Thru-Hull SeaLite®
35W-Xenon-S

U.S. Patent No. 7,044,623

Installation, Operation, Maintenance and Safety Instructions

P/N 710-084-601-0B

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Congratulations on the purchase of your Thru-Hull SeaLite®! DeepSea Power & Light has been supplying underwater lights for industrial and research applications for over 20 years and our line of SeaLite® products have set the standard for durability and performance in every industry where they are used. Your 35W Xenon THSL is part of the family of Thru-Hull products that includes the 150W HID THSL, 65W Halogen THSL, and Thru-Hull SeaCam®. Your Thru-Hull SeaLite® has been rigorously tested, and the quality and performance of your product comes with the full confidence and backing of DeepSea Power & Light. As a measure of that confidence, your Thru-Hull SeaLite® comes with a full one-year warranty against defects in workmanship and materials. A complete copy of the warranty statement can be found on page 17.

Unpacking and Inspection

Before the Thru-Hull SeaLite® is packaged for shipment it is rigorously tested and inspected. The product is then carefully packaged to withstand the rough handling that can be anticipated during shipment. DeepSea Power & Light engages only reputable shipping companies to handle our merchandise so it is rare that a product is damaged in shipment. Upon arrival, carefully check the light and ballast for damage. If the product is damaged in any way, immediately file a damage claim with the carrier. In addition, mail or fax a copy of the claim to DeepSea Power & Light, and notify your sales representative. We will do everything in our power to expedite processing of the claim.

Thru-Hull SeaLite® 35W-Xenon-S	
Record the Serial Numbers of your unit's components below and retain for your records.	
Light Head Serial Number	
Ballast Serial Number	

Manual Information

The following symbols and terms are used throughout this manual to emphasize important safety information.

 is used to highlight important information.

 **Caution!** is used to indicate directions that, if not followed correctly, can result in equipment damage.

 **WARNING!** is used to indicate directions that, if not followed correctly, can result in personal injury and/or serious equipment damage.

 **DANGER!** is used to warn of directions that, if not followed correctly, can result in serious personal injury or death.

⚠ Read Before Using the Thru-Hull SeaLite®

1. Thru-Hull SeaLites® are designed for installation on fiberglass and wooden hulled boats only.

2. Thru-Hull SeaLites® should never be installed on a vessel while the vessel is in the water.

3. Once the Thru-Hull SeaLite® is installed on the vessel, the watertight end cap should only be removed during servicing or lamp replacement, and should be replaced immediately. The end cap serves as a second line of defense should the sapphire window be broken by an external impact. Never operate the vessel while the Thru-Hull SeaLite® end cap is removed.

4. Thru-Hull SeaLites® should only be operated with the external sapphire port and flange fully submerged in water. Thru-Hull SeaLites® should be turned off while under way if the light does not remain fully submerged.

5. The wall thickness surrounding any part of the thru-hull fitting should not be less than 0.25 in (6.35 mm) nor more than 3-3/8 in (86 mm).

6. Only qualified technicians who have experience with the installation of through-hull fixtures should install Thru-Hull SeaLites®.

7. Thru-Hull SeaLites® should be electrically joined to the vessel's grounding and cathodic protection system. Failure to properly ground this fixture may result in catastrophic failure due to CORROSION, which in turn may lead to injury, damage or loss of property and loss of life.

8. The interior of the Thru-Hull SeaLite® must be dry to prevent corrosion of the lamp socket and other components. Any time the light is opened, care must be taken to ensure that no water, and a minimum of atmospheric moisture, is trapped inside the light during reassembly. Purging the fitting with dry nitrogen or scuba air is recommended any time the light is opened.

9. Once the fixtures have been installed on the vessel they should be inspected every 6 months for:

    a. Corrosion and damage. Any fixture showing signs of corrosion or other physical damage should be removed from service immediately.

    b. Signs of leakage and water entry. Any fixture showing signs of leakage or water entry should be removed from service immediately.

    c. Blackened or opaque sapphire ports. The light should never be operated with a blackened or opaque port. If the port is blackened the fixture should not be operated and should be inspected for internal damage.

    d. Marine growth on the sapphire port. Any marine growth should be removed from the port in order to allow heat and light to exit the fixture. Use of a soft brush or non-metallic household dishwashing scrubber is recommended to prevent damage to the fixture and port. If the growth cannot be removed using a soft brush, a professional hull cleaner should be consulted.

Thru-Hull SeaLite® Features

Every Thru-Hull SeaLite® comes with our custom engineered thru-hull fitting and light head. The thru-hull fitting includes several features designed to ensure your safety and enhance your enjoyment of your new Thru-Hull SeaLite®.

- **Sapphire Port** (Patent Pending) – Sapphire is one of the strongest and most abrasion resistant transparent materials available. It will withstand accidental impact better than glass, and is less likely to be damaged by hull cleaning equipment. In addition, sapphire transfers heat more efficiently than glass, allowing the light to run much cooler.

- **Water-tight housing, Front & Back** – Front and rear seals provide an extra measure of safety since, in the unlikely event that the sapphire window is broken, the rear seal will contain flooding to the inside of the thru-hull fitting. No water is allowed into the vessel.

- **Design Fully Tested for Wave Slap Resistance** – The thru-hull fitting and sapphire port have been subjected to over 100,000 cycles in our 500 psi wave slap simulator.

- **100% Production Testing** – Every Thru-Hull SeaLite® 35W-Xenon-S is pressure tested at 120 psi for 10 minutes, then run for 8 hours while fully submerged in our test tank.

- **High Color Temperature Lamp for Enhanced Effect** – Your Thru-Hull a whiter, brighter light from its 35 watt, 6000K color temperature lamp. In addition, the light head's reflector is specially designed for a 60° beam angle that is wide enough to be useful near the surface, but tight enough beam to achieve good penetration.

- **Hybrid Reflector** (Patent Pending) – The reflector in your Thru-Hull is specially designed to produce a 50 degree beam for good close up viewing with a strong center punch for long range penetration. The reflector's special design directs more of the lamp's heat out into the water for a cooler running, longer lasting bulb.

- **Splashproof Ballast Enclosure** – The ballast enclosure is designed to resist exposure to dripping and splashing water.

- **Matched Ballast and Lamp Power** – The 35 watt ballast is specially designed to match the power rating of the Xenon lamp. Running the lamp at the power for which it was designed ensures that you get the bright white 6000K light you expect and prolongs lamp life. Running a 35 watt lamp with a 50 watt ballast can reduce the lamp life by as much as two-thirds.

- **Extended lighthead Cable** – The specially constructed shielded cable used to connect the ballast and light head of your Thru-Hull SeaLite® allows the ballast to be mounted up to 10 feet from the light head. The cable length provides greater flexibility in selecting a ballast mounting location. The grounded shield greatly reduces the chance of interference with other systems.

Specifications

Light Specifications

MECHANICAL	
Housing Material:	316 Stainless Steel
Pressure Tested	120 PSI
Length: Diameter: Thru-Hull Fitting: Thru-Hull Hole Size (in boat): Outer Flange (1/4 in. thick):	6.5 in. (16.51 cm) 2.34 in. (5.94 cm) 2 3/8 in. (6.01 cm) 3.95 in. (10.03 cm)
Weight:	4.5 lb. (2.04 kg)
Lens:	Single crystal synthetic sapphire
Cable Length, Light to Ballast:	10’ (3 m) standard
Recommended Hull Thickness: Maximum: Minimum:	 3 3/8 in. (8.57 cm) 1/4 in. (6.35 mm)

LAMP	
Type:	Xenon - Metal Halide
Lamp Watts (nominal):	35W
Rated Average Life:	2,000 hours
Color Temperature:	6,000°K

OPERATING	
Warm-up Time to 80% of Full Output:	< 1 minute

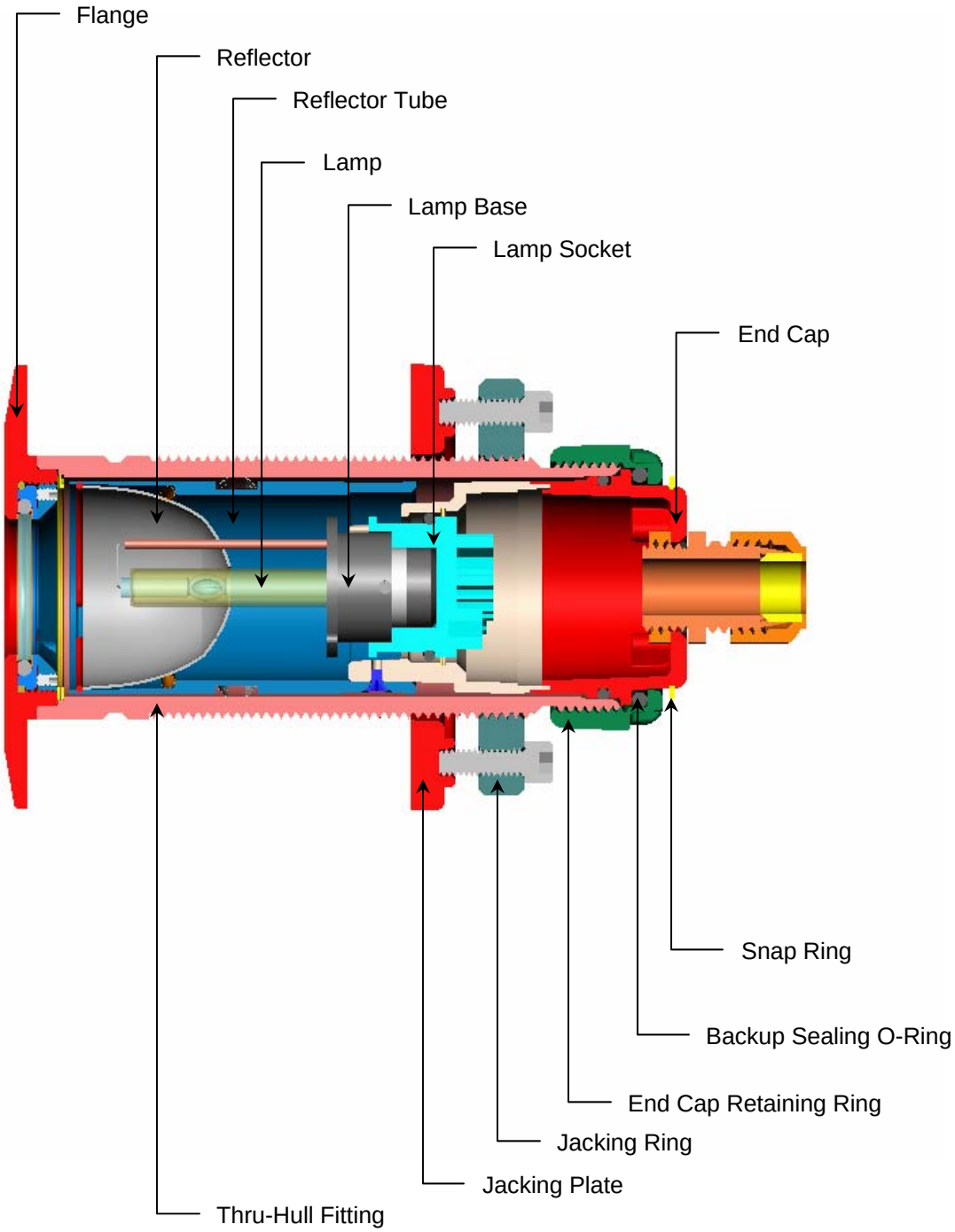
Ballast Specifications

MECHANICAL	
Housing Material:	Die-cast aluminum
Length (with mounting base):	5 in. (12.7 cm)
Width (with mounting base):	4.5 in. (11.43 cm)
Depth (with mounting base):	1.2 in. (3.05 cm)
Weight:	1 lb. (0.45 kg)
Cable Length, Ballast to Power:	25’ (7.6 m)

ELECTRICAL	
Input Voltage:	8-32 VDC (12 VDC nominal)
Input Current:	3.5A nominal (at 12V)

OPERATING	
Minimum Operating Temperature:	-40 ° F (-40 ° C)
Maximum Operating Temperature:	185 ° F (85 ° C)

Parts of the Thru-Hull SeaLite®



Installation Instructions

Installing the Thru-Hull Fitting

⚠ Your Thru-Hull SeaLite® is designed for installation in fiberglass and wooden hulled boats only.

⚠ **Caution!** For hulls constructed with Divinycell® or similar foam cores, please consult the boat manufacturer, a professional boat builder, or your boat dealer for specific procedures to use when installing hull-penetrating fixtures. In general, the exposed surfaces of the internal core must be protected using a fiberglass resin or an epoxy compatible with the hull material to form a solid, sealed surface from the outside to the inside of the hull. This material must be rated to no less than 176°F (80°C).

Thru-Hull SeaLites® are typically mounted horizontally in the transom, however, they have also been installed horizontally through the side of the hull and vertically down through the hull. Performance for vertical installations varies depending on the installation and water conditions. While vertical installations work successfully much of the time, there are conditions which can cause the light to run hotter than normal. In particular, down pointing lights in still water are apt to get air bubbles on the flange and window that degrade heat transfer. If a down pointing light is running hotter than normal, it should be turned off and allowed to cool. Once the light has cooled, it can be turned back on.

1. The Thru-Hull SeaLite® should be mounted on a flat part of the hull with the center of the fitting at least 10" (25 cm) below the waterline. The depth of the fixture below the waterline should be adequate to ensure that the flange of the fixture does not extend above the waterline when the fixture is in use. This depth may vary from boat to boat and depend on the sea conditions. The fitting's flange should not extend beyond the flat surface on which it will be mounted.
2. Before cutting the hole, ensure that there will be a minimum clearance of 12" (30 cm) on the inside of the hull, inboard of the hole. This clearance is necessary to allow enough room to remove the lamp assembly from the fixture during re-lamping.
3. Remove the light head from the thru-hull fitting by unscrewing the end cap and pulling the light head straight out of the fitting. Store the light head in a dry, safe place, such as the shipping carton, while installing the thru-hull fitting.
4. Mark the center of the hole to be made in the hull. Use the thru-hull fitting as a template to draw a circle around the edge of the flange and verify that the area of the hull behind the flange is flat and completely below the water line.
5. Cut or drill a 2 3/8" (60 mm) diameter hole in the hull.
6. Test fit the thru-hull fitting in the hole by sliding the fitting in from the outside of the hull.
7. Using the circle drawn on the hull in step 4 as a guide, coat the area around the hole with 3M® 4200 sealant. Also coat the flange and the portion of the body of the fixture that will extend thru the hull with 3M® 4200 sealant and slide the fixture into the hole.

⚠ **Caution!** Be careful not to over-tighten the bolts when installing the jacking ring. Doing so may squeeze the sealant out from under the fitting flange.

8. On the inside of the hull, slide the jacking plate over the thru-hull fitting to the inside of the hull. Back the six 1/4"-20 socket head bolts in the jacking ring out so that their ends do not extend beyond the face of the ring. Thread the jacking ring onto the fitting until it bottoms against the jacking plate. Hand-tighten the six 1/4"-20 socket head bolts to approximately 5 in.-lbs.
9. Allow the sealant to dry and remove any excess.

10. After the sealant has dried, tighten the six 1/4"-20 socket head bolts to 36 in.-lbs (4 Nm).

11. Use one or both of the screw terminals on the jacking ring to connect the fixture to the ship's bonding system.

12. DSP&L recommends that the flange of the thru-hull fitting be painted with anti-fouling paint after installation. In addition, spraying the end cap and the portion of the fitting inside the hull with WD-40 every two months will help keep the fitting looking new and free of corrosion.

Installing the Ballast

Caution! While the ballast box is drip and splash resistant, it is not waterproof and should never be submerged in water or placed in a location where it is likely to be even partially submerged in water.

1. Temporarily install the light head in the thru-hull fitting. Tighten the retaining ring on the end cap several turns to ensure that the light head does not accidentally fall out of the fitting while routing the cable. It is not necessary to completely seat the light head in the fitting at this time.

2. Select a location for the ballast that will permit the cable between the ballast and light head to be properly dressed and secured. Be sure to leave a sufficient service loop at the light head to allow the light head to be removed from the thru-hull fitting for relamping. Care should be taken to avoid routing the cable over sharp edges or around tight bends as these could damage the cable over time. Excess cable can be secured in a loop at either end or along the cable's run.

3. Using appropriate fasteners in the mounting ears in the ballast mounting bracket, attach the bracket to a fixed wall or other secure structure. Ideally, the ballast should be mounted in a cool, dry well ventilated location on the vessel.

4. Secure the cable between the ballast to the light head at several points along the cable's length.

Caution! The original cable provided with this light has been specially designed and constructed for this application. Substituting another cable may cause improper operation, shock hazard, interference with other equipment on the vessel, and can result in **damage that may not be covered under warranty.**

5. Plug the power wire into the ballast. And route the wires to an appropriately rated switch. Consult the electrical specifications on page **Error! Bookmark not defined.** to determine a proper rating for the switch. The wiring diagram on page 22 shows the proper connections. Secure the power wiring at several locations along its length.

6. Return to the light head and unscrew the end cap retaining ring. Remove the light head from the thru-hull fitting. Inspect the fitting inside of the fitting for debris and for any water that may have gotten in during installation. Carefully clean any debris and dry the inside of the thru-hull fitting.

Caution! The light head must be kept as dry as possible during operation, as moisture inside the light head can cause corrosion of the lamp socket and other internal components. Care must be taken to ensure that no water, and a minimum of atmospheric moisture, is trapped inside the thru-hull fitting during assembly.

7. Purge the thru-hull fitting with dry nitrogen or scuba air to provide as dry an atmosphere inside the fitting as possible, then quickly insert the light head and tighten the end cap retaining ring. The light head's sealing O-ring will engage the fitting near the end of tightening the retaining ring. When this happens, the retaining ring will become more difficult to turn. Be sure to fully engage the O-ring by tightening the retaining ring until the end cap bottoms solidly on the thru-hull fitting.

8. Attach the Warning labels reminding the user not to operate the lamps unless they are totally submerged to the switch or other points where the lamp may be energized by the end-user.

9. At this point, the light can be tested by energizing the ballast. Limit the total running time to 5 minutes when the fitting is not submerged. If at any time the thru-hull fitting becomes too hot to touch, discontinue testing and allow the fitting to cool.

Operating Instructions

DANGER! Thru-Hull SeaLites® should only be operated with the external sapphire port and flange fully submerged in water. Operating the light while the flange is not fully submerged may result in fire, injury, damage, loss of property and even death.

Lights that are fully submerged while the vessel is at rest may lose direct contact with the water when the boat is underway. In addition, lights mounted on the stern of a vessel may tend to overheat while the boat is underway, even if they are fully submerged. This is due to the high concentration of bubbles in the water directly behind the stern of most vessels when they are underway. Exercise caution when operating the lights while the vessel is underway.

Thru-Hull SeaLites® should not be operated continuously over extended periods of time. The light should be turned off for at least 30 minutes once a week to ensure that the lamp fails passively at the end of its useful life.

Thru-Hull SeaLites® should always be turned on and off by applying and removing power from the ballast. No attempt should be made to disconnect the ballast from the lamp while the lamp is running.

1. To turn the Thru-Hull SeaLite® on, apply power to the ballast. If the lamp is cool, it will light immediately and will reach nearly full brightness within a few seconds.

2. The lamp should be allowed to run for at least 10 minutes each time it is turned on. Running the lamp for shorter periods may shorten the lamp's life.

3. To turn the lamp off, turn the power to the ballast off.

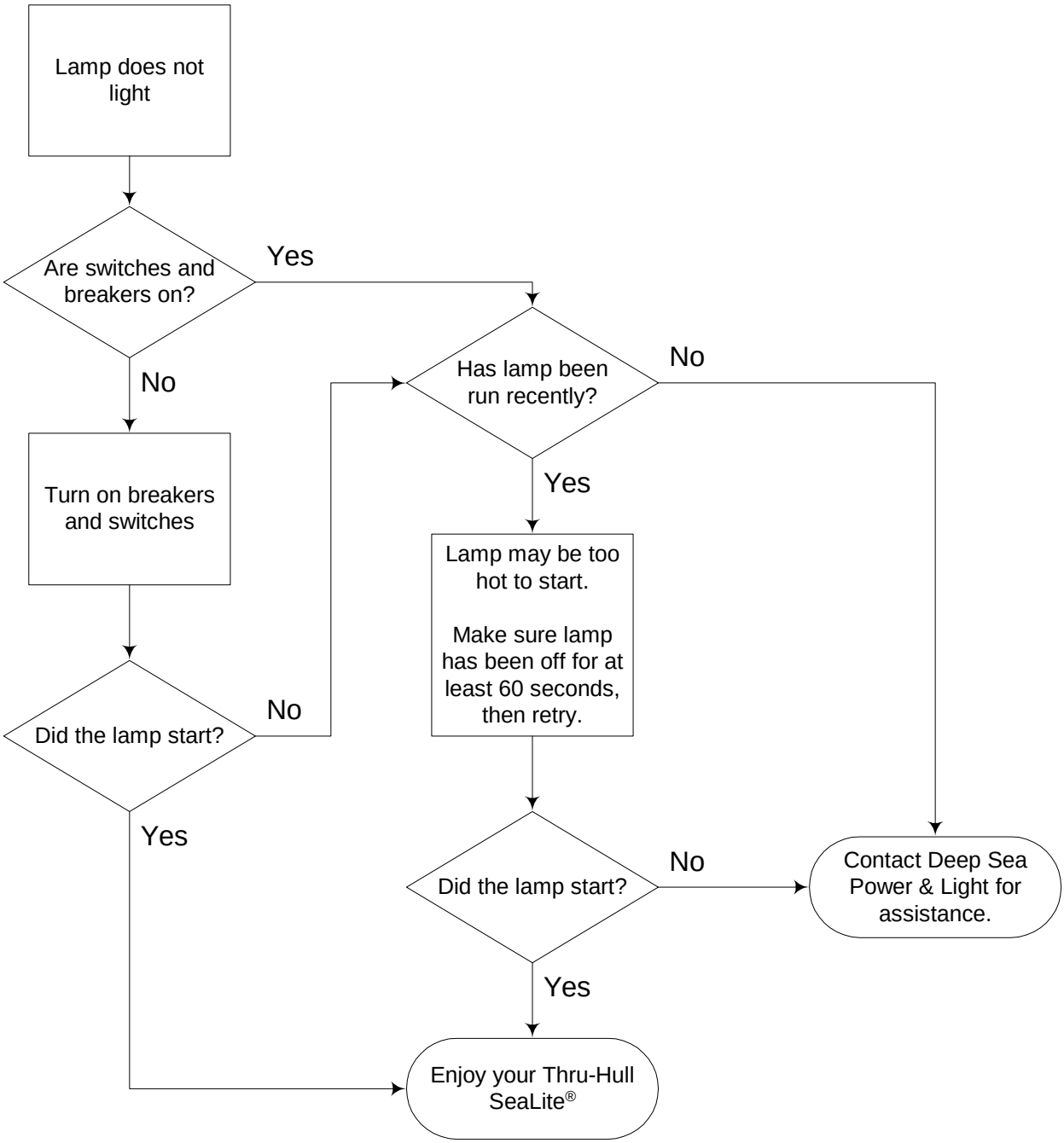
4. The Xenon HID lamp used in the Thru-Hull SeaLite® must be allowed to cool for at least 60 seconds before it can be restarted. If the lamp is too hot to start when the ballast is turned on, the ballast will turn itself off after a few seconds. If this occurs turn the power to the ballast off, wait until the light has been off for at least 60 seconds, then turn the ballast power back on. Neither the ballast nor the lamp will be harmed by this action.

If the light does not operate properly, please refer to the Troubleshooting Guide on page 13 to determine the cause of the malfunction.

Maintenance and Troubleshooting

Troubleshooting Guide

DANGER! There are no user serviceable parts in the ballast of your Thru-Hull SeaLite®. Do not attempt to open the ballast as contact with the high voltage generated by the ballast can cause electrocution, serious burns, and even death. If the ballast appears to be malfunctioning, contact DeepSea Power & Light for assistance.



Lamp Replacement

⚠ Important Safety Notes

⚠ **DANGER!** Contact with the high voltage generated by the ballast can cause electrocution, serious burns, and even death. Make sure the ballast's power cord is unplugged from the ballast while relamping.

1. Only those lamps specified by DeepSea Power & Light, Inc. should be used for the purpose of relamping the Thru-Hull SeaLite®. Please contact DeepSea Power & Light, Inc. at 1-800-ITS-DSPL (1-800-487-3775) for more information or to purchase a Lamp Replacement kit for your fixture.

2. Re-lamping should only be attempted when the existing lamp is cool. The Xenon HID lamps used in the Thru-Hull SeaLite® can become very hot even after a short period of operation. They may remain hot enough to cause injury for an extended period after operation.

3. Dust, oils and other debris including fingerprints on the glass surfaces will significantly reduce the life of the lamp and may cause damage to the fixture once the lamp is energized.

Instructions

1. Allow the fitting to cool if it is warm from operation. The light head components inside the fitting are often much hotter than the fitting itself. These components must be handled to replace the lamp, so wait for the light head to cool completely before proceeding.

2. Unplug the power cord from the ballast.

3. Prepare a clean surface near the thru-hull fitting. In the course of replacing the lamp several internal parts will have to be removed. You will need a clean surface on which to set them. A pad made from several paper towels covering a dry, clean surface works well.

   Collect a small Philips screwdriver and some paper towels within easy reach of where you will work. You will also need the new lamp and the reagent grade alcohol wipe that are supplied with the Lamp Replacement kit.

4. Unscrew the end cap retaining ring on the rear of the thru-hull fitting and remove the light head. Set the light head aside on the clean surface.Ccover the open end of the fitting with a paper towel secured by a rubber band.

5. Retrieve the light head and remove the three small Philips screws securing the reflector tube to the socket.

6. Carefully slide the reflector tube off over the lamp and set it aside on the clean surface.

⚠ **Caution!** Do not pull on the lamp by the clear glass envelope.

   Grasp the plastic base of the lamp and remove it from the socket by turning it counterclockwise about one-sixteenth of a turn then pulling straight out. Wiggling the lamp slightly as you pull helps free the lamp from the socket. The used lamp can be discarded.

7. Inspect the internal parts of the light head.

WARNING! Do not continue to use a light that has damaged internal parts. Doing so may result in damage to the light, overheating, fire, injury and even death. If damaged parts are found, contact your local distributor or DeepSea Power & Light for a replacement.

a. Inspect the socket for any signs of damage. If the socket is damaged, do not use the light until a replacement is obtained.

b. Inspect the reflector for any signs of damage. If the reflector is damaged, do not use the light until a replacement is obtained. If the reflector does not functioning properly, the thru-hull fitting can become very hot and damage the hull of the vessel.

c. Inspect the O-ring on the rear end cap for any signs of debris and damage. If debris is present, clean the O-ring as described in Cleaning the Backup Sealing O-Ring on page 16. If the O-ring is damaged, do not use the light until a replacement is obtained.

8. The lamp will fit into the socket in any one of four positions, however only one will allow the reflector to be reinstalled. To find the correct position for the lamp, inspect the three reflector mounting ears on the lamp socket. The screw hole in one of the ears is nearer the socket base than the screw holes in the other two. Open the package containing the new lamp, hold the lamp by its plastic base, and insert it into the socket with the external wire electrode aligned with the ear with the screw hole nearest the socket base. With the lamp fully inserted, turn it clockwise about one-sixteenth of a turn to lock it in place.

9. Use the reagent grade alcohol wipe to carefully remove and dirt, oil, and fingerprints from the glass portion of the lamp. Running the lamp with contaminants on the glass envelope can cause the glass to cloud and will significantly reduce lamp life.

10. Inspect the reflector for any fingerprints or debris, and clean with the alcohol wipe if any contaminants are found. Slide the reflector tube carefully over the lamp, and secure it with the three Philips head screws. If the holes in the reflector do not align with the holes in the mounting ears, it is likely that the lamp has been inserted incorrectly. Refer to step 8 to correct the lamp position.

11. Set the assembled light head aside on the clean surface. Cover it with a clean tissue or paper towel if there is any chance of dirt or debris falling on it.

12. Remove the paper towel from the thru-hull fitting. Carefully clean any contaminants or debris from inside the fitting. As a final step, wipe the inside of the fitting with the alcohol wipe provided.

13. Wait 5 minutes for all of the alcohol on the light head and inside the thru-hull fitting to evaporate.

Caution! The light head must be kept as dry as possible during operation, as moisture inside the light head can cause corrosion of the lamp socket and other internal components. Care must be taken to ensure that no water, and a minimum of atmospheric moisture, is trapped inside the thru-hull fitting during assembly.

14. Purge the thru-hull fitting with dry nitrogen or scuba air to provide as dry an atmosphere inside the fitting as possible, then quickly insert the light head and tighten the end cap retaining ring. The light head's sealing O-ring will engage the fitting near the end of tightening the retaining ring. When this happens, the retaining ring will become more difficult to turn. Be sure to fully engage the O-ring by tightening the retaining ring until the end cap bottoms solidly on the thru-hull fitting.

15. Reconnect the power cord to the ballast, apply power, and return to many hours of enjoyment!

Cleaning the Backup Sealing O-Ring

The backup sealing O-ring forms a watertight junction where the light head is inserted into the thru-hull fitting. Having a watertight junction between the light head and the thru-hull fitting ensures that even if the front sapphire window is broken, water will be confined to the inside of the thru-hull fitting. It is a second layer of protection keeping water out of the vessel. The backup sealing O-ring should be inspected whenever the light head is removed from the thru-hull fitting.

WARNING! The backup sealing O-ring should only be serviced when the light head and thru-hull fitting are cool enough to handle comfortably. If the light head and thru-hull fitting are hot from use, turn the light off and allow it to cool before proceeding. Servicing the O-ring while the light head is hot can result in burns.

1. It is not necessary to remove the light head from the thru-hull fitting to service the O-ring, but it may be desirable so that the light head can be moved to a more convenient location. If you plan to remove the light head from the thru-hull fitting, prepare a clean surface within reach of the wire attached to the light head. A pad made from several paper towels covering a dry, clean surface works well.

   Collect a small (1/8") flat blade screwdriver, and some paper towels within easy reach of where you will work. You will also need a small amount of suitable grease such as Dow Corning valve lubricant and sealant (DC-111) to coat the O-ring after it is cleaned.

2. Unplug the power cord from the ballast.

3. Unscrew the light head retaining ring. Doing so will disengage the sealing O-ring from the thru-hull fitting. Slide the light head about 1 inch out of the thru-hull fitting.

4. Using the small screwdriver, remove the snap ring behind the end cap retaining ring.

5. Slide the retaining ring off of the light head end cap onto the wire.

Caution! Do not remove the sealing O-ring by prying beneath it with a screwdriver or any sharp object. Instead, pinch the O-ring on two sides of the fitting with your thumb and finger, then slide your thumb and finger toward each other. This will create a loop in the O-ring that you can grab and use to remove the O-ring from its groove. Prying under the O-ring can damage it and prevent it from sealing when the light head is reassembled in the thru-hull fitting.

6. Inspect the sealing O-Ring for any damage or signs of debris. If the O-ring is damaged, contact your local distributor or DeepSea Power & Light for a replacement. If debris is present, remove the O-ring and clean it with a lint free cloth. Apply a thin coating of Dow Corning valve lubricant and sealant (DC-111) and reinstall the O-ring onto the light head's end cap.

7. Slide the light head retaining ring back into place on the end cap.

8. Install the snap ring in the groove behind the retaining ring to secure the retaining ring in place.

Caution! The light head must be kept as dry as possible during operation, as moisture inside the light head can cause corrosion of the lamp socket and other internal components. Care must be taken to ensure that no water, and a minimum of atmospheric moisture, is trapped inside the thru-hull fitting during assembly.

9. Purge the thru-hull fitting with dry nitrogen or scuba air to provide as dry an atmosphere inside the fitting as possible, then quickly insert the light head and tighten the end cap retaining ring. The light head's sealing O-ring will engage the fitting near the end of tightening the retaining ring. When this happens, the retaining ring will become more difficult to turn. Be sure to fully engage the O-ring by tightening the retaining ring until the end cap bottoms solidly on the thru-hull fitting.

10. Plug the power cord back into the ballast.

How to Arrange for Repairs

Please contact DeepSea Power & Light, Inc. at 1-800-ITS-DSPL (1-800-487-3775) to secure an RMA number prior to returning your light for repair. Mark the outside of the shipping container with the RMA number. This allows us to process your package as quickly as possible, and insures that the repair department is alerted of its arrival.

Warranty Repairs

Warranty repairs must be shipped to DeepSea Power & Light freight prepaid. DeepSea will pay outgoing ground transportation. All parts and labor will be at no charge if still under warranty. See limited warranty for exceptions.

Non-Warranty Repairs

A diagnostic charge will be assessed for all repair estimates. This fee will be applied against any repair charges incurred. The prices of component parts do not include labor charges. Accordingly, a minimum labor charge of one hour will be assessed, with additional labor billed in half-hour increments. All repairs will be pressure tested by DeepSea Power & Light.

Limited Warranty

DeepSea Power & Light warrants all of its products, unless otherwise noted, to be free from defects in workmanship and materials for a period of one year from the date of original purchase.

DeepSea is not responsible for warranty service should the product fail to be properly maintained or fail to function properly as a result of misuse, abuse, improper installation, neglect, improper shipping, damage caused by disasters such as fire, flood, and lightning, or unauthorized repair or modifications.

In particular, it should be noted that all metal parts will corrode in salt water. Titanium is one of the most resistant to corrosion and 316 stainless steel is also recognized for its corrosion resistance though to a lesser degree. Corrosion of any metal will be especially aggressive if installation is improper, if bonding is improper or if stray currents are active in the vicinity of the boat. Thru-Hull SeaLites® are warranted to be free from defects in material and workmanship but this does not extend to being completely free from corrosion since the primary factors affecting corrosion are outside of the scope of material and workmanship of the light itself.

Should your DeepSea product prove defective during the warranty period, promptly notify DeepSea, and return product, freight prepaid. DeepSea will, at its option, repair or replace the product or defective portion without charge for parts or labor, or, at DeepSea's option, refund purchase price. DeepSea will pay for return ground transportation on warranty repairs. Products repaired or replaced under this warranty shall be warranted for the unexpired portion of the warranty applying to the original product(s).

No warranty or affirmation of fact, express or implied, other than as set forth in the limited warranty statement above is made or authorized by DeepSea. DeepSea disclaims any liability for product defect claims that are due to product misuse, improper product selection, or misapplication. Any liability for consequential and incidental damages is expressly disclaimed. DeepSea's liability in all events is limited to, and shall not exceed, the purchase price paid.

Appendix A –Parts List

See assembly drawings in Appendix B for detailed information.

Model Number	Part Number	Description
THSL-Xe-CART	710-084-172	Cartridge assembly (ballast, cable, light internals without fitting, DC input cable)
THSL-Xe-FITTING	710-084-104-01	Stainless Steel Fitting Assembly
THSL-Xe-LAMP	460-00153	Lamp, 12V/35W Xenon
THSL-Xe-LAMPKIT	710-084-607	Lamp, 12V/35W Xenon and Alcohol Wipe for cleaning lamp
THSL-Xe-CABLE-INPUT	600-00325	DC input cable 25 feet long

Appendix B – Drawings

List of Figures

Figure 1 - Thru-Hull SealLite® 35W-Xe-S Complete Assembly

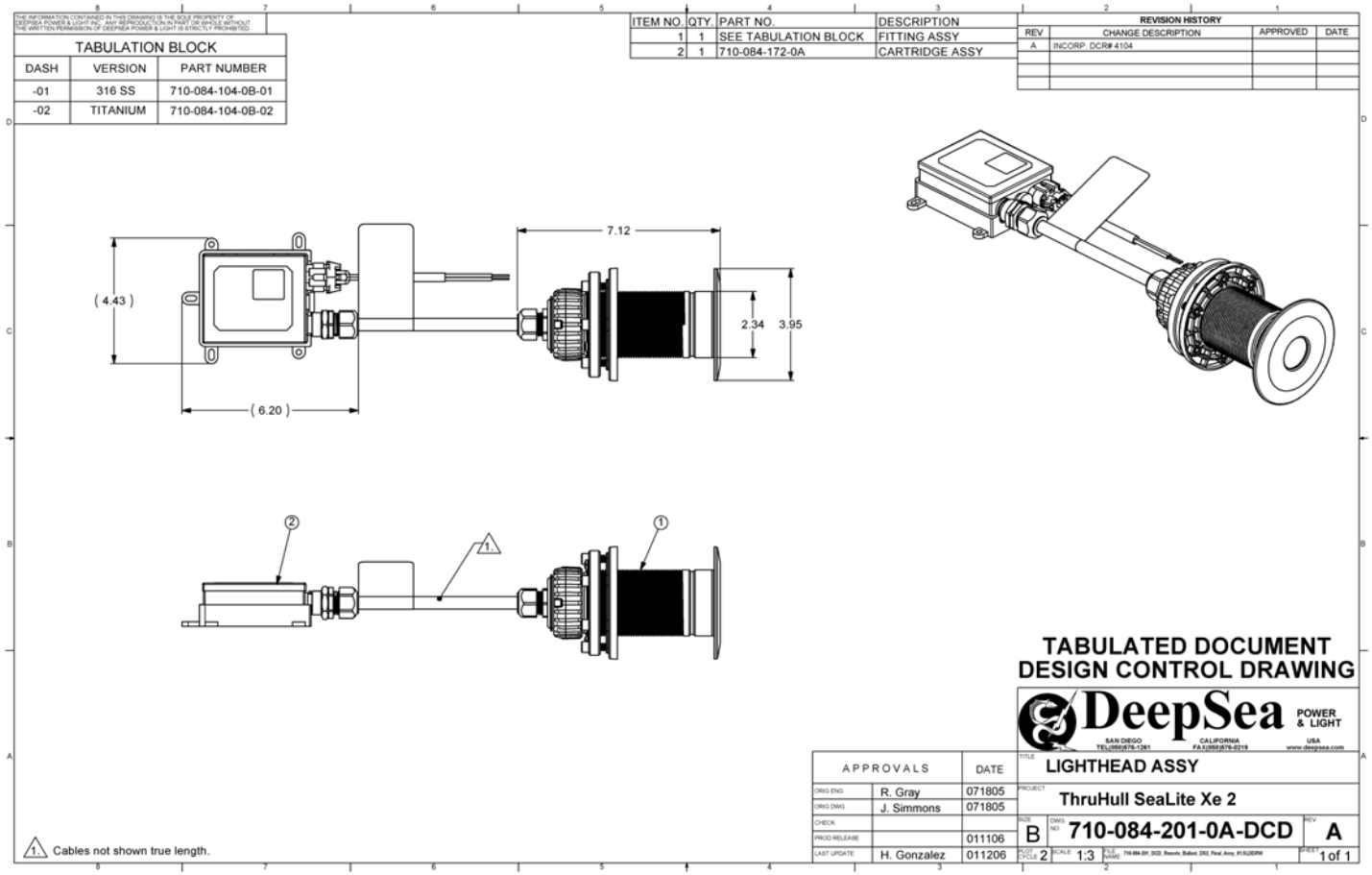


Figure 2 - Ballast Mounting Dimensions

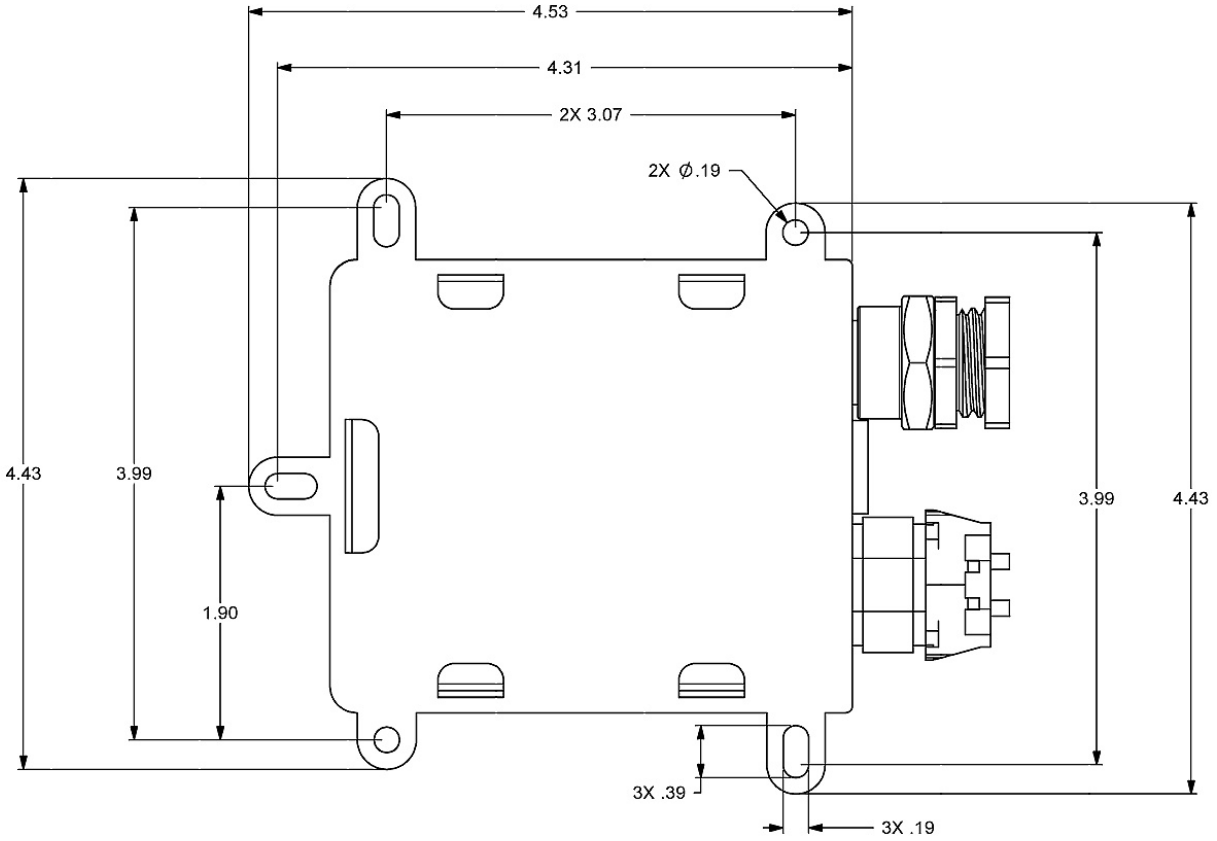


Figure 3 - Ballast Wiring