



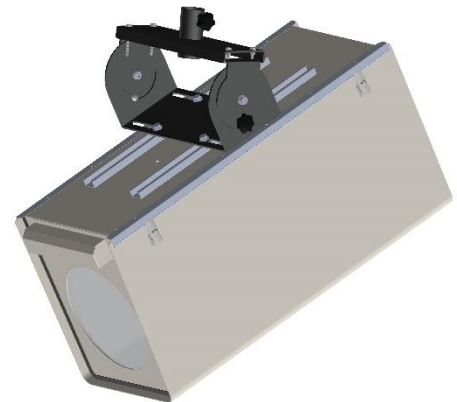
# User Manual

## Thunder Lighting Enclosures

Revision 2.1

October 2018

© Tempest Lighting, Inc.



## Contents

1	Introduction .....	4
2	Installation .....	5
	Planning .....	6
	Mounting the Thunder Enclosure.....	6
	Tempest XYZ Mount.....	9
3	Wiring .....	11
	Electrical Preparation .....	11
	Connect AC Wiring to MiniDEC Controller .....	12
4	Mounting the Luminaire .....	14
5	Connect Luminaire power and DMX .....	16
6	Operation.....	17
7	Routine Maintenance .....	18
8	Troubleshooting.....	19
9	Limited Warranty .....	20
10	Tempest Product Support. ....	22



## Declaration of Conformity

CERTIFICATE AND DECLARATION OF CONFORMITY  
FOR CE MARKING

Tempest Lighting, Inc.

11845 Wicks Street, Sun Valley, CA 91352, USA

t: +1 818 787 8984 f: +1 818 252 7101 e: info@tempest.biz

www.tempest.biz

Tempest Lighting, Inc. declares that their

Thunder Lighting Enclosure Series 66/67/68xx.xx

complies with the Essential Requirements of the following EU Directives:

Low Voltage Directive 2014/35/EU Test Report 60065-6500-01-1

Electromagnetic Compatibility Directive 2014/30/EU Test Report 61000-6500-03-1

and further conforms with the following EU Harmonized Standards:

EN 60065 : 2014/AC:2016 Test Report 60065-6500-01-16

EN 60529:1991/AC:2016-12 Test Report 60529-6500-02-16

EN 61000-6-3:2007+A1:2011 Test Report 61000-6500-03-14

EN61000-6-1:2007 Test Report 61000-6500-03-14

EN55015:2019/A11:2020 Test Report 61000-6500-03-14

**Dated:** 21<sup>st</sup> September 2020

Position of signatory: President

Name of Signatory: Tim Burnham

Signed below:

on behalf of Tempest Lighting, Inc.



# 1 Introduction

Thank you for purchasing the Thunder enclosure. It will serve you for many years, protecting your stage spotlights and effects projectors from the elements.

## Products Covered By this Manual

- 6690 Thunder, Rosco X-Effect
- 6600 Thunder
- 6700 Thunder Stretch
- 6800 Thunder X-Stretch

## Using This Manual

Please read this manual in its entirety before starting work. All the information contained is important, and should be read carefully before proceeding. Heed all warnings and advisories.

### Icon Key:

- ① Valuable information
- ⚡ Electrical Warning
- 🚫 Safety Information

## 2 Installation

### Safety and Warnings

These warnings are for your protection. Failure to comply may result in serious injury or death. Tempest Lighting, Inc. assumes no responsibility for damages or injury incurred by misuse or mishandling of product.

- ⚠ **Do not** attempt to install or operate the enclosure before fully reading and understanding this manual
- ⚠ **Never** allow anyone who has not read this manual to open the enclosure or perform maintenance on the equipment within.
- ⚠ **Never** leave the enclosure unattended when open.
- ⚠ **Always** make sure all bolts and latches are tight and safety locks are in place after performing any form of maintenance on the unit.
- ⚡ **Do not** open any electrical boxes until power has been shut off to all supply lines to the enclosure (including the one powering the equipment).
- ⚡ **Do not** open the enclosure in wet weather.

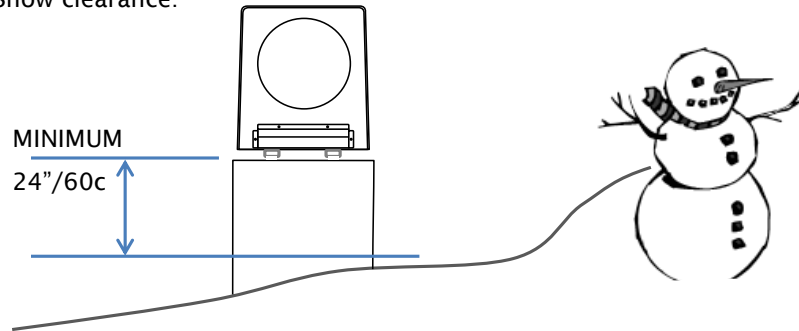
### Tools and Equipment

To install the enclosure, you will need the following items:

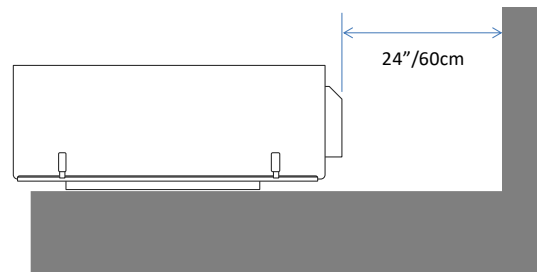
- ① Crescent wrench
- ① Phillips screwdriver
- ① Terminal screwdriver
- ① Proper wiring installation equipment (for line power and signal wiring)
- ① Any equipment listed in the equipment manufacturer's equipment-specific installation directions

## Planning

- ① Snow clearance:



- ① Allow at least 24"/60cm clearance behind enclosure for access and ventilation.



- ① Enclosures should be powered during daylight hours to prevent overheating under hot sun.

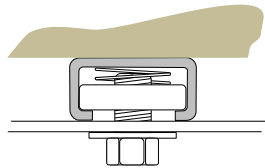
- ⚠ **Warning:** In most cases this installation cannot be safely completed by 1 person.

## Mounting the Thunder Enclosure

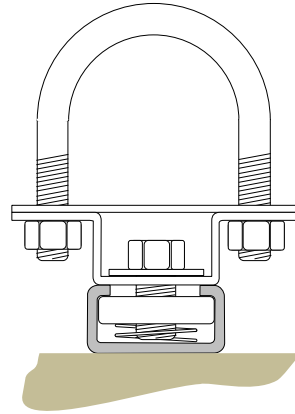
- ① The Thunder enclosure must be mounted on or under a solid structure rated for the weight of the enclosure, the equipment inside it, and at least one person.
- ① Snow - if installed outside in cold regions, the bottom of the Thunder enclosure must be at least 2' (60cm) above maximum height of any snowfall or drifting snow, subject to local conditions. If snow is not a consideration, then enclosure may sit on the ground as long as proper drainage is provided.
- ① LEAVE ADEQUATE CLEARANCE BEHIND ENCLOSURE FOR WIRING AND VENTILATION
- ① Tempest Lighting recommends the use of stainless steel mounting hardware.

The Thunder enclosure is provided with a pair of Unistrut channels on the enclosure base, for mounting to your structure. You may use standard Unistrut accessories, or purchase either of the mounting kits available from Tempest Lighting – four kits are recommended per enclosure.

### Mounting Kits



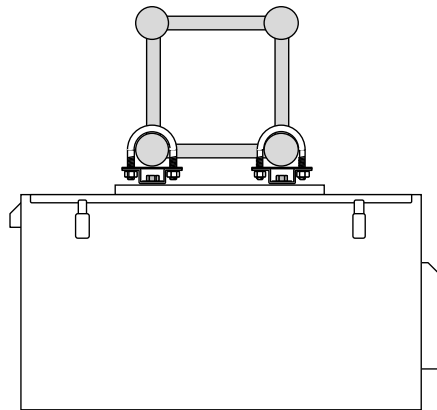
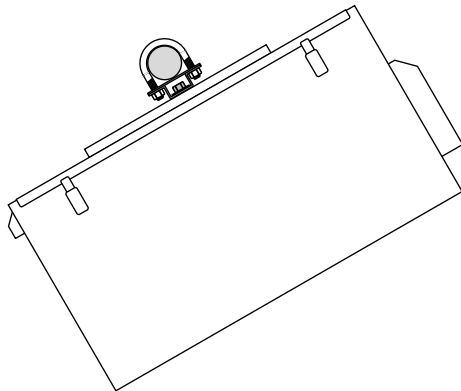
**4900.MB** Stainless Steel Unistrut channel nut, bolt and washer. Four required per enclosure.



**4900.MC** Stainless Steel Unistrut channel nut, bolt and pipe clamp, for pipes 1.5" (38mm) to 2" (50mm) OD. Four required per enclosure.

**4925.MC** Stainless Steel Unistrut channel nut, bolt and pipe clamp, for pipes 2" (50mm) to 2.5" (64mm) OD. Four required per enclosure.

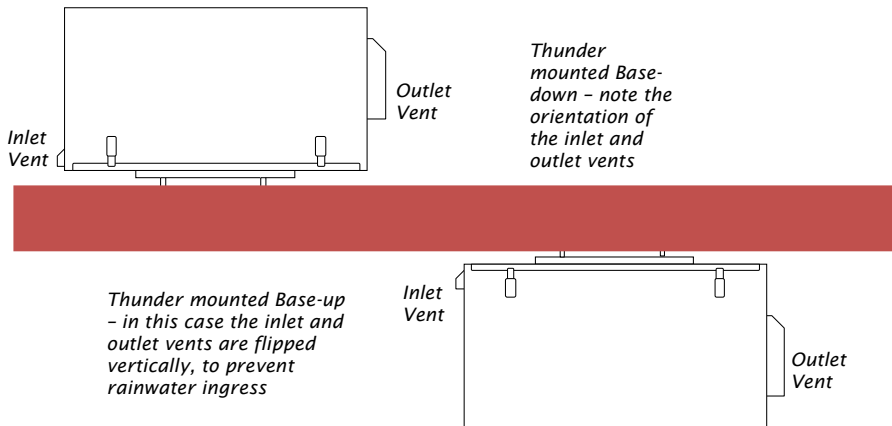
### Mounting on a Pipe or Truss



Use two clamps to mount to a pipe, or to mount from a truss at an angle.  
Use four clamps to mount parallel to a truss.

## Mounting Base-down and Base-up

All Thunder enclosures are designed to be mounted base-down, on a solid structure, using Unistrut mounting hardware. They may also be suspended from an overhang, ceiling or truss, using the same hardware.




---

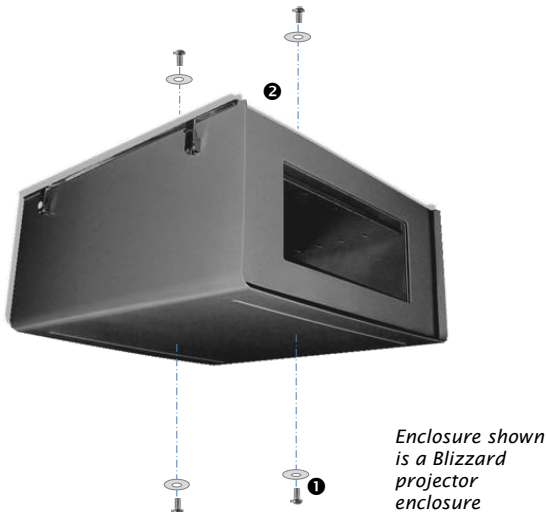
*It is the responsibility of the installer to ensure that all mounting points are secure and conform to local safety regulations. Tempest Lighting Inc. accepts no responsibility for damage or injury arising from inappropriate or unsafe installation.*

---

## Drainage

Drainage holes are provided in the top and bottom of the enclosure. The holes in the cover (top) are plugged with 10-32 screws and sealing washers.

Important - Drainage in base-up installations:

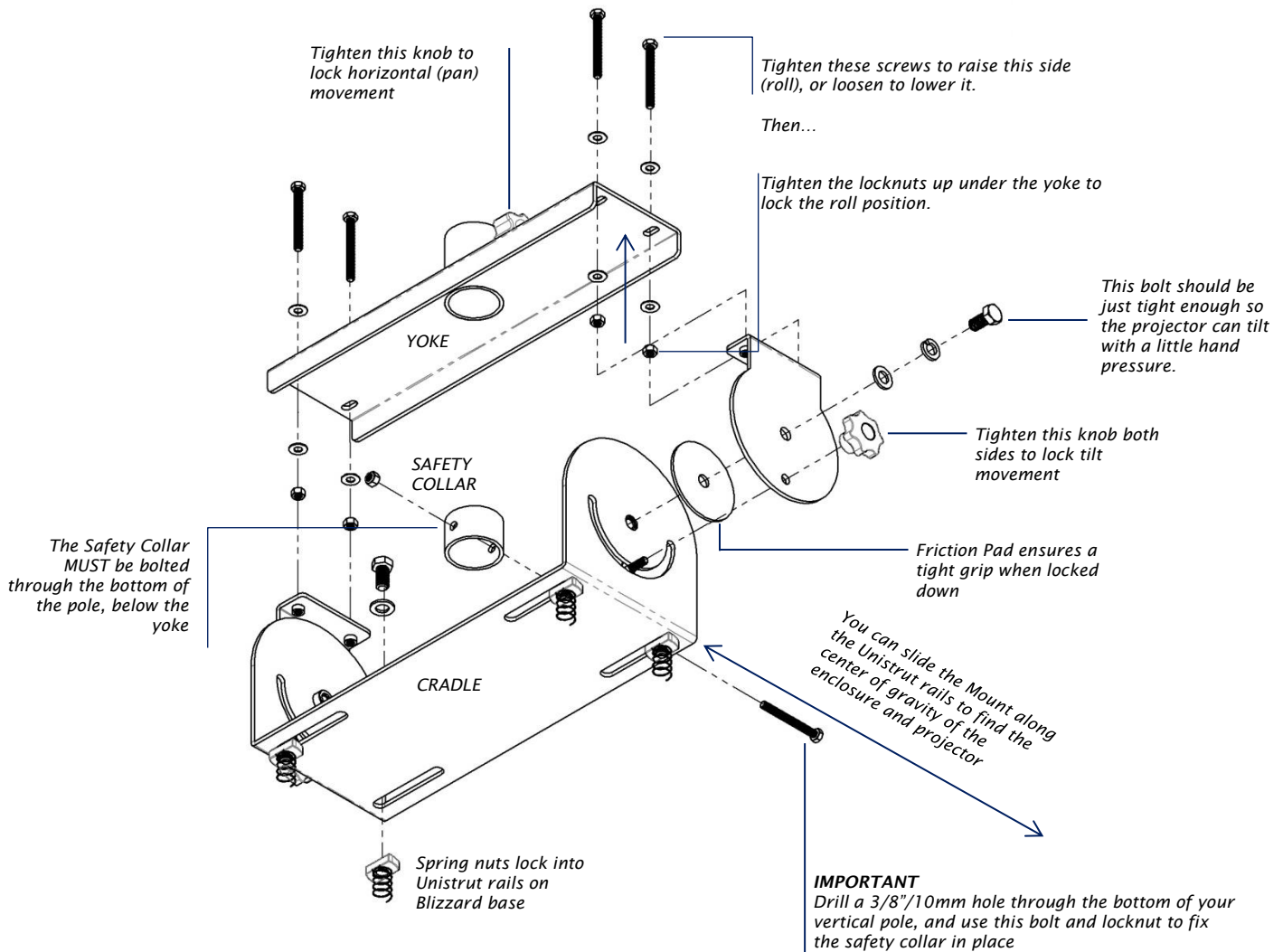


- 1 Remove the drainage plug screws from the cover ❶
- 2 Replace in the corresponding holes in the base ❷



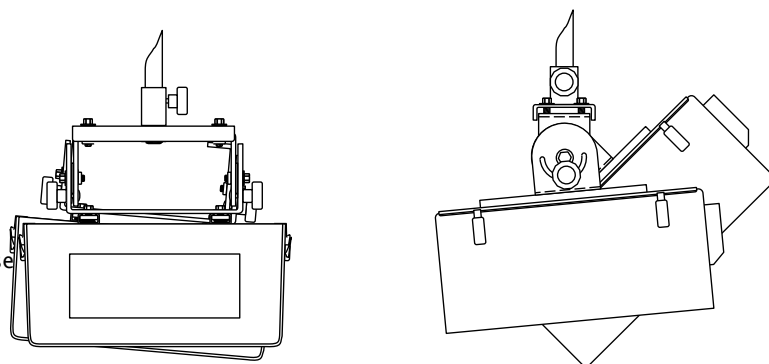
## Tempest XYZ Mount

All Thunder enclosures may be mounted using the adjustable Tempest XYZ mount (part # 6500.XYZ). The XYZ Mount is designed to mount on the bottom of a piece of 1½" schedule 40 pipe (48-50mm Outside Dimension). To mount on a horizontal truss or pipe, use 6500.XYZ.T.



Part #: 6500.XYZ  
Adjustment Range:  
Vertical: +60° to -90°  
Horizontal: 360°  
Roll: ± 10°

Thunder Enclosure Use





**Important**

- Installation must conform to all local safety norms and building codes. Tempest Lighting, Inc will accept no responsibility for incorrect or unsafe installation.
- Installer must drill the bottom of the pole and install the safety bolt provided
- The vertical pole must be securely mounted and braced to prevent movement

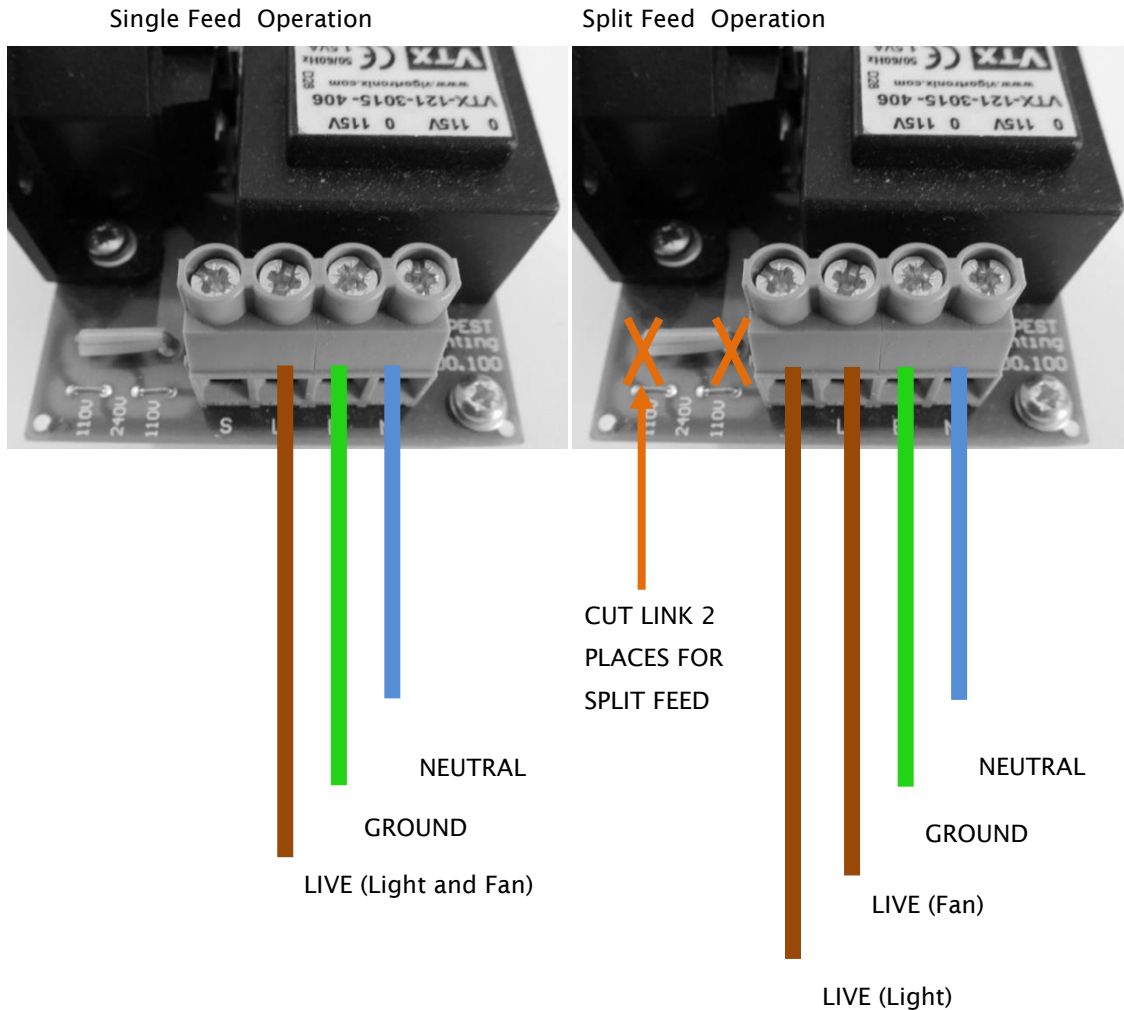
## 3 Wiring

### Electrical Preparation

⚡ All electrical work must be carried out by a properly licensed electrician. Failure to observe this point will void the factory warranty for the Tempest Enclosure and possibly the equipment housed inside.

1. Before starting work, switch off power to the branch circuit, carefully following lockout and tag-out procedures. Failure to do so could cause serious injury or death.
2. Your Thunder enclosure is supplied fitted with two cable entry points, for Power and DMX signal cables.
3. The cable entries are suitable for use with standard conduit fittings. US size ½", international 20mm. Tempest recommends the use of flexible, outdoor-rated conduit for the last few feet (1m) to the enclosure.
4. All junction boxes must be installed in accordance with local electrical codes and should be located near the permanent installation of the enclosure. Each junction box requires a length of flexible conduit, long enough to reach from the junction box to the enclosure conduit fittings. Leave slack for positioning of enclosure, and enough space behind the enclosure for ventilation.
5. The AC supply must be protected by a fuse or circuit breaker of a rating suitable for the equipment inside the enclosure plus 50W
6. Thunder Enclosure Power Requirement:
9. The user may connect the fan and the equipment to the same switched supply, or run them separately, according to need (see below).
10. Note that for temporary installation, the conduit fittings may be replaced with outdoor-rated cable entry glands, at the user's discretion.

## Connect AC Wiring to MiniDEC Controller



### Single Feed Wiring

Feed the controller with a single maintained supply. The light must be switched off when needed using the lighting control system.

Thunder ships configured for single feed wiring operation.

DO NOT CONNECT SINGLE FEED WIRING TO THE OUTPUT OF A DIMMER.

### Dual Feed Wiring

You may switch off the supply to the light without interfering with the cooling fan operation. Connect feeder wires as shown, **AND CUT THE COPPER LINK ON THE MiniDEC BOARD IN TWO PLACES, AS SHOWN**. Fan circuit should be maintained 24/7.

### **MiniDEC Operation**

The MiniDEC controller monitors current going to the light fixture inside the Thunder enclosure, and also heat inside the enclosure. When it detects that the light is on and/or the internal temperature is getting warm, MiniDEC runs the enclosure fan. For best results, enclosures must be connected to live power at all times.

### **DMX Wiring**

A separate conduit entry is provided for DMX wiring. Pull DMX cables into enclosure and terminate, following instructions provided by the luminaire manufacturer.

## 4 Mounting the Luminaire

*⚠ If the Thunder enclosure is suspended from a ceiling or overhang, this must be done by two people.*

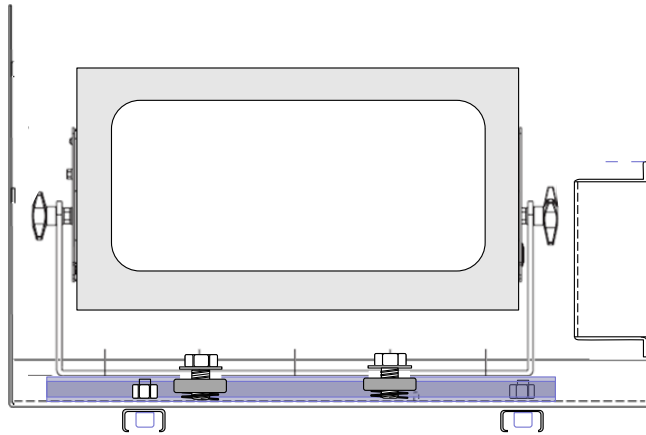
1. Place the equipment on the equipment tray. If hanging the equipment upside-down, one person must hold the equipment in position, while another person secures it in place. Ensure that the equipment is securely held before proceeding further.



2. For most theatrical lights, adjust the yoke to the shortest available setting before installing in the enclosure, as shown here.
3. Move the Unistrut Channel nut into position, to line up with the fixture yoke.
4. Bolt through the yoke into the channel nut and tighten firmly in place, using the hardware provided.

**NOTE: Mounting the Atomic Strobe in the 6660 Enclosure**

The Atomic Strobe enclosure has its window on the **SIDE** of the enclosure, and the strobe faces sideways, mounted on two M12 spring-bolts provided.



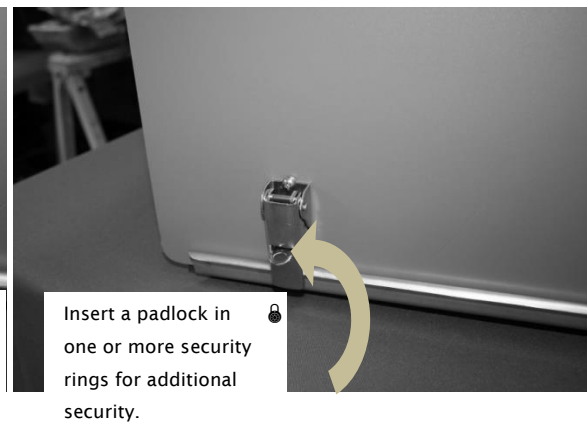
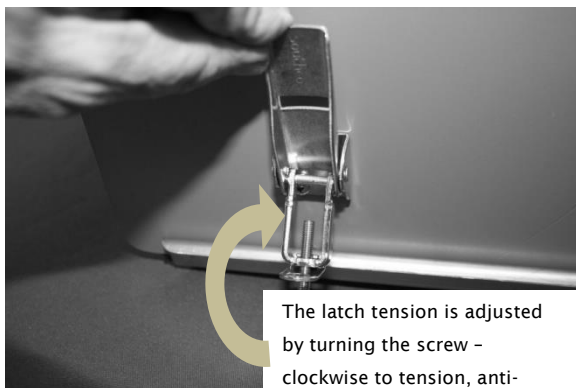
Adjust the position of the spring bolts in the Unistrut to correspond with two of the mounting holes in the Atomic Strobe yoke.

## 5 Connect Luminaire power and DMX

1. Connect the DMX IN and OUT luminaire connections as specified by the luminaire manufacturer
2. Connect the luminaire power cable to the IEC outlet provided on the MiniDEC controller. If necessary, shorten the length of the luminaire power cord and install the rewirable IEC plug provided with your Thunder enclosure.
3. Test all luminaire functions.
4. Replace MiniDEC Cover.
5. Replace enclosure cover and secure all latched tightly.



### Closing the Thunder Enclosure





## 6 Operation

While there are no specific operational actions required for normal use, the following points should be kept in mind.

- ① The enclosure should be connected to a live circuit at all times except when maintenance is being carried out.
- ① Unless the enclosure or equipment is undergoing routine maintenance, the enclosure should be closed and securely latched at all times.
- ① Only authorized personnel should open the enclosure (see maintenance warnings in the next chapter).

## 7 Routine Maintenance

It is very important to perform routine maintenance on both the enclosure and the equipment inside it. Failure to do so may reduce lifetime for both the enclosure and the equipment.

### Note

Maintenance schedules depend on location and environment. The intervals given here are general minimum guidelines. It is up to the user to judge whether maintenance should be carried out more frequently. We recommend doing these tasks no less often than mentioned here.

### Safety

⚠ As the enclosure is a powered unit with moving parts, it is necessary to keep safety in mind while performing routine maintenance. Although maintenance can be performed while the enclosure is powered, it is safer to carry it out with the power disconnected with proper lockout and tag out procedures followed.

⚠ Be aware that once the enclosure has had power applied to it, the fan will start to turn. Make sure that your hands are clear of the fan before applying power to the enclosure.

⚠ Only authorized personnel should perform maintenance on the enclosure or equipment

⚠ Do not service the unit in the rain or other adverse weather conditions (snow, sleet, high winds, etc.).

### Inspection Checklist: - Every Three (3) Months

- Glass should be clean and free of cracks
- Enclosure should be free of debris both inside and out
- Bolts and tie-down straps should be tight
- Rubber seals should be in good condition. Check seals inside and out for gaps.
  - Fan should be functioning and not making excessive noise
  - Filters should be clean

### Air Filter - Every Three (3) Months

The air filter should be removed and cleaned on a regular basis. To remove filter, pull it directly out of the intake vent. The filter can be cleaned by running water from a hose and do not require any special solution.

To reinstall, carefully push filter back into the cowl molding.

### Case - As Needed

The outside of the case should be cleaned as needed. The case should be cleaned with a wet cloth and mild detergent (if necessary). Do not use a direct spray from a hose to clean the case.

### Equipment

Review the manufacturer's instructions for proper maintenance of your Luminaire. Remember, the enclosure simply protects the equipment inside it and is not a substitute for regular maintenance.

## 8 Troubleshooting

This is a guide to the general symptoms, problems, and solutions that may occur during the usage of your enclosure. However, it is important to remember that problems may occur within the equipment itself and these must also be considered.

Equipment does not have power.

Check power supply wiring and voltage.

Fan is not spinning

Fan cords may have become disconnected. Check connections between fan and cord.

Fan may be obstructed. Shut off power to enclosure and check for obstructions. Turn power back on to see if fan will start spinning. If fan does not turn then enclosure is not receiving power.

Turn off all power and check wiring. If the wiring is correct, contact technical support.

Equipment does not have power.

Check equipment power switch. If switch is on, check wiring and supply switch/circuit breaker.

Equipment turns on and off repeatedly over short span of time.

Check that vent areas and airways are clear. If so, ambient temperature may be too high, or equipment may have internal problem.

Excessive water in enclosure.

Seal leak. Repair with silicone sealant, or replace seal.

## 9 Limited Warranty

### INSPECTION/WARRANTY/RETURNS.

A. Customer, at its sole expense, shall inspect all Goods promptly upon receipt and accept all Goods that conform to the specifications or catalog. All claims for any alleged defect in or failure of the Goods or Seller's performance to conform to the Contract, capable of discovery upon reasonable inspection, must be set forth in a written rejection notice detailing the alleged non-conformity, and be received by Seller within thirty (30) calendar days of Customer's receipt of the Goods. Failure by Customer to notify Seller of the alleged non-conformity within thirty (30) days will be conclusive proof that the Goods have been received by Customer without defects or damage, and in the quantities specified on the bill of lading and shall constitute an irrevocable acceptance of the Goods and a waiver of any such claim in connection with the Goods.

B. Seller warrants to Customer only that the Goods will be free from defects in material and workmanship at the time of delivery and, subject to the exceptions and conditions set forth below, for the following period (the "Warranty Period"): twelve (12) months from the date of shipment by Seller. Seller may provide additional years of warranty coverage beyond 12 month, at the rate of 2.5% of the net sale price per year, up to a total of four additional years' coverage beyond the standard 12 month warranty period. Seller will remedy a defect as set forth in paragraph 7 D, below, (the "Warranty"). The Warranty is subject to each of the following exceptions and conditions:

1. Customer must promptly (and in all events within the Warranty Period) notify Seller of any alleged defect in a written notice (the "Notice") which shall set forth the quantity, catalog number, finish, original purchase order number, Seller's invoice number on which Goods were originally billed and a statement of the alleged defect, along with digital photographs showing such defects where feasible.
2. The Warranty shall not apply: (i) to any claimed defect that was capable of discovery upon reasonable inspection and deemed to be waived under paragraph A, above; (ii) to any Goods that have been subject to misuse, abnormal service or handling, or altered or modified in design or construction; (iii) to any Goods repaired or serviced by any person other than Seller's authorized service personnel or to Goods installed other than according to installation instructions, or (iv) with respect to normal wear and tear.
3. Seller makes no Warranty with respect to parts or components that are not the product of Seller, and specifically makes no warranty whatsoever for equipment housed inside enclosure products manufactured by Seller.
4. The Warranty is Seller's exclusive warranty with respect to the Goods. Seller makes no warranties, guarantees or representations, express or implied, to Customer except as set forth in this section. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR USE OR FOR A PARTICULAR PURPOSE, ARE HEREBY EXCLUDED AND DISCLAIMED.



C. Seller will accept the return of Goods properly rejected under paragraph A, above, or as to which Notice of an alleged breach of Warranty has been timely given and such Goods may be returned to Seller, freight prepaid, but only upon Customer's receipt of Seller's written return material authorization ("RMA") and shipping instructions. The RMA shall be void if the Goods are not received within 45 days after issuance of the RMA. No deduction or credit in respect of any rejected or returned Goods shall be taken until Customer has received Seller's further written deduction or credit/authorization following Seller's inspection to confirm nonconformity or defect. Seller will charge to Customer any and all costs incurred by Seller in connection with the handling, shipping, inspection and disposition of any returned Goods that are determined by Seller not to have been nonconforming upon Delivery or as to which the warranty hereunder is not applicable.

D. UPON ANY PROPER RETURN PURSUANT TO PARAGRAPH C, ABOVE, WHETHER IN CONNECTION WITH A REJECTION OF GOODS OR AN ALLEGED BREACH OF WARRANTY AND BASED UPON THE CONDITIONS SET FORTH IN THIS PARAGRAPH 7, SELLER AGREES THAT IT WILL, AS THE SOLE AND EXCLUSIVE REMEDY UNDER THE CONTRACT OR OTHERWISE, FOR ANY NONCONFORMITY OR BREACH OF WARRANTY, AND AT SELLER'S SOLE ELECTION: (i) REPAIR SUCH GOODS; OR (ii) REPLACE SUCH GOODS.



## 10 Tempest Product Support.

Step 1: First contact your local Dealer for support. Your dealer is best placed to respond quickly to your needs.

Step 2: If your dealer is unable to answer your questions please contact our Sales Office:

Tempest Lighting, Inc.

11845 Wicks Street

Sun Valley, CA 91352

Tel +1 818 787 8984

Fax +1 818 252 7101

[info@tempest.biz](mailto:info@tempest.biz)

Visit our web site for current information and specifications: [www.tempest.biz](http://www.tempest.biz)