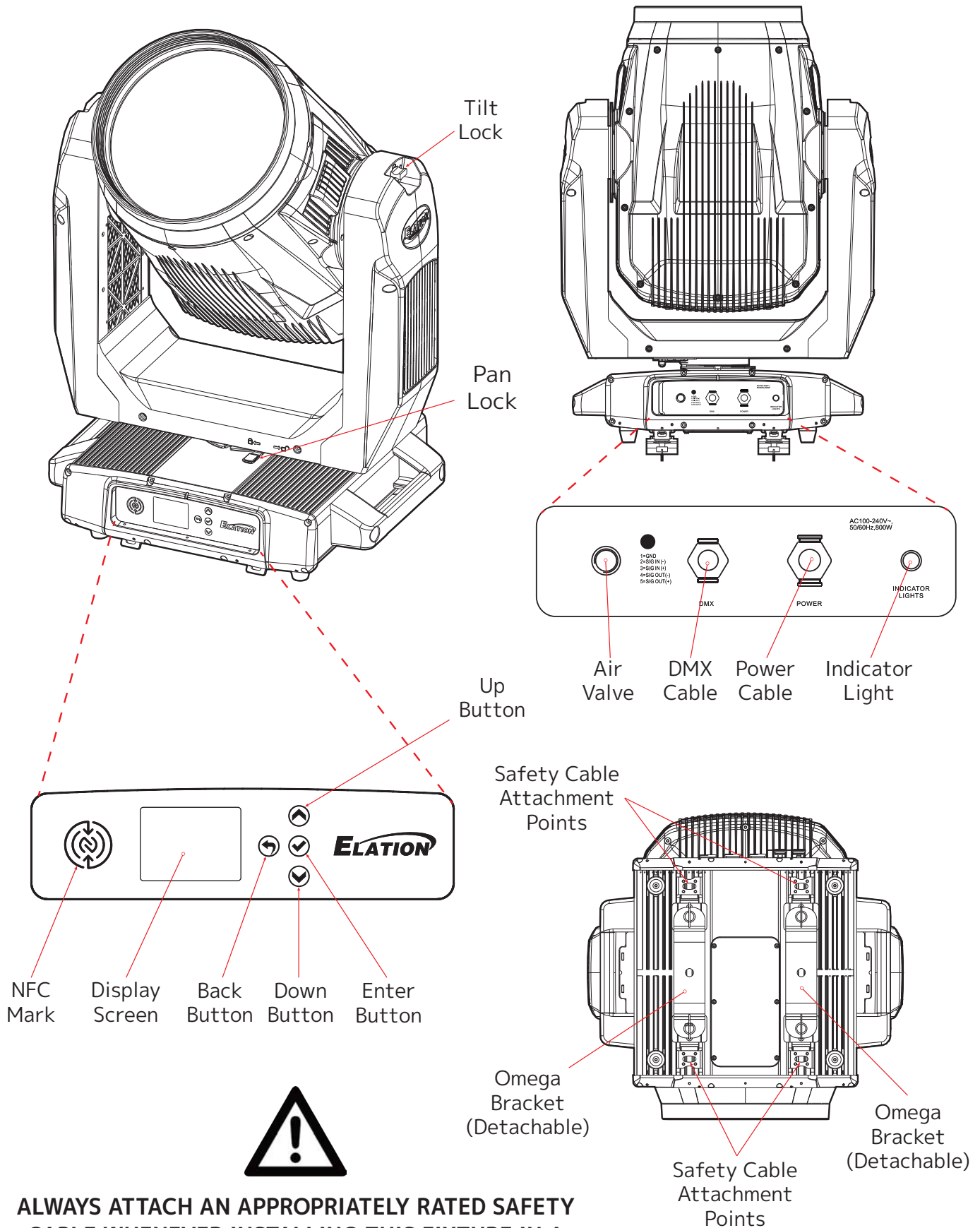
This fixture includes settings that are designed to protect the lamp fixtures from overheating and prevent unintentional operation over a long period of time.

**Automated Lamp OFF:** The lamp turns off automatically after 12 hours of continuous operation, and the lamp can be restarted via the DMX control channel. Please note that restarting the lamp will also restart the 12-hour continuous operation timer.

**Automated Hibernation / Sun Protection:** The fixtures automatically enter sun protection mode after 14 hours of continuous operation, then the fixture will automatically enter hibernation. The fixture can be awakened from hibernation via DMX control, which also restarts the 14 hour counter.

**Lamp Explosion Protection:** The lamp will not illuminate when the lamp hours have reached or exceeded 90% of the manufacturer's stated maximum lamp hours. For example, if 4000 hours is the manufacturer's stated maximum lamp life, then the lamp will no longer illuminate when it has reached or exceeded 3600 hours.

# OVERVIEW

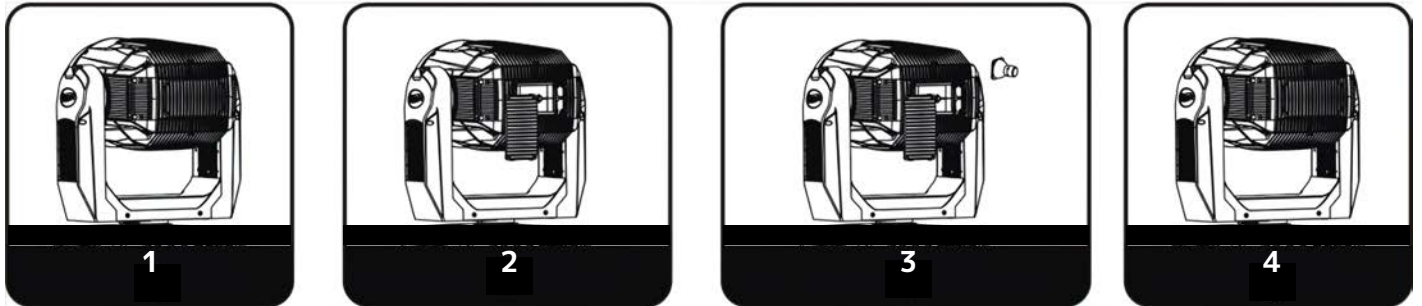


**ALWAYS ATTACH AN APPROPRIATELY RATED SAFETY CABLE WHENEVER INSTALLING THIS FIXTURE IN A SUSPENDED ENVIRONMENT IN ORDER TO ENSURE THE FIXTURE WILL NOT FALL IF THE CLAMP FAILS.**

# LAMP INSTALLATION

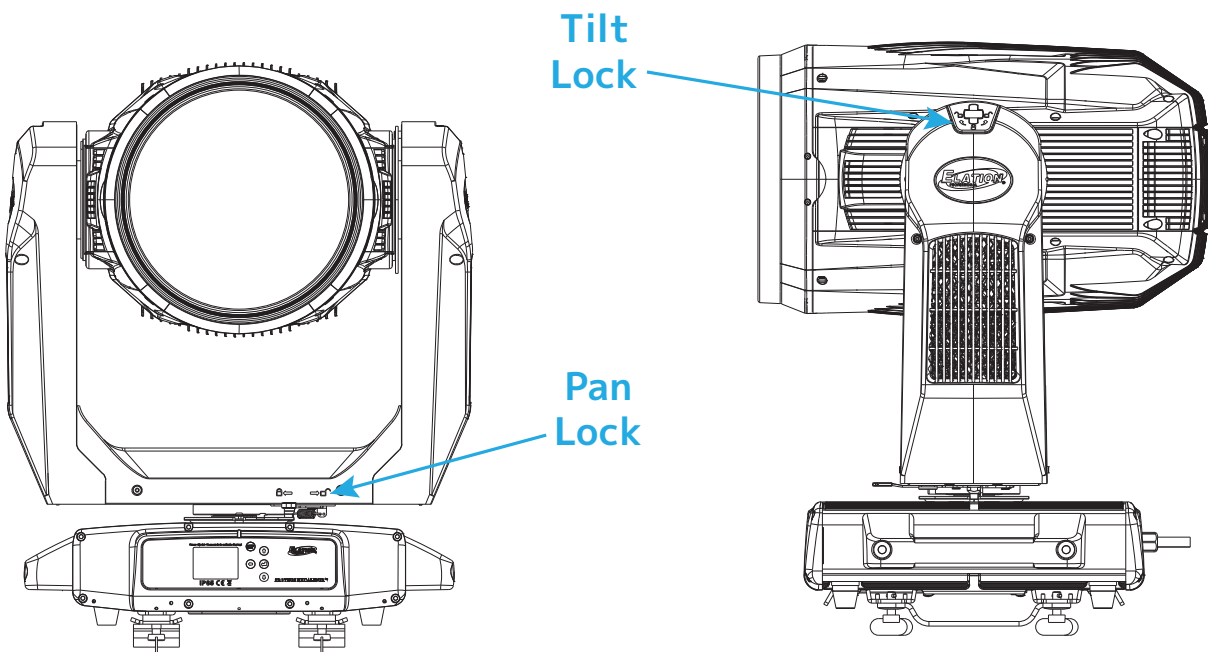
## INSTALLING OR REPLACING LAMP

Please note that the lamp must be replaced between 1500-1600 hours based on usage as indicated on display. Use only genuine Philips™ Platinum Flex Lamps. Other lamp brands may cause damage and void the warranty.



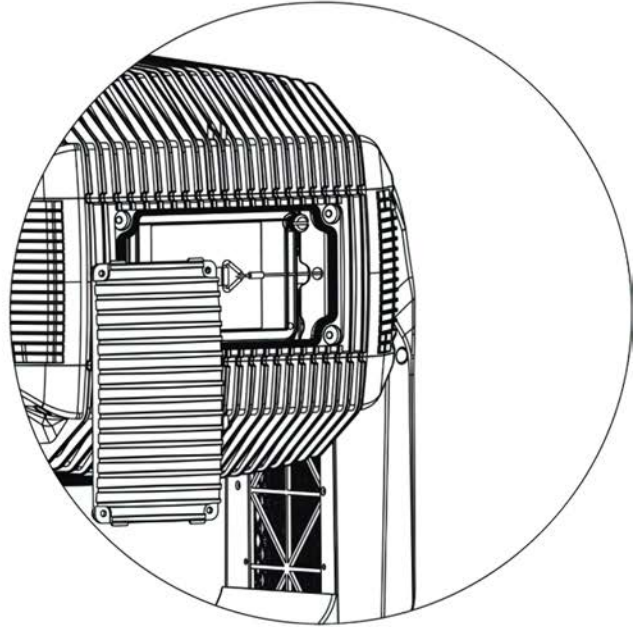
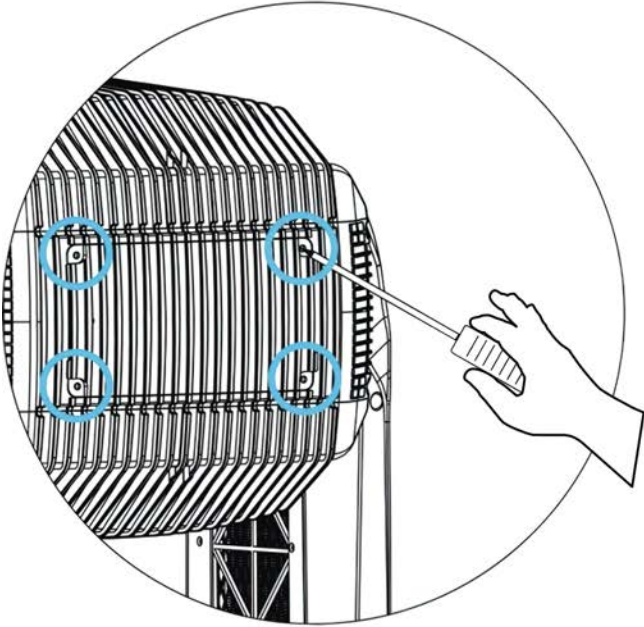
**WARNING! LAMP REPLACEMENT SHOULD ONLY BE DONE BY A TRAINED TECHNICIAN.**

1. Turn **OFF** power and allow approximately 60-minutes for the fixture to cool down.
2. Place the moving-head in a right-angle horizontal position, and engage both the **PAN** and **TILT** locks for added stability while replacing the lamp.

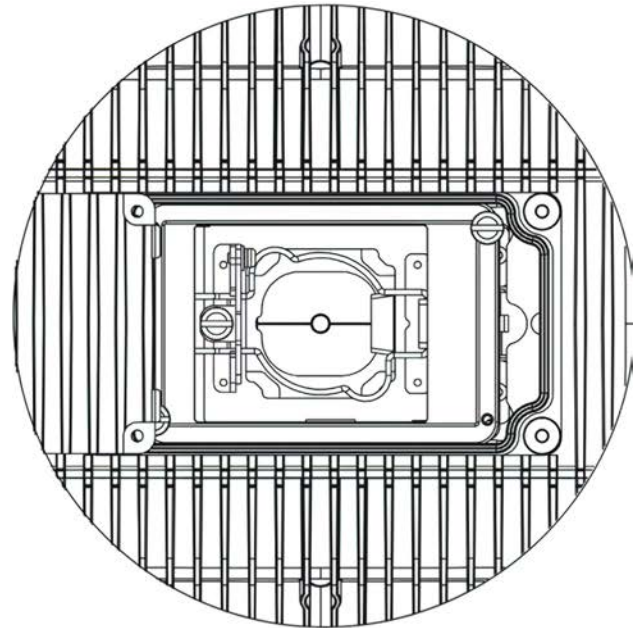
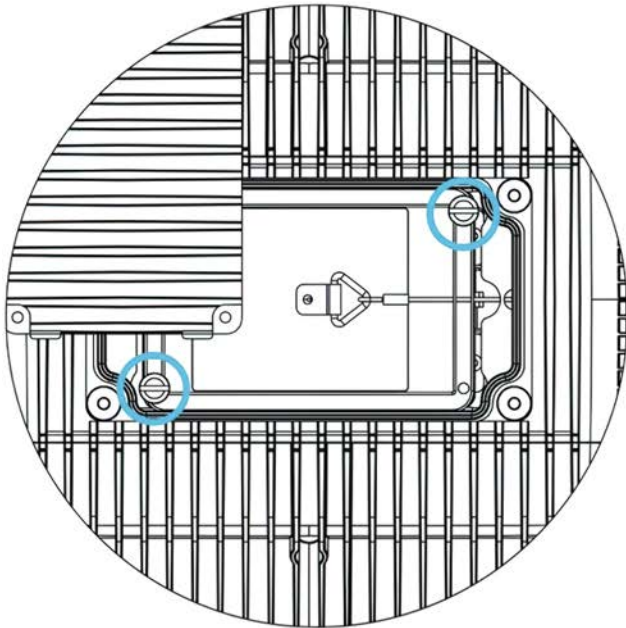


# LAMP INSTALLATION

3. Remove (4x) screws that secure the bottom panel.

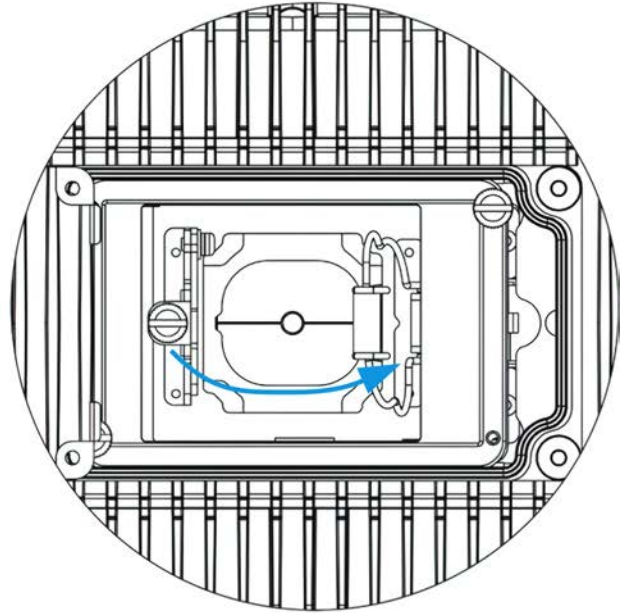
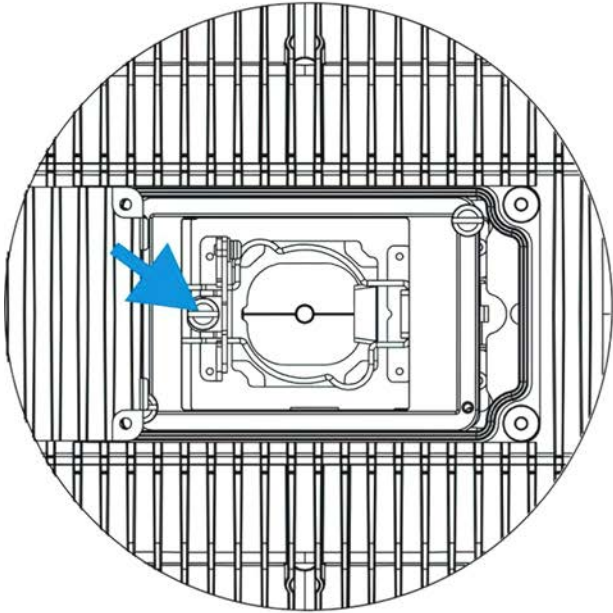


4. Loosen the two slotted thumb screws, and unclip the bottom panel safety cable, and remove the lamp socket cover, exposing the lamp socket.



# LAMP INSTALLATION

5. Loosen the two slotted thumb screws, unclip the bottom panel safety cable, and remove the lamp socket cover.
6. Gently remove the (2x) spade terminals connected to the lamp.
7. Loosen the lamp retaining arm screw and pull arm out.
8. Unclip the lamp retaining-clip and swing it out.



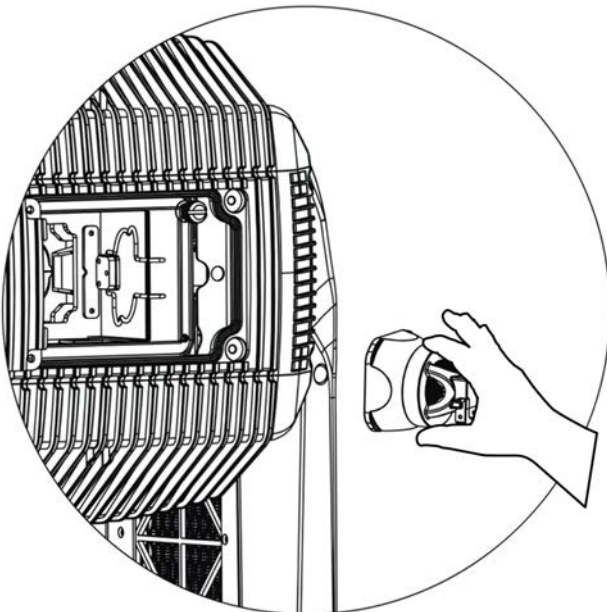
9. Carefully remove the lamp.



**WARNING! LAMP MAY BE HOT. USE CAUTION WHEN TOUCHING LAMP WITH BARE HANDS.**

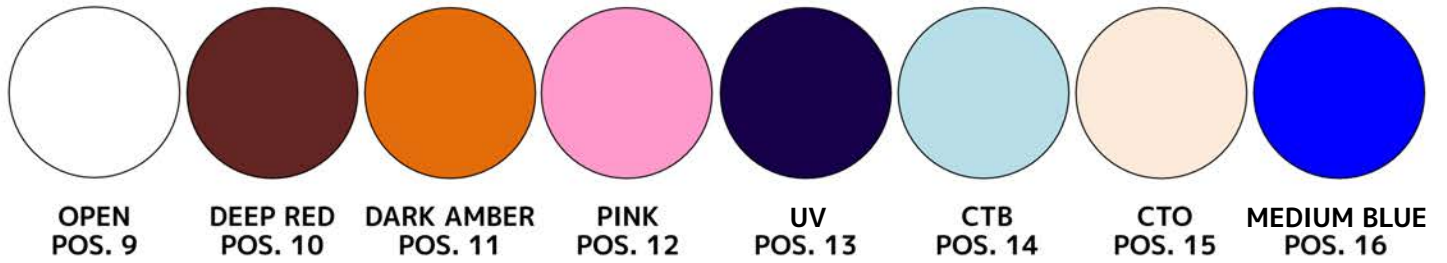
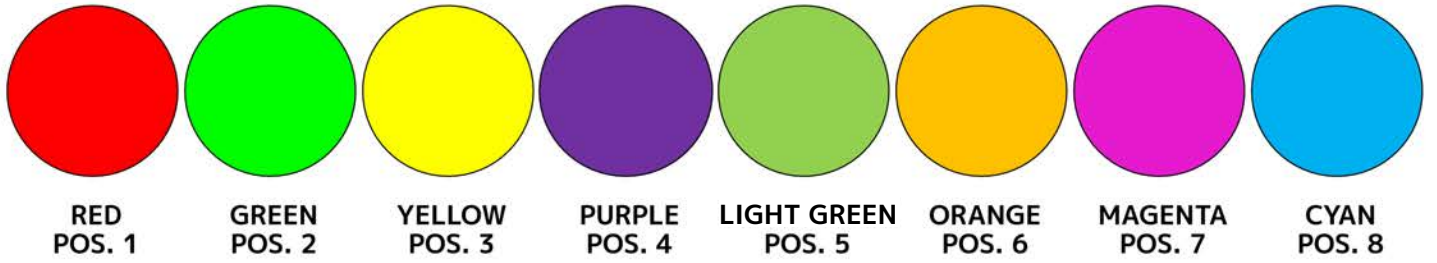
10. Carefully install the new lamp, then follow the removal instruction steps in reverse order.

**NOTE: Brush away any debris using a nonabrasive brush before replacing the panel.**

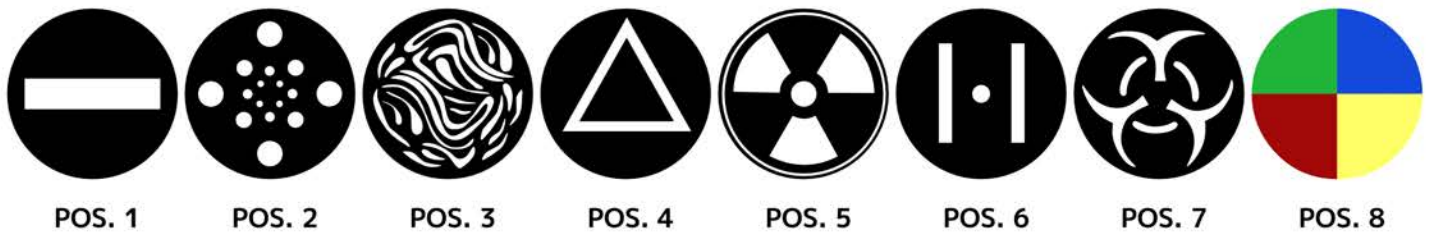


# COLORS AND GOBOS

## COLOR WHEEL

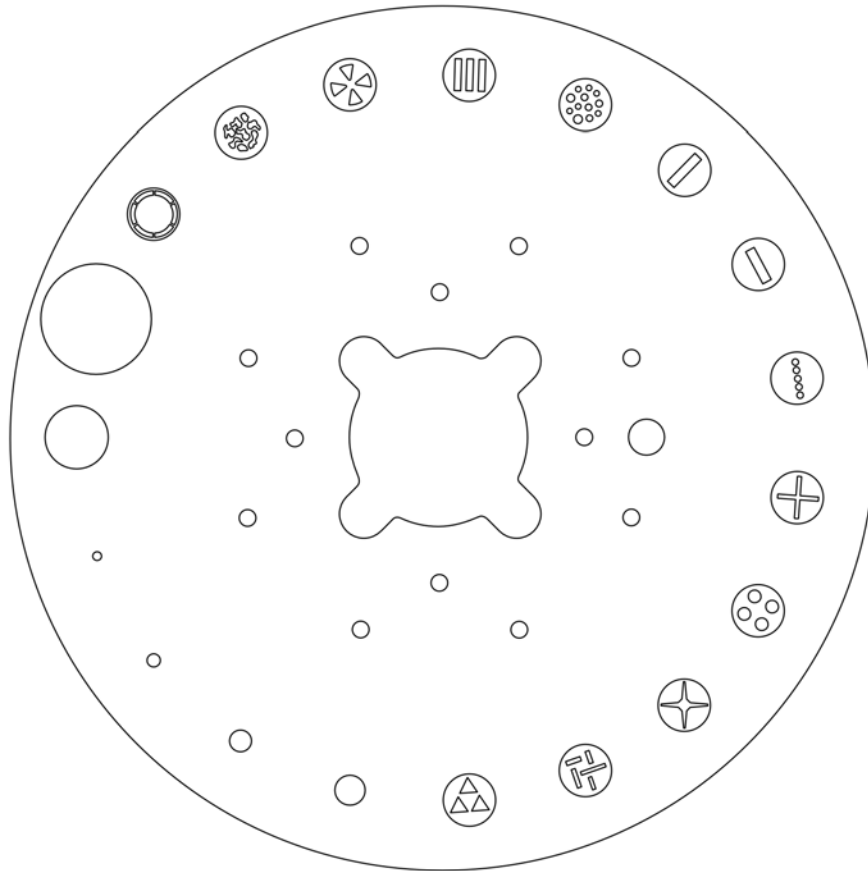
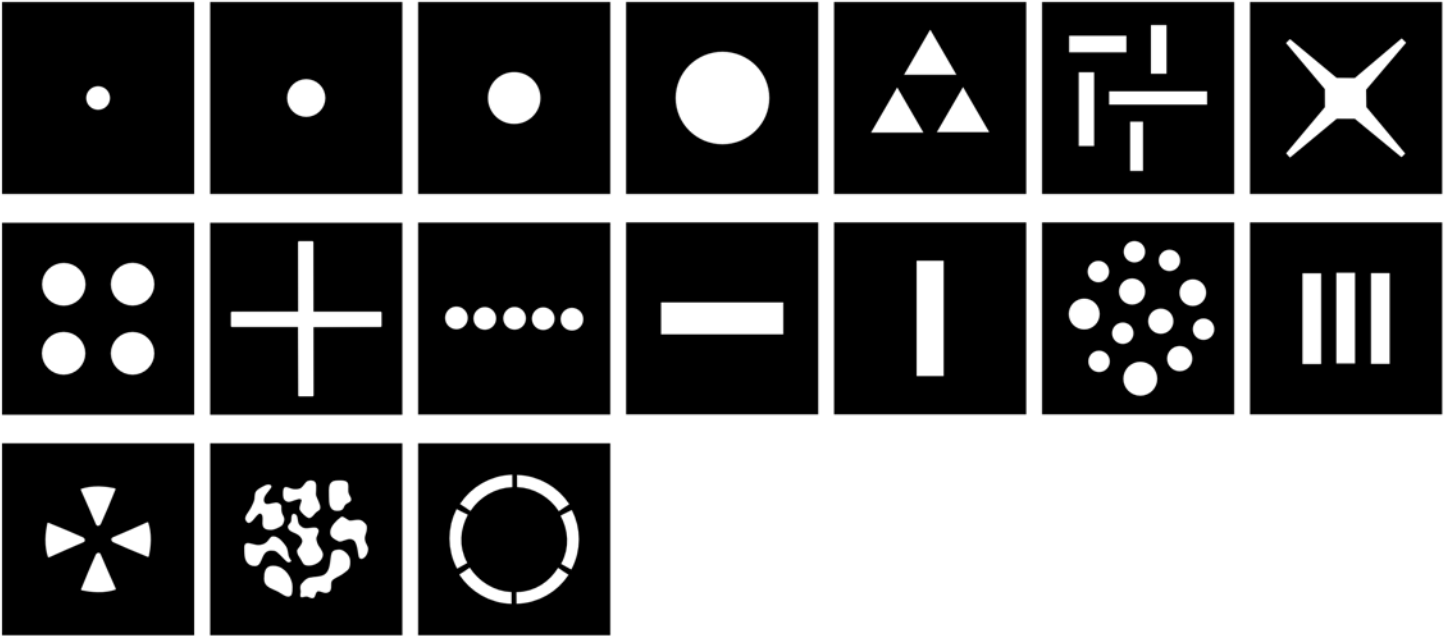


## ROTATING GOBO WHEEL1



# COLORS AND GOBOS

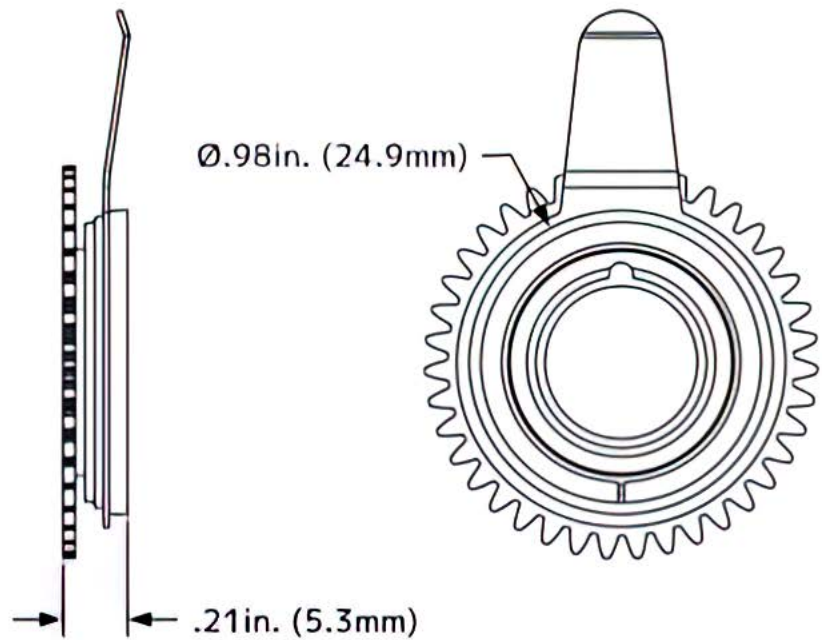
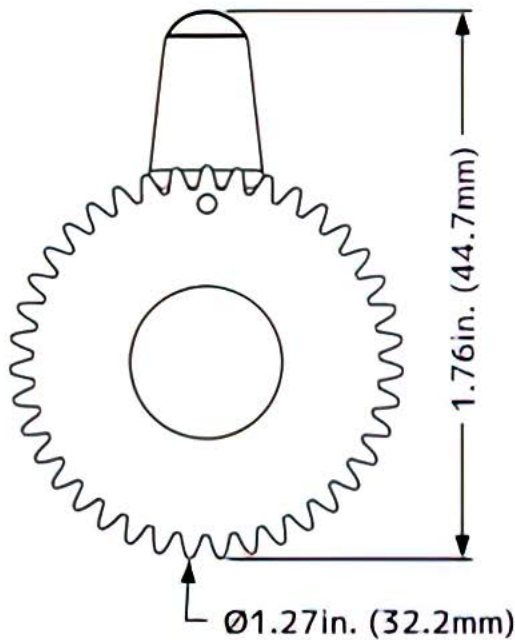
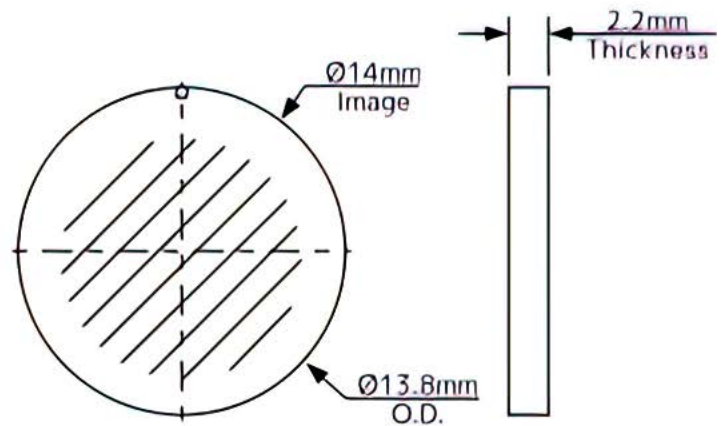
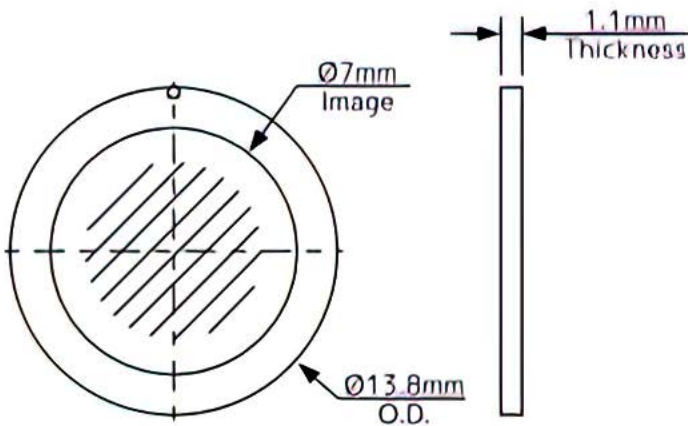
## FIXED GOBO WHEEL 2



# CUSTOM GOBOS

ROTATING WHEEL1 GOBOS - Pos. 1-7:	
Gobo O.D. (Max. Outer Diameter)	Ø13.8mm
Gobo I.D. (Max. Image Diameter)	Ø7mm
Gobo Holder Diameter	Ø14mm
Gobo Thickness	1.1mm±0.1mm
Gobo Material	Borofloat

ROTATING WHEEL1 GOBO - Pos. 8:	
Gobo O.D. (Max. Outer Diameter)	Ø13.8mm
Gobo I.D. (Max. Image Diameter)	Ø14mm
Gobo Holder Diameter	Ø14mm
Gobo Thickness	2.2mm
Gobo Material	Borofloat



Proteus Excalibur utilizes different size gobo holders on every wheel.

**Please be aware of the intended position and correct sizing requirements of custom gobos.**

**\*\*\* IMPORTANT NOTICE REGARDING CUSTOM GOBOS \*\*\***

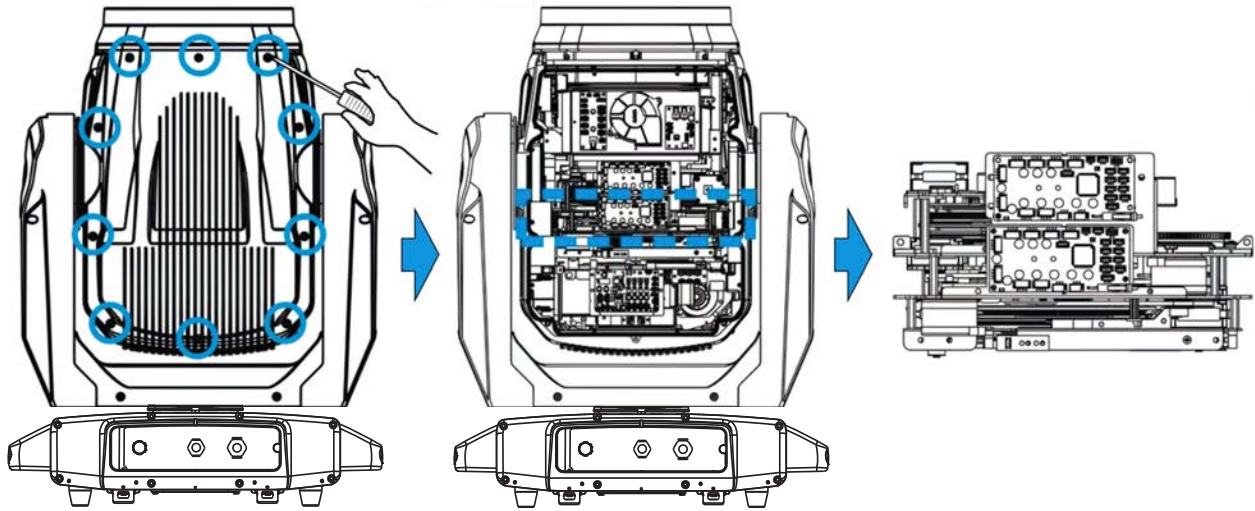
Due to the high temperature optical system, special glass material is required for custom gobos. Due to varying manufacturing processes and tolerances, it is highly recommended to provide a gobo sample and holder from the fixture to the custom gobo vendor for accurate sizing. Extended testing of custom gobo designs is highly recommended prior to use. Contact ELATION SERVICE for further information.

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

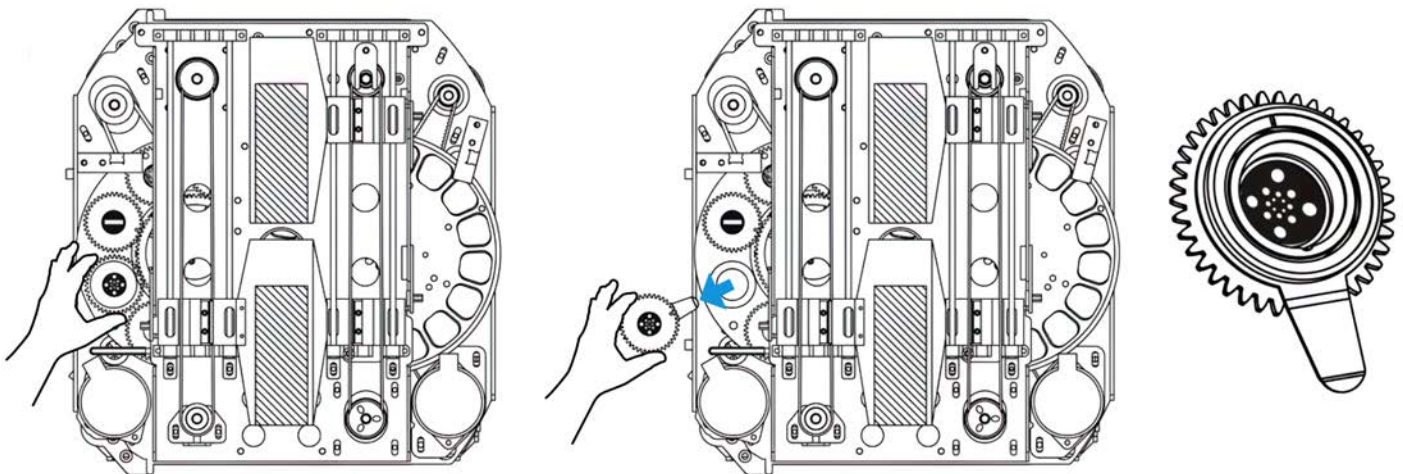
ELATION SERVICE EUROPE -Monday -Friday 08:30 to 17:00 CET  
+31 45 546 85 63 | Fax +31 45 54685 96 | support@elationlighting.eu

# GOBO INSTALLATION

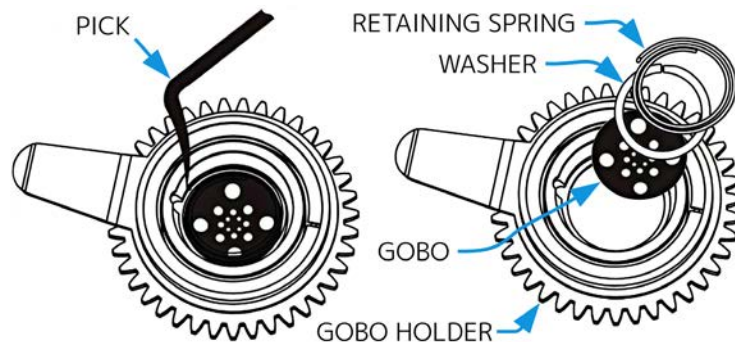
## REPLACING A ROTATING GOBO



Place the Elation Proteus Excalibur fixture on a firm flat surface. Locate the (10x) screws on the side of the moving head and remove them. With the panel set aside, locate the Pattern Bracket Assembly and remove the (4x) screws that secure it to the internal housing frame.



Locate the specific Rotating Gobo to replace. Carefully grip the Gobo using your thumb and index finger, gently lift it slightly, and then pull it out and away until it fully clears the Gobo Wheel.



Locate the tab of the spring, and with a precision pick (or similar tool), carefully press the retaining spring inward to relieve the tension. Remove the retaining spring and carefully separate the GOBO from the GOBO Holder. Lastly, remove the flat washer attached to the removed GOBO and attach it to the desired replacement GOBO. Install the replacement Rotating GOBO following the steps above in reverse order.

**CAUTION: TAKE CARE NOT TO SCRATCH GOBO OR GOBO HOLDER**

# INSTALLATION GUIDELINES



## **FLAMMABLE MATERIAL WARNING**

Keep fixture minimum 5.0 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 LIGHTED OBJECTS/SURFACES IS BE 65.6 FEET (20 METERS)**



**MINIMUM DISTANCE OF FLAMMABLE MATERIALS FROM THE SURFACE 5 FEET (1.5 METER)**



**AMBIENT TEMPERATURE RANGE -4°F TO 113°F (-20°C TO 45°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 the fixture to any metal truss/structure or placing the fixture 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, clamps, cables, and accessories.

Overhead rigging requires extensive experience, including, amongst others, calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the fixture. 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 use when ambient temperature falls outside of this range.

Fixture should be installed in areas outside walking paths, seating areas, or away from areas where unauthorized personnel might reach the fixture by hand.

**NEVER** stand directly below the fixture 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 10 minutes for the fixture to cool down before servicing.

# INSTALLATION GUIDELINES

## CLAMP INSTALLATION

Insert (2x) minimum grade 8.8 steel M12x25mm bolts (not included) through the respective mounting hole of the clamp (not included), and then thread it into the matching 12M holes on the bottom of the fixture base. Both bolts must be threaded at least 18mm (0.7ins) into the fixture base.

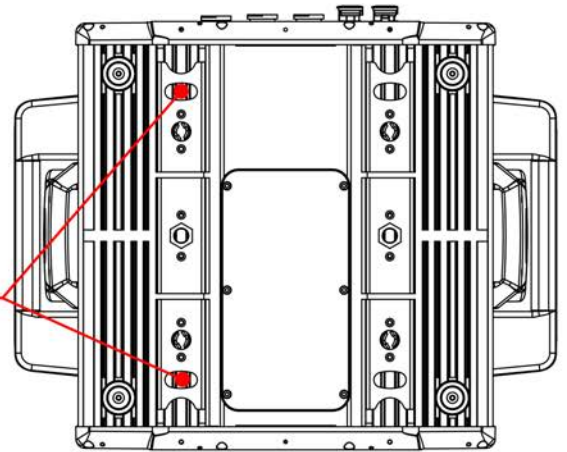
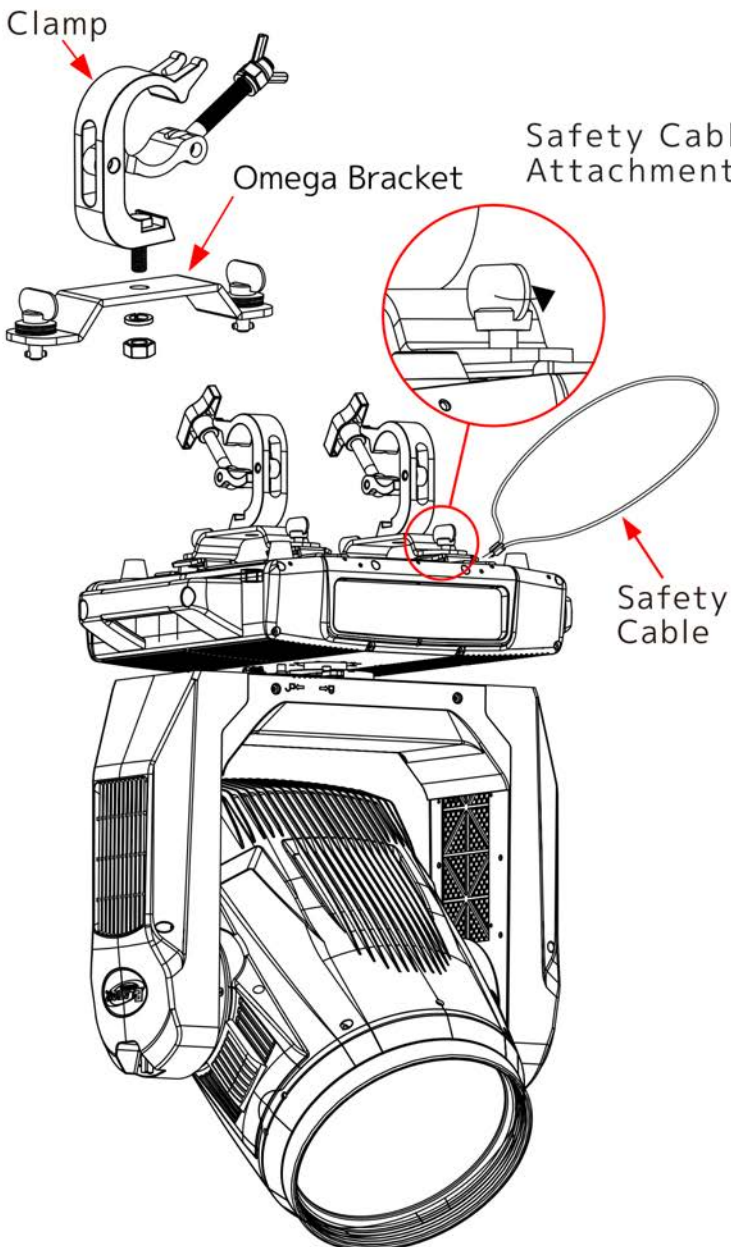
**OMEGA BRACKETS:** Insert them into the matching holes on the bottom of the fixture, and secure them by turning each quick-lock fastener ¼-turn clockwise, making sure the fastener is completely locked.

**SAFETY CABLE:** The fixture provides built-in rigging points for a Safety Cable (not included). Be sure to only use one of the designated rigging points for the safety cable and never secure a safety cable to a carrying handle.

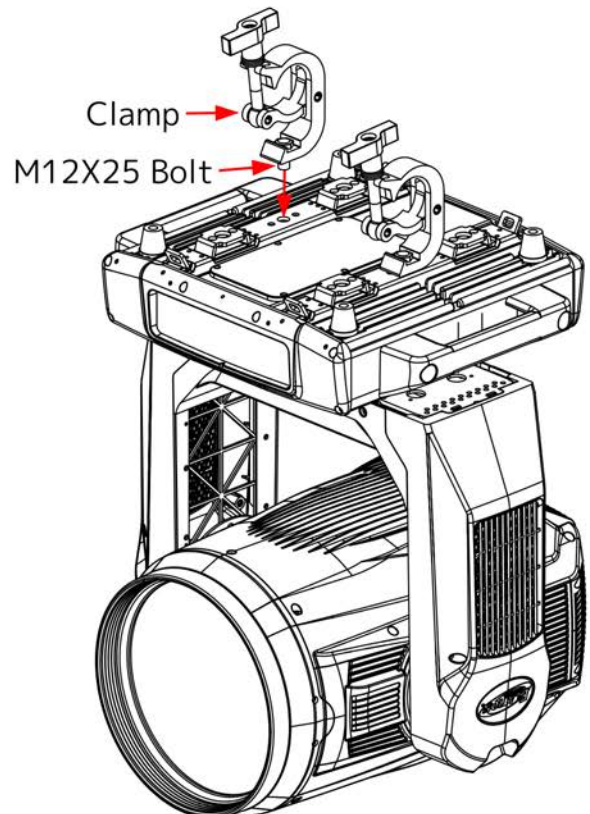
## SAFETY CABLE

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

## TRUSS CLAMPS MOUNTED TO BASE VIA OMEGA BRACKETS



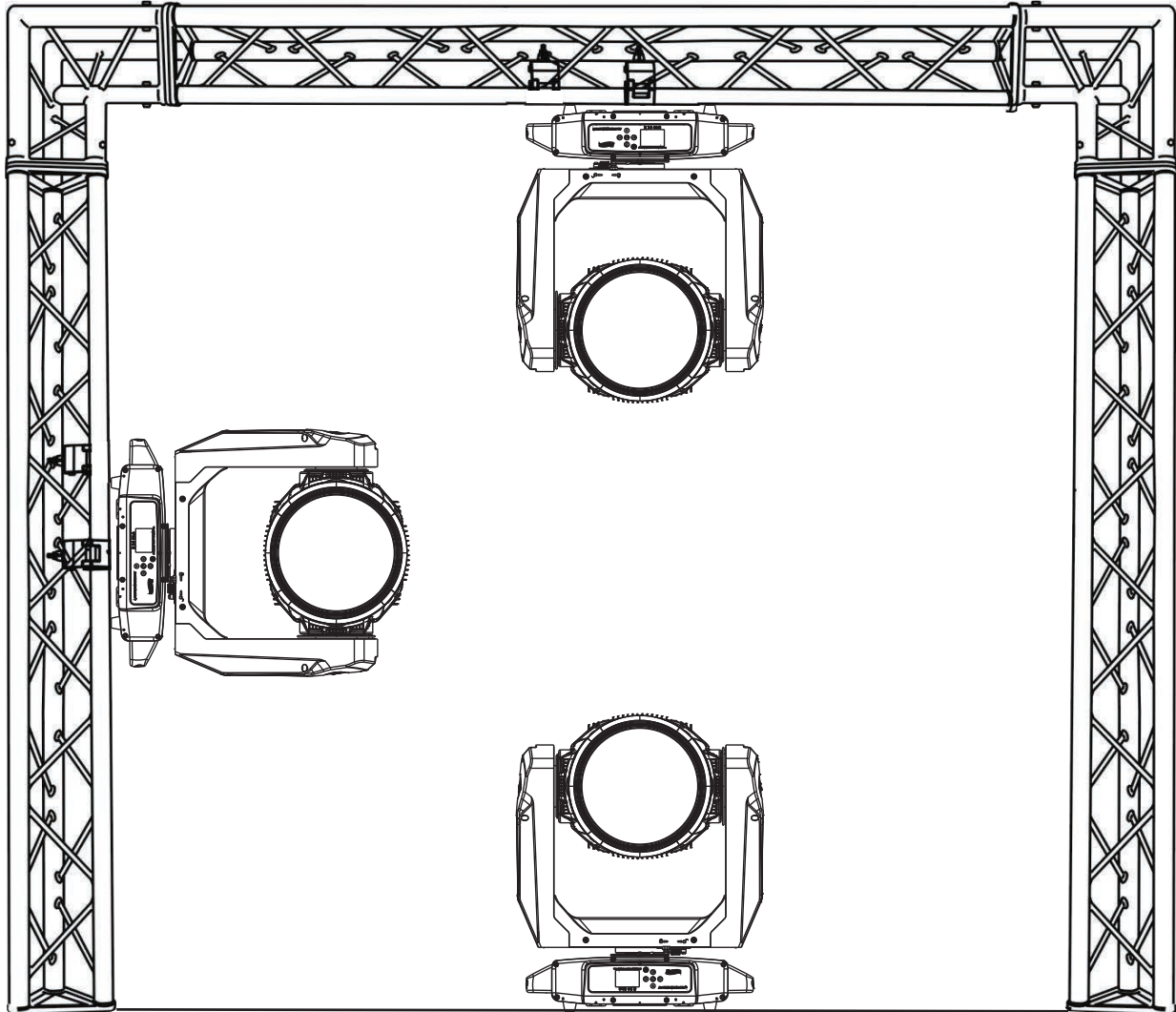
## TRUSS CLAMPS MOUNTED DIRECTLY TO FIXTURE BASE USING INTEGRATED M12 THREADED MOUNTING HOLES



# INSTALLATION GUIDELINES

## FIXTURE INSTALLATION

This fixture is fully operational in three different mounting positions: hanging upside-down, mounted sideways on trussing, or set on a flat level surface. Always use and install the supplied safety cable as a safety measure to prevent accidental damage and/or injury in the event the clamp fails.



**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.**

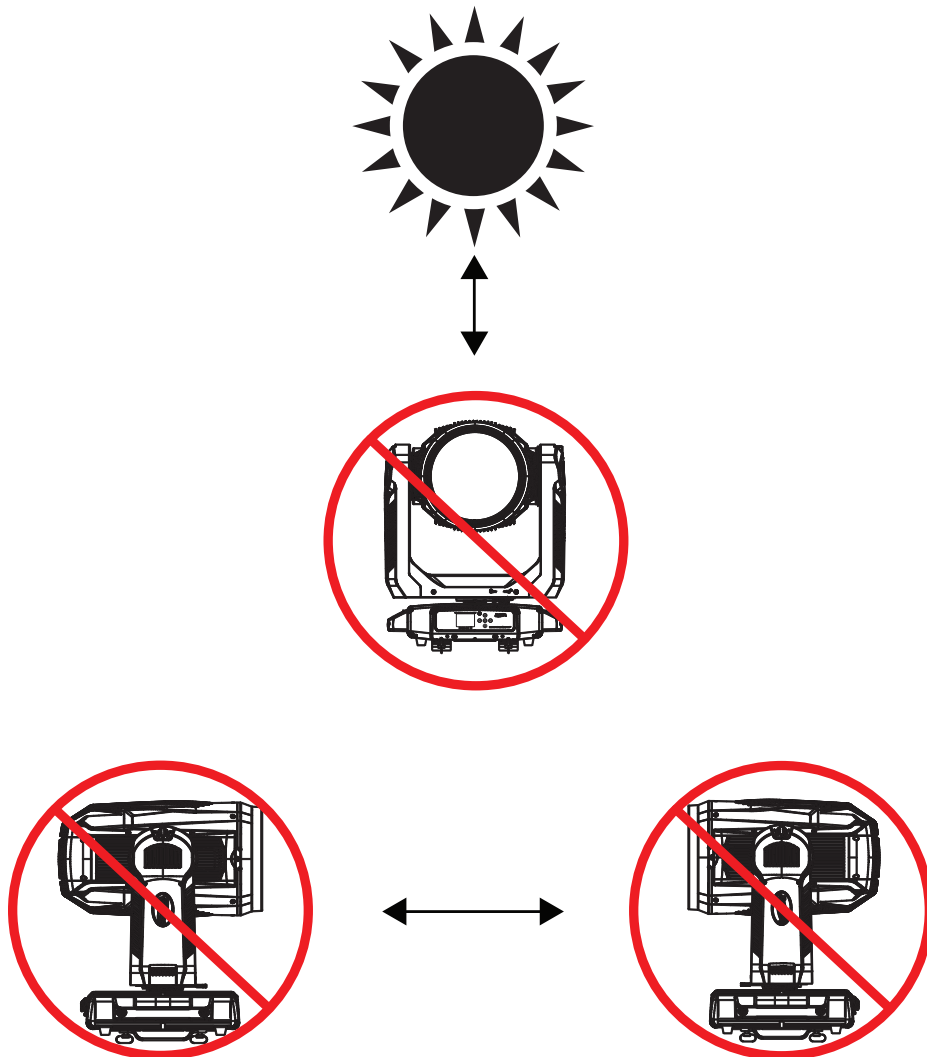
# INSTALLATION GUIDELINES

## POTENTIAL INTERNAL FIXTURE DAMAGE FROM EXTERNAL SOURCES OF LIGHT BEAMS

External sources of light beams from direct sunlight, lighting 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 to 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, 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 prevent any potential damage from occurring if followed. Contact ELATION Service for more details.

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



# SKY MOTION

## INTRODUCTION

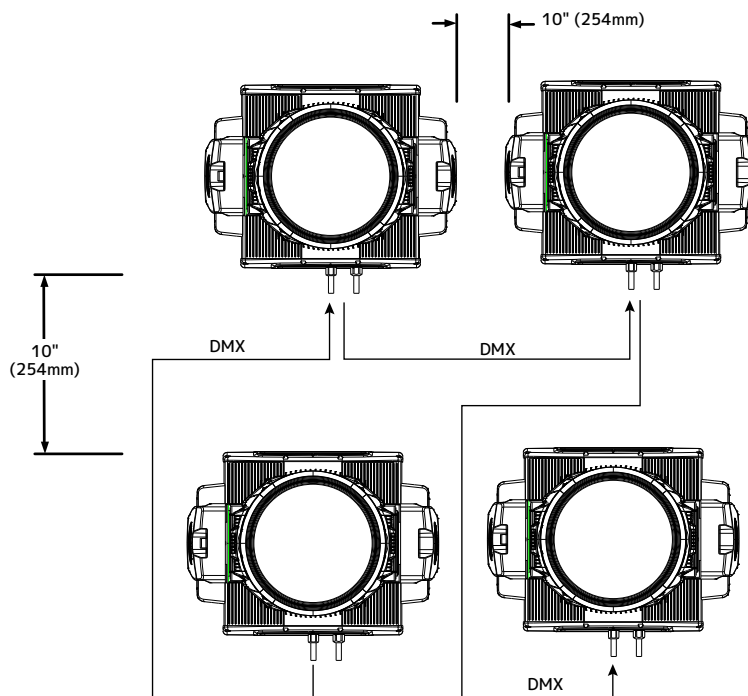
Sky Motion is an innovative feature of the Proteus Excalibur OPS which allows a fixture or group of fixtures to operate as a search light effect without the need for a dedicated lighting controller. Multiple fixtures can be interconnected, and with the simple assignment of IDs the fixture provides immediate access to a variety of search light effects that are easily adjustable in size, speed, and color.

Comparable in output to large 2000W or 4000W Xenon fixtures, the Proteus Excalibur OPS operates at a fraction of the power, supports a wide range of 100V-240V power sources, has a much smaller footprint, lower weight, and is fully IP66 rated.

## SETUP

Sky Motion is designed to accommodate up to four unique fixture IDs. Fixtures with the same ID will always be at an identical position and have the exact shape, speed, and size. One fixture in the system must be set to the ID "MAIN", which provides all control signals and movement synchronization. Use ID "1" for other fixtures if needed.

For a traditional searchlight system, place four Proteus Excalibur OPS fixtures closely together in a 2x2 grid. **The fixtures require a minimum space of 10" (254mm) between the fixture bases to ensure that the heads do not come into contact while in motion.** All cable connections should face inwards, and all displays should face outwards.

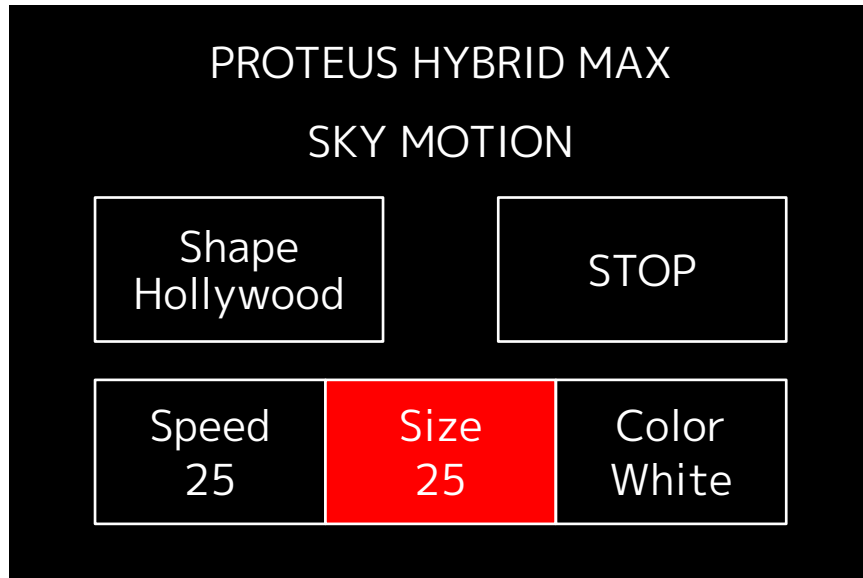


1. Connect fixtures to a suitable grounded power source.
2. Link fixtures via the built-in DMX cables. Connect "DMX Out" from MAIN fixture to "DMX In" of the next. Cable order doesn't affect operation. **Do NOT connect the last fixture back to MAIN fixture.** Maximum combined cable length: 330 ft (100m).
3. Power on fixtures, wait for calibration cycle.
4. Enter System Menu: Hold "ENTER" 10sec. In menu, navigate to "Sky Motion," press "Enter."
5. Enable Sky Motion: On screen, select "Mode," press "ENTER," set to "ON." Confirm by pressing "ENTER" again.
6. Set fixture ID: One fixture as "MAIN." For easy access, choose a nearby fixture; all adjustments are done on MAIN.
7. Set IDs for other fixtures clockwise: 2, 3, and 4. Consider labeling IDs for clarity. IDs also display on Proteus Hybrid Max. Repeat IDs 1-4 as needed.
8. After setting fixture ID, exit Menu using "BACK." Dedicated Sky Motion home screen appears. Fixtures move in sync.

# SKY MOTION

## OPERATION

All settings are configured from the MAIN fixture. The display screens on the other fixtures show the ID and settings, but all control via the screens is disabled. The Sky Motion system is controlled by this simple display screen:



If the screen is locked, hold "ENTER" for 10 sec until the countdown is completed. Select one of the available shapes in the top left box. Use the arrow keys to navigate, noting that the current selection is indicated by the red highlighting, then press "ENTER" to select. Use the Up/Down arrows to browse the shapes and preview the results.

The most commonly used selection is "Hollywood", which emulates the traditional Xenon Searchlight movement found at movie premieres and special events.

The following unique shapes are available:

- Sky Tracer
- Sky Tracer Offset
- Hollywood
- Hollywood Offset
- Searchlight
- Searchlight Offset
- Diagonal
- Diagonal Offset
- Bounce

After the desired shape has been selected, the speed and size can be adjusted using the arrows and "ENTER" key. Observe the motion of the fixture to confirm that you are satisfied with the range and speed. Always press "ENTER" to confirm the changed value.

In addition to the Shape, Size, and Speed, it is also possible to select a color for the fixtures. 16 color choices are available, plus random color chases and color scrolls. Simply use the arrows to adjust, then confirm with "ENTER". Set the fixture back to White or any other color to stop the color changes.

# SUN PROTECTION MODE

The fixture incorporates an automatic protection from harmful sunlight, which can damage a fixture's internal components from extended exposure. Fixtures use an internal sensor to determine their physical orientation, then reorient the fixture towards the ground to prevent sunlight from entering the lens.

This automatic feature only works when the fixture is powered. If the fixture is unpowered during setup, it is necessary to manually reorient the lenses away from the sun, and aim them towards the ground. Even a few minutes of sun exposure can cause damage inside the fixture.

The Sun Protection setting is accessed via the "No DMX Status" menu.

The automatic sun protection positioning is activated under the following conditions:

1. Power on without DMX signal: the fixture always starts in sun protection mode.
2. No DMX Status "Sun Protection": the fixture enters sun protection mode after approximately 3 minutes.
3. Remote DMX control: the sun protection position can be **temporarily** activated from the lighting console without the need to create a custom position preset. The fixture senses the correct ground orientation. This means that fixtures already facing the ground may not move their heads.

Hold "Sun Protect Position" for 3s to set the fixture to the sun protection position.

Sun protection status displays as "**Sun Protection: Active**".

The sun protection position deactivates under the following conditions:

1. Connect DMX signal.
2. Remote DMX control: Hold "Sun Protection Off" for 3s.

To avoid harsh or jarring movements, the sun protection position always uses a 5-second fade time when it is activated or deactivated.

# HIBERNATION MODE

To reduce wear on the fixture and its components, this mode disables motors and most electronics. Set the hibernation mode countdown time in the Display Menu: "DMX > No DMX Status > Hibernation". Hibernation can be fully disabled.

The hibernation mode activates under the following conditions:

1. Loss of DMX: the fixture enters hibernation after the timeout expires. Default is 15 minutes.
2. Remote DMX control: Hold "Hibernate Fixture" for 3s

The hibernation mode deactivates under the following conditions:

1. Connect DMX Signal
2. Remote DMX control: Hold "Hibernate Off" for 3s

The fixture will perform a full calibration cycle, then assume the current DMX status.

Please note that the Hibernation does not change the PT position of the fixtures, allowing the user to set the desired position and then issue the Hibernate command.

To ensure the fixture is protected from harmful sunrays it is recommended to either leave the "No DMX Status" in "Sun Protection" (so the fixture is already in the correct position after 3 minutes of DMX loss) or set the fixture to a safe Tilt position manually first before hibernation.

**Burn and heat damage to the fixture's interior components due to external light sources (sun or other fixtures shining into the lens) is never covered under the manufacturers warranty.**

# 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 moving head 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.

# ARIA

## 2.4GHz Versus Sub-Gig (GHz) Frequencies:

Sub-GHz frequencies provide superior reliability and range compared to higher frequencies, making them perfect for consistent communication across vast distances or in difficult conditions. Devices operating in the sub-GHz range, which refers to frequencies below 1 GHz, can transmit signals over significant distances and can penetrate physical barriers such as walls and buildings more effectively. Additionally, these frequencies experience less interference compared to those in the heavily congested 2.4-GHz band, which is commonly used by wireless devices.

In the United States, the 900 MHz band is a versatile frequency range that is utilized by various services, with the FCC overseeing its allocation and regulation.

In the European Union, the 868 MHz frequency is designated by ETSI as the Sub-Gig frequency.

In summary, if an application demands high data rates and more bandwidth in urban or densely populated areas where interference management is feasible, the 2.4 GHz frequency is a suitable choice. On the other hand, for applications requiring long-range communication and better obstacle penetration, particularly in rural or industrial settings with fewer regulatory constraints, a sub-GHz frequency (<1 GHz) is a better option.

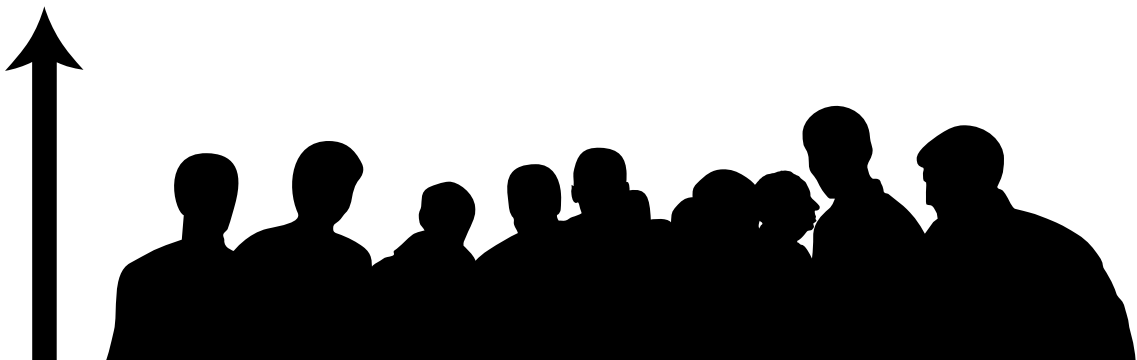
## Installation Recommendations:

With the many factors that affect and/or interrupt a wireless signal such as walls, glass, metal, objects, and people, it is highly recommended to:

- Install devices a minimum of 9.8 ft. (3m) above audiences and/or ground level where practical.
- Adjust the wireless antenna in a vertical upright position
- Position devices in direct line of sight of the controlling device

Careful planning and testing of the selected installation location is critical to ensure optimum and reliable wireless operation.

**9.8 ft (3m)  
Above Ground**



# 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 device to be managed, modified, and monitored remotely (hence, remote device management). This protocol is ideal for fixtures installed in locations that are 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 it's 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:

DEVICE ID	MODEL ID	RDM CODE
Open	1656	0x678

**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
0x0401	Lamp Hours
0x0403	Lamp State
0x0600	Pan Invert
0x0601	Tilt Invert
0x0500	Display Invert

# SYSTEM MENU

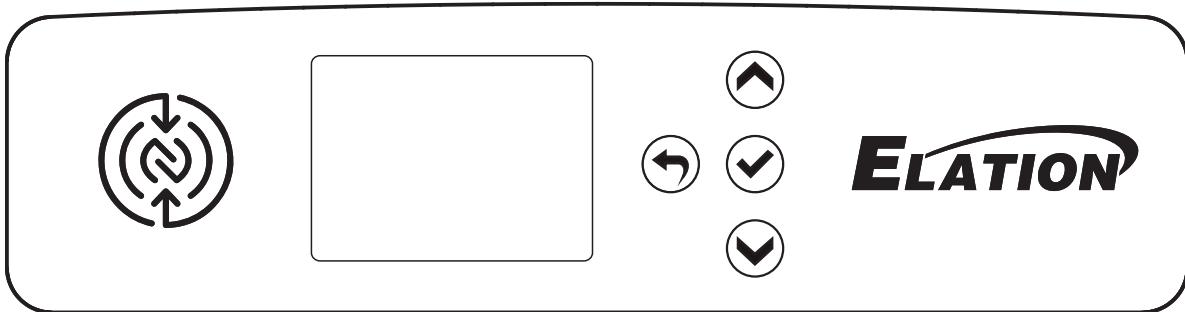
The fixture includes an easy to navigate system menu. The control panel display is located on the rear panel of the fixture (see image below) and provides access to the main system menu, where all necessary system adjustments are made to the fixture. The screen and its associated controls are disabled by default, but can be activated by the user via DMX, Aria, or NFC control. Once these controls have been activated, the user can navigate through the different functions and access the sub-menus with the DOWN and UP buttons. Press the ENTER button to select the option displayed, and use the DOWN and UP buttons to make adjustments. Pressing the ENTER button once more will confirm the setting. 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.**

## CONTROL PANEL LOCKOUT

The control keys can be configured to lock after a pre-set period of inactivity. This setting is switched off by default, but can be switched on and set to a value between 10 seconds and 5 minutes. To change this setting, use the control panel keys to navigate to Settings > Display > Screen Lock in the system menu, then use the UP and DOWN keys to select your desired value and press the ENTER button to confirm your selection. **To unlock the controls, press and hold the ENTER button for 10 seconds.** The screen will then display a 10-second countdown timer, and the controls will unlock when the countdown finishes.

## ARIA

**This fixture is equipped with Aria X2. Please note that Aria's wireless functions are switched off by default.** Activate Aria X2 and Bluetooth in the system menu to take advantage of the fixture's wireless feature set for wireless connectivity and over the air software updates.



## ARIA ACTIVATION AND SOFTWARE UPDATE

Although Aria settings may appear in the System Menu, the optional Aria wireless DMX feature is not activated and requires activation in the Service Menu. To activate Aria or update the Proteus Excalibur OPS fixture to the latest software, contact Elation Service:

**Elation Service USA:** Monday - Friday, 8:00 AM to 4:30 PM PST  
+1 323-582-3322 | support@elationlighting.com

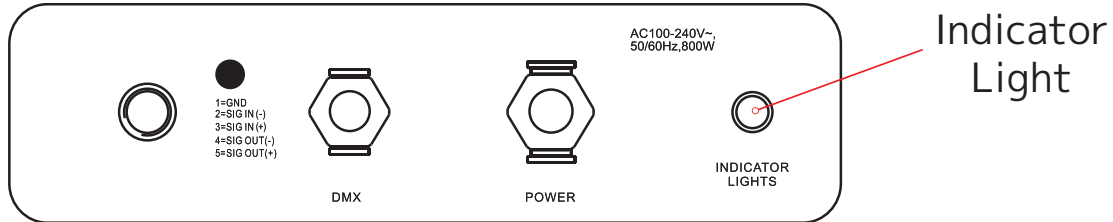
**Elation Service Europe:** Monday - Friday, 08:30 to 17:00 CET  
+31 45 546 85 63 | support@elationlighting.eu

**Note:** Aria wireless software updates are not currently available. Do not attempt to use Aria for updates without Elation's guidance. Ensure stable power (AC 100-240V, 50/60Hz) during any update process.

# SYSTEM MENU

## 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	OPTIONS / VALUES (Default Settings in <b>BOLD</b> )		
DMX	DMX Address	<b>001</b> - 512	
	DMX Mode	Standard	
	No DMX Status	<b>Hold Last</b>	
		Fade to Black	
		Sun Protection	
		Hibernation	Off, 1min - 99min ( <b>Default = 15min</b> )
	Protocol	Select Signal	<b>DMX</b>
			Aria In - DMX Out
			DMX In - Aria Out
	Aria	Enable Aria	<b>Off</b> / On
		Frequency	<b>2.4 GHz</b>
			Sub Gig US
			Sub Gig EU
		2.4 GHz Chan	<b>0</b> - 15
		Sub Gig Chan	<b>0</b> - 9
Enable Mesh		<b>Off</b> / On	
Enable Bluetooth		Off / <b>On</b>	
SKY MOTION	Mode	<b>Off</b> / On	
		Shape	Sky Tracer, Sky Tracer Offset, <b>Hollywood</b> , Hollywood Offset, Searchlight, Searchlight Offset, Diagonal, Diagonal Offset, Bounce, Bounce Offset, Tilt, Tilt Offset, Pan, Pan Offset, Orbit, Orbit Offset, Sweep, Sweep Offset
		STOP	
		Speed	
		Size	
		Color	<b>White</b> , Red, Green, Yellow, Purple, Light Green, Orange, Magenta, Cyan, White, Deep Red, Dark Amber, Pink, UV, CTB, CTO, Medium Blue
		Fixture ID	<b>Main</b> / 1 / 2 / 3 / 4
		Display Lock	Off / <b>On</b>

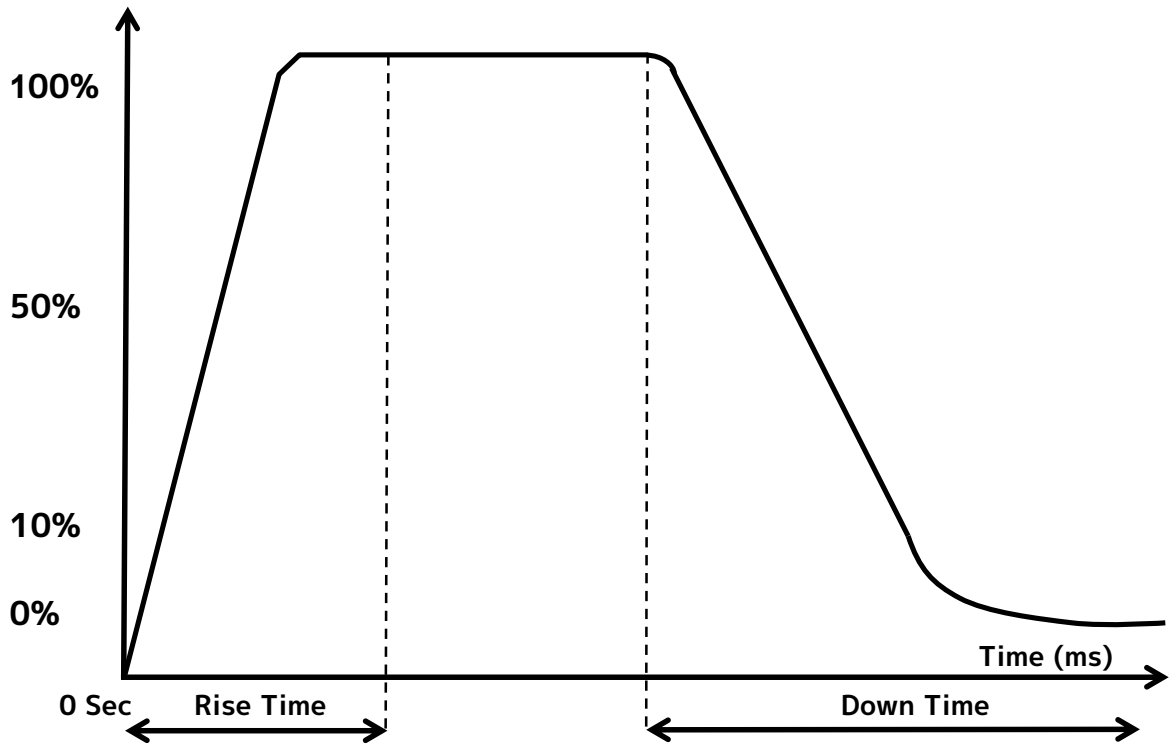
# SYSTEM MENU

MAIN MENU		OPTIONS / VALUES (Default Settings in <b>BOLD</b> )		
<b>CONTROL</b>	Manual Control	Dimmer 0% - <b>100%</b>		
		Pan		
		Tilt		
		...		
	Reset	All		
		Pan Tilt		
		Color		
		Gobo		
		Shutter		
		Others		
	Self Test	All		
		Dimmer		
		Movement		
		Color Mix		
		Gobo		
Beam				
<b>LAMP</b>	Strike	Off / On		
	Automatic	Off / <b>On</b>		
	Power	<b>560W</b>		
		430W		
		370W		
Max Humidity	20% - 100% ( <b>Default = 70%</b> )			
<b>SETTINGS</b>	Movement	Pan Invert	<b>Off</b> / On	
		Tilt Invert	<b>Off</b> / On	
		Pan Tilt Speed	Smooth / <b>Fast</b>	
		Pan Tilt Brake	<b>Smooth</b> / Fast	
		Pan Degree	<b>540</b> / 630	
		Pan Tilt Feedback	Off / <b>On</b>	
		Follow Spot Mode (default hidden)	<b>Off</b> / On / Close Menu	
	Color	CMY Speed	Smooth / <b>Fast</b>	
	Dimmer	Curve	Linear	
			Square	
			Square Inverse	
			<b>S-Curve</b>	
	Display	Screen Delay	10s - 5min (default = <b>1min</b> )	
		Screen Lock	<b>Off</b> , 10s - 5min	
		Auto Rotate	Off / <b>On</b>	
Activate LCD		Off / <b>On</b>		
Reset Defaults	Yes / No			

# SYSTEM MENU

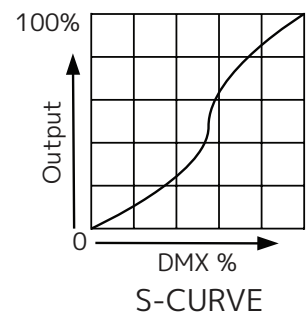
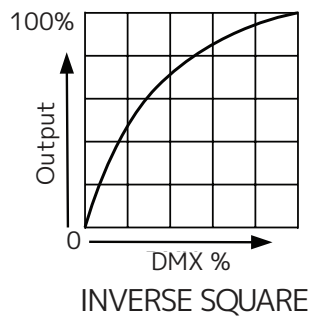
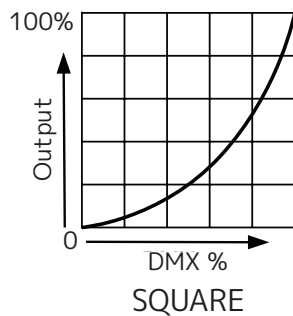
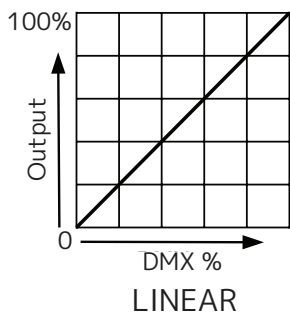
MAIN MENU	OPTIONS / VALUES (Default Settings in <b>BOLD&gt;</b> )		
<b>INFORMATION</b>	Time	Current Time	
		Total Run Time	
		Last Run Time	
		Lamp Time	
		Lamp Active Time	
		Lamp Idle Time	
		Lamp Life xx%	
	Temperature	Head	
		Base	
		Lamp	
	Humidity	Head	
		Base	
	Fan	Fan 1U (position)	
		Fan 1U (position)	
	DMX Values	Pan	
Tilt			
...			
Product IDs	RDM UID		
Error Logs	Fixture Errors		
Software Version	Vx.x		
<b>SERVICE</b> (Passcode = 050)	Maintenance Mode	Off / On	
	Vent Clean	Off / On	
	Calibration	Dimmer	
		Pan	
		Tilt	
		...	
	Focus Comp	Rot Gobo Base	
		Rot Gobo Single	Rot Gobo 1
			Rot Gobo 2
			...
		Fix Gobo Base	
		Fix Gobo Single	Fix Gobo 1
			Fix Gobo 2
			...
	Rot Gobo		
Fix Gobo			
Reset Last Run	Yes / No		
Reset Lamp Time	Yes / No		
Reset Error Logs	Yes / No		

# DIMMER MODES



Dimming Curve Ramp Effect	0 sec Fade Time		1 sec Fade Time	
	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

# DIMMER CURVES



# DMX TRAITS

Features subject to change without notice				
MODE/CHANNEL	DMX VALUES	FUNCTION	SNAP	DEFAULT VALUE
1		<b>Pan</b>		127
	000 - 255	Left to right		
2		<b>Pan Fine</b>		127
	000 - 255	Fine adjustment		
3		<b>Tilt</b>		127
	000 - 255	Forward to backward		
4		<b>Tilt Fine</b>		127
	000 - 255	Fine adjustment		
5		<b>Cyan</b>		0
	000 - 255	0% to 100%		
6		<b>Magenta</b>		0
	000 - 255	0% to 100%		
7		<b>Yellow</b>		0
	000 - 255	0% to 100%		
8		<b>Color</b>	X	0
	000 - 015	Open		
	016 - 022	Red		
	023 - 029	Green		
	030 - 036	Yellow		
	037 - 043	Purple		
	044 - 050	Light Green		
	051 - 057	Orange		
	058 - 064	Magenta		
	065 - 071	Cyan		
	072 - 078	Open		
	079 - 085	Deep Red		
	086 - 092	Dark Amber		
	093 - 099	Pink		
	100 - 106	UV		
	107 - 113	CTB		
	114 - 120	CTO		
	121 - 127	Medium Blue		
		<b>Scroll</b>		
	128 - 180	Clockwise, fast to slow		
	181	Stop		
	182 - 234	Counter-clockwise, slow to fast		
		<b>Random Slots</b>		
235 - 239	Fast			
240 - 244	Medium			
245 - 249	Slow			
250 - 255	Open			

# DMX TRAITS

Features subject to change without notice				
MODE/CHANNEL	DMX VALUES	FUNCTION	SNAP	DEFAULT VALUE
9		<b>Rotating Gobo</b>		0
	000 - 010	Beam Open		
	011 - 021	Spot Open		
	022 - 031	Rotating Gobo 1		
	032 - 041	Rotating Gobo 2		
	042 - 051	Rotating Gobo 3		
	052 - 061	Rotating Gobo 4		
	062 - 071	Rotating Gobo 5		
	072 - 081	Rotating Gobo 6		
	082 - 091	Rotating Gobo 7		
	092 - 101	Rotating Gobo 8		
	102 - 112	Gobo 1 Shake, slow to fast		
	113 - 123	Gobo 2 Shake, slow to fast		
	124 - 134	Gobo 3 Shake, slow to fast		
	135 - 145	Gobo 4 Shake, slow to fast		
	146 - 156	Gobo 5 Shake, slow to fast		
	157 - 167	Gobo 6 Shake, slow to fast		
	168 - 178	Gobo 7 Shake, slow to fast		
	179 - 189	Gobo 8 Shake, slow to fast		
		<b>Scroll</b>		
190 - 221	Clockwise, fast to slow			
222 - 223	Stop			
224 - 255	Counter-clockwise, slow to fast			
10		<b>Rotating Gobo Index / Rotation</b>		0
	000 - 127	Index Position		
		<b>Rotate</b>		
	128 - 189	Clockwise, fast to slow		
	190 - 193	Stop		
194 - 255	Counter-clockwise, slow to fast			
11		<b>Rotating Gobo Index / Rotation Fine</b>		0
	000 - 255	Index Position		
12		<b>Fixed Gobo 1</b>	X	0
	000 - 004	Open		
	005 - 009	Gobo 1		
	010 - 014	Gobo 2		
	015 - 019	Gobo 3		
	020 - 024	Gobo 4		
	025 - 029	Gobo 5		
	030 - 034	Gobo 6		
035 - 039	Gobo 7			

# DMX TRAITS

Features subject to change without notice				
MODE/CHANNEL	DMX VALUES	FUNCTION	SNAP	DEFAULT VALUE
12		<b>Fixed Gobo 1 (continued)</b>	X	0
	040 - 044	Gobo 8		
	045 - 049	Gobo 9		
	050 - 054	Gobo 10		
	055 - 059	Gobo 11		
	060 - 064	Gobo 12		
	065 - 069	Gobo 13		
	070 - 074	Gobo 14		
	075 - 079	Gobo 15		
	080 - 084	Gobo 16		
	085 - 087	Gobo 17		
	088 - 093	Gobo 1 Shake, slow to fast		
	094 - 099	Gobo 2 Shake, slow to fast		
	100 - 105	Gobo 3 Shake, slow to fast		
	106 - 111	Gobo 4 Shake, slow to fast		
	112 - 117	Gobo 5 Shake, slow to fast		
	118 - 123	Gobo 6 Shake, slow to fast		
	124 - 129	Gobo 7 Shake, slow to fast		
	130 - 135	Gobo 8 Shake, slow to fast		
	136 - 141	Gobo 9 Shake, slow to fast		
	142 - 147	Gobo 10 Shake, slow to fast		
	148 - 153	Gobo 11 Shake, slow to fast		
	154 - 159	Gobo 12 Shake, slow to fast		
	160 - 165	Gobo 13 Shake, slow to fast		
	166 - 171	Gobo 14 Shake, slow to fast		
	172 - 177	Gobo 15 Shake, slow to fast		
	178 - 183	Gobo 16 Shake, slow to fast		
184 - 189	Gobo 17 Shake, slow to fast			
	<b>Scroll</b>			
190 - 221	Clockwise, fast to slow			
222 - 223	Stop			
224 - 255	Counter-clockwise, slow to fast			
13		<b>Rotating Prism 1</b>	X	0
	000 - 050	Open		
	051 - 100	Beam Expander		
	101 - 150	8 Facet		
	151 - 200	4 Facet Linear		
201 - 255	8 Facet + 4 Facet			

# DMX TRAITS

Features subject to change without notice				
MODE/CHANNEL	DMX VALUES	FUNCTION	SNAP	DEFAULT VALUE
14		<b>Rotating Prism 1 Index/Rotation</b>		0
	000 - 127	Index Position		
		<b>Rotate</b>		
	128 - 189	Clockwise, fast to slow		
	190 - 193	Stop		
	194 - 255	Counter-clockwise, slow to fast		
15		<b>Rotating Prism 1 Index/Rotation Fine</b>		0
	000 - 255	Position fine adjustment		
16		<b>Rotating Prism 2 Index/Rotation</b>		0
	000 - 127	Index Position		
		<b>Rotate</b>		
	128 - 189	Clockwise, fast to slow		
	190 - 193	Stop		
	194 - 255	Counter-clockwise, slow to fast		
17		<b>Rotating Prism 2 Index/Rotation Fine</b>		0
	000 - 255	Position fine adjustment		
18		<b>Focus</b>		127
	000 - 255	Infinity to near		
19		<b>Focus Fine</b>		127
	000 - 255	Fine adjustment		
20		<b>Shutter/Strobe</b>	X	50
	000 - 031	Closed		
	032 - 063	Open		
	064 - 095	Strobe, slow to fast		
	096 - 127	Open		
	128 - 159	Pulse Effect		
	160 - 191	Open		
	192 - 223	Random Strobe, slow to fast		
	224 - 255	Open		
21		<b>Dimmer</b>		0
	000 - 255	Intensity, 0% to 100%		
22		<b>Dimmer Fine</b>		0
	000 - 255	Fine adjustment		
23		<b>Frost 1</b>		0
	000 - 255	Open to maximum		
24		<b>Frost 2</b>		0
	000 - 255	Open to maximum		

# DMX TRAITS

Features subject to change without notice				
MODE/CHANNEL	DMX VALUES	FUNCTION	SNAP	DEFAULT VALUE
25		<b>Pan/Tilt Speed</b>	X	0
	000 - 225	Maximum to minimum speed		
	226 - 235	Blackout by movement		
	236 - 255	Blackout by wheel changes		
26		<b>Control (Hold 5 sec)</b>	X	0
	000 - 019	Color change normal		
	020 - 039	Idle		
		<b>Lamp Control</b>		
	040 - 049	On		
	050 - 059	Off		
	060 - 066	Power 370W		
	067 - 073	Power 430W		
	074 - 079	Power 560W (default)		
		<b>Reset</b>		
	080 - 084	Fixture		
	085 - 087	Pan/Tilt		
	088 - 090	Color		
	091 - 093	Gobo		
	094 - 096	Dimmer		
	097 - 099	Other Features		
	100 - 164	Idle		
	165 - 166	CMY Smooth		
	167 - 168	CMY Fast (default)		
	169 - 170	Vent Cleaning On		
	171 - 172	Vent Cleaning Off		
	173 - 174	Hibernation Off		
	175 - 176	Hibernation		
	177 - 178	Sun Protection On		
	179 - 180	Sun Protection Off		
	181 - 190	Pan Tilt Smooth (default)		
	191 - 200	Pan Tilt Fast		
		<b>Dimmer Curve</b>		
	201 - 210	Linear		
	211 - 220	Square		
	221 - 230	Inverse Square		
	231 - 240	S-Curve (default)		
241 - 249	Idle			
250 - 251	Display Disable (default)			
252 - 253	Display Enable (1h)			
254 - 255	Idle			

# SOFTWARE UPDATES

## E-LOADER III



**ONLY QUALIFIED TECHNICIANS SHOULD PERFORM THIS FUNCTION!  
NOTE ALL MENU SETTINGS BEFORE UPDATING SOFTWARE!  
FIXTURE SOFTWARE CAN NOT BE DOWNGRADED!  
DOWNLOAD FIXTURE SOFTWARE TO PC ONLY! (NO MAC SUPPORT)  
PLEASE CONTACT ELATION SERVICE FOR FURTHER INFORMATION.**

An Elation E-Loader III can be used to update the fixture to the latest software. Please visit the E-Loader III product page at the Elation web site and download the product manual for step by step instructions.

<https://www.elationlighting.com/e-loader-iii-software-uploader>

To order the E-Loader III uploader and the updated software for your fixture, please contact Elation support for details.

**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**

# 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: Fixture is working normally.
- Blinking Yellow: Fixture is in the process of resetting, or is receiving a software update.
- Red: Fixture is experiencing an error.

# 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 transportation.

## 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 12 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 IP54 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.

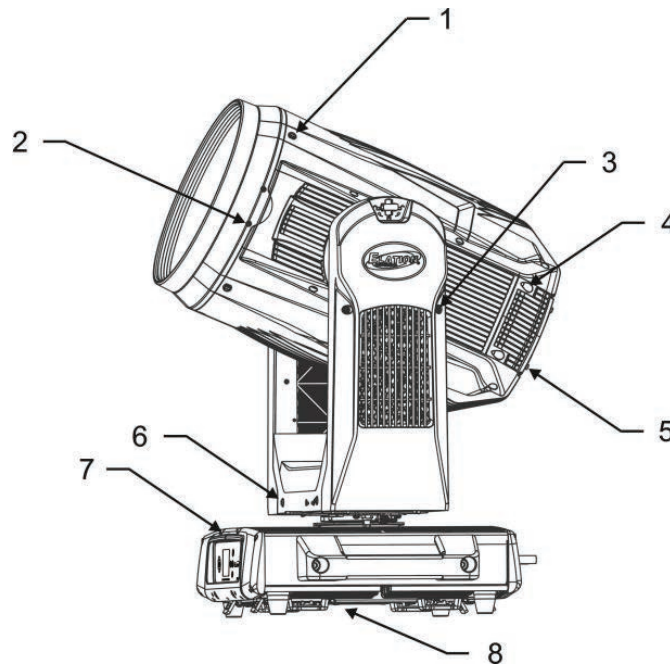
TORQUE DRIVERS (Recommended): UTICA TS-30 (shown)

ALTERNATE DRIVERS:

- Proto J6107A
- Wiha 28887



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

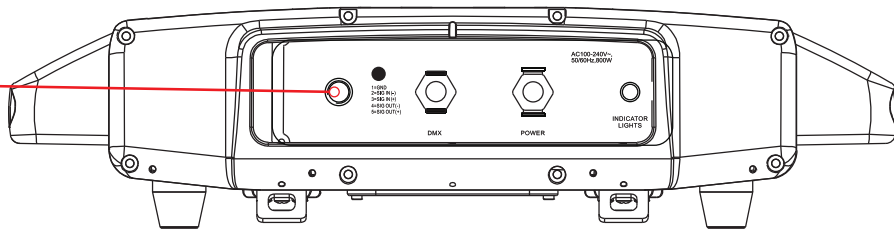


NO.	LOCATION	QUANTITY	TORQUE
1	Head Covers	20	12.2 ± 1.2 lb-in (14.0 ± 1.4 kg-cm)
2	Lens Frame	4	4.3 ± 0.4 lb-in (5.0 ± 0.5 kg-cm)
3	Arm Upper Covers	4	5.2 ± 0.5 lb-in (6.0 ± 0.6 kg-cm)
4	Head Rear Cover	4	10.4 ± 0.9 lb-in (12.0 ± 1.0 kg-cm)
5	Lamp Plate	4	12.2 ± 1.2 lb-in (14.0 ± 1.4 kg-cm)
6	Arm Lower Covers	4	5.2 ± 0.5 lb-in (6.0 ± 0.6 kg-cm)
7	Control Panel	16	12.2 ± 1.2 lb-in (14.0 ± 1.4 kg-cm)
8	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. This fixture features two air valves: one on the front of the unit beside the lens, as well as one on the rear panel beside the control panel. Air valve locations are 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>

Air Valve



**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:** IP66 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 valves 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	Low Pressure Limit	High Pressure Limit	Hold Time
Vacuum Test	-6.53 psi (-45.00 KPa)	-7.98 psi (-55.00 KPa)	10s
Pressure Test	3.63 psi (25.00 KPa)	4.35 psi (30.00 KPa)	10s

# ERROR CODES

ERROR CODE	DESCRIPTION
Ballast_Fault_1	Ballast fault 1
Ballast_Fault_2	Ballast fault 2
Ballast_Fault_3	Ballast fault 3
Ballast_Fault_4	Ballast fault 4
Ballast_Fault_5	Ballast fault 5
Ballast_Fault_6	Ballast fault 6
Ballast_Fault_7	Ballast fault 8
Ballast_Fault_Other	Ballast other fault
BallastWasOverHot	Ballast temperature too high
Accelerometer Err	Accelerometer sensor fault
Ballast_Uart_Fail	Ballast communication failure
Pan Reset Fail	Pan motor reset failure
Tilt Reset Fail	Tilt motor reset failure
ShiftFanFault	3U01 shift fan error
Base Temp High	Base temp has exceeded 90°C
Lamp Temp High	Lamp temp has exceeded 120°C
Base Temp Fault	Base thermal sensor abnormal
Lamp Temp Fault	Lamp thermal sensor abnormal
1UBase_Fan1	1U base fan 1 error
1UBase_Fan2	1U base fan 2 error
3UHead_Fan1	3U head fan 1 error
3UHead_Fan3	3U head fan 2 error
4UHead_Fan1	4U head fan 1 error
5UHead_Fan1	5U head fan 1 error

ERROR CODE	DESCRIPTION
7UHead_Fan1	7U head fan 1 error
7UHead_Fan2	7U head fan 2 error
7UHead_Fan3	7U head fan 3 error
10UHead_Fan1	10U head fan 1 error
10UHead_Fan2	10U head fan 2 error
11UArm_Fan1	11U arm fan 1 error
11UArm_Fan2	11U arm fan 2 error
11UArm_Fan3	11U arm fan 3 error
11UArm_Fan4	11U arm fan 4 error
11UArm_Fan5	11U arm fan 5 error
11UArm_Fan6	11U arm fan 6 error
11UArm_Fan7	11U arm fan 7 error
11UArm_Fan8	11U arm fan 8 error
2U01 Com Fail	2U01 PCB comms failure
3U01 Com Fail	3U01 PCB comms failure
4U01 Com Fail	4U01 PCB comms failure
5U01 Com Fail	5U01 PCB comms failure
6U01 Com Fail	6U01 PCB comms failure
7U01 Com Fail	7U01 PCB comms failure
8U01 Com Fail	8U01 PCB comms failure
9U01 Com Fail	9U01 PCB comms failure
10U01 Com Fail	10U01 PCB comms failure
11U01 Com Fail	11U01 PCB comms failure
Excess Humidity	Humidity level exceeds 85%
Humidity Warning	Humidity level has reached "Max On At Humidity" threshold as defined in system menu

# SPECIFICATIONS

## SOURCE

Philips MSD Platinum 500L Flex 550W Lamp  
Variable Lamp Power  
Automated Lamp Hibernation with Instant Recovery  
Up to 4,000 Hour Lamp 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

0.8° Beam Angle  
1.6° Field Angle  
3.5° Beam Expander Lens  
20,000 Total Lumen Output  
7000K, CRI 77+  
335000 LUX @15m (31100 fc @ 49ft)  
7500 LUX @100m (700 fc @ 330ft)

## EFFECTS

Beam Expander  
Focus  
Dual Rotating Prisms and Prism Macros  
Dual Frost Filter Hybrid Wash Effect  
High Speed Mechanical Shutter and Strobe  
Pan Angle: 540°/630°  
Tilt Angle: 250°

## COLOR

16 Dichroic Colors Including CTO and UV  
Full CMY Color Mixing

## GOBOS

8 Interchangeable Rotating / Indexing Glass Gobos  
17 Static-Stamped Metal Gobos

## CONTROL / CONNECTIONS

Single DMX Mode (26ch.)  
Sky Motion Standalone mode for searchlight and skytracker animations  
16-bit Pan, Tilt, and Dimming Control  
Motorized Focus  
DMX, RDM Protocol Support  
NFC Support  
4 Button Touch Control Panel  
Full Color 180° Reversible LCD Menu Display  
Hibernation Mode (Power Save)  
10' (3m) DMX In/Out combo cable  
10' (3m) Power cable

## SIZE / WEIGHT

Length: 19.4" (493mm)  
Width: 15.1" (383mm)  
Vertical Height: 27.4" (697mm)  
Center Spacing: 23.3" (592.8mm)  
Weight: 108lbs (49kg)

## EXTERIOR FINISH

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

## ELECTRICAL / THERMAL

AC 100-240V - 50/60Hz  
800W Max Power Consumption  
-4°F to 113°F (-20°C to 45°C)

## APPROVALS / RATINGS

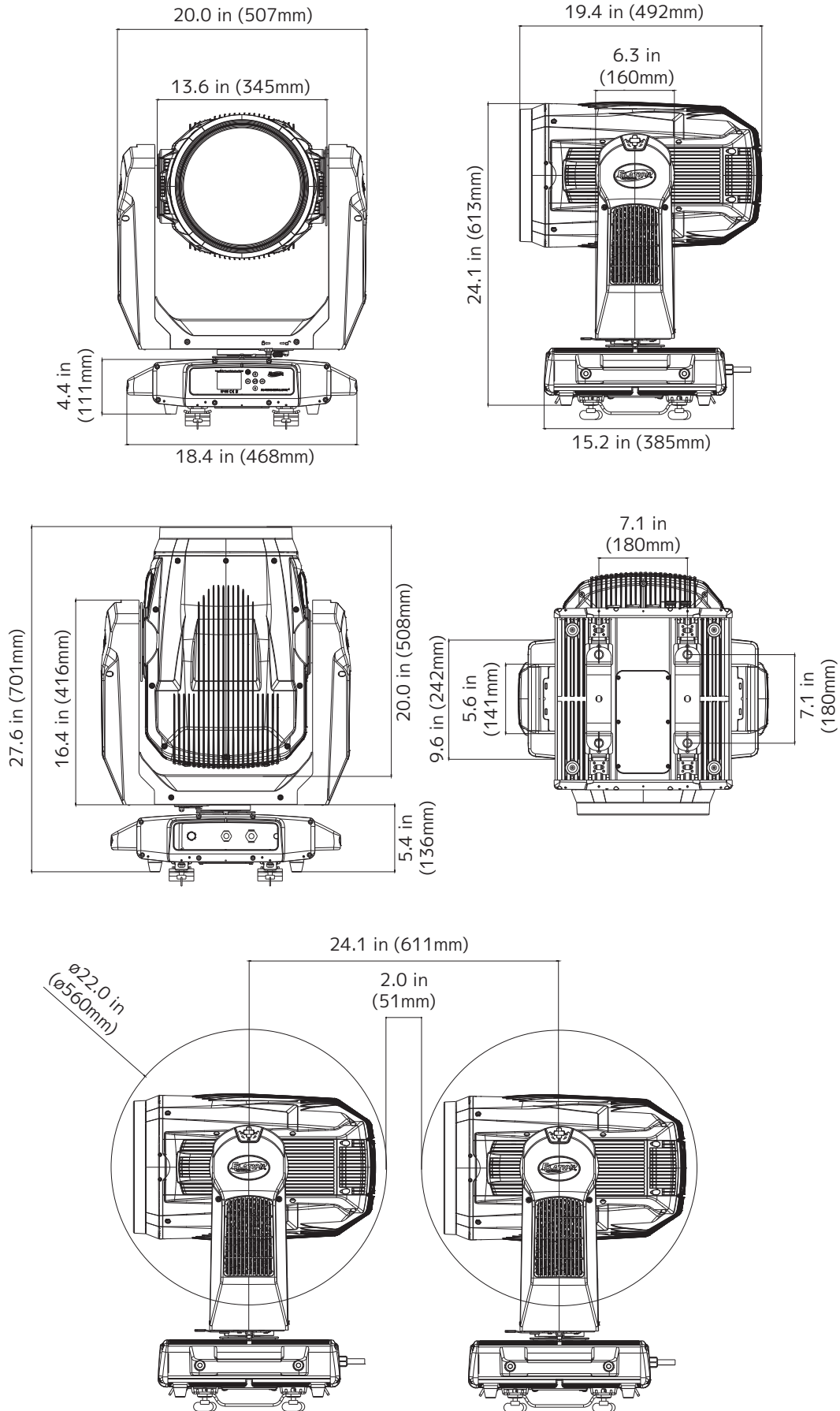
CE | cETLus | IP66 | FCC | UKCA



Specifications and documentation subject to change without notice.

# DIMENSIONAL DRAWINGS

Drawings not to scale



## OPTIONAL ACCESSORIES

ORDER CODE	ITEM
PHILIPS MSD PLATINUM 500L FLEX 550W LAMP	ZB-MSD-P500-FLEX
TRIGGER CLAMP	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 to an electrical outlet on a circuit different from which the radio receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### Energy Saving Matters (EuP 2009/125/EC)

Saving electric energy is a key to help protecting the environment. Please turn off all electrical products when they are not in use. To avoid power consumption in idle mode, disconnect all electrical equipment from power when not in use. Thank you!



