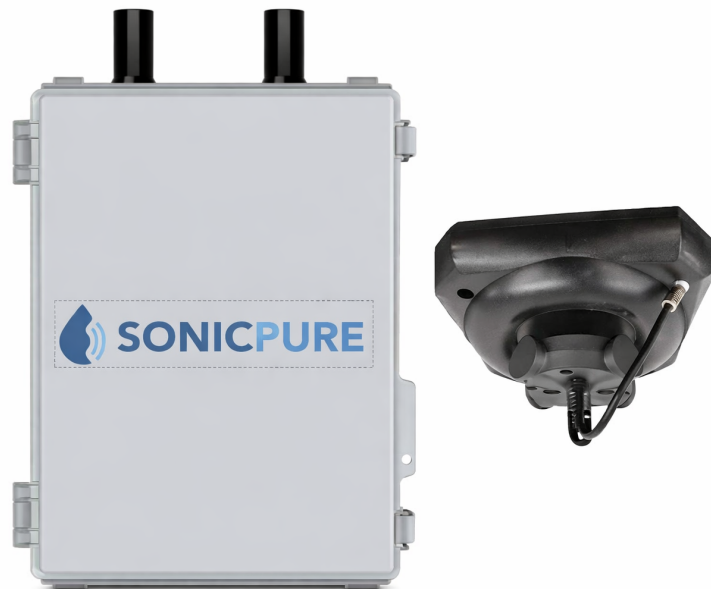




DC POWERED PULSAR MANUAL

ULTRASOUND TECHNOLOGY TO CONTROL ALGAE AND BIOFILM WITHOUT CHEMICALS



EPA EST No: 101463-TN-1

Printed material may not represent the latest information available. Please contact customer support with any questions that may arise.

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NOTICE – WARRANTY AND TERMS

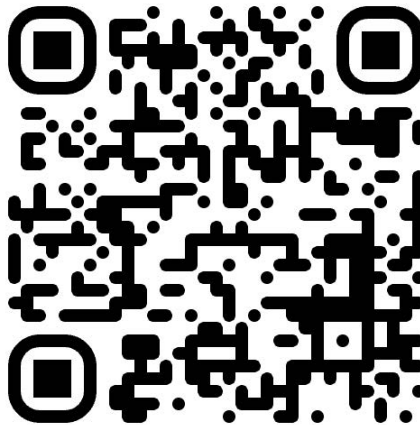
Warranty: The Limited Product Warranty is provided in this Owner's Manual. Please review before installation and operation.

Terms: By installing, operating, or using this equipment, Customer agrees to SonicPure's applicable terms and conditions available at:

<https://production.sonicpurebms.com/terms>

Portal/API (if applicable): Use of the reporting/telemetry portal and any APIs requires account registration and acceptance of portal terms presented during registration/login.

Support: support@sonicpure.com | +1-931-277-0456 | sonicpure.com





DO NOT WORK ON THIS PRODUCT UNLESS YOU HAVE READ AND UNDERSTOOD INSTRUCTIONS PROVIDED TO YOU BY SONIC PURE. CONTACT THE MANUFACTURER OR DEALER FOR REPLACEMENT GUIDE. PROPER CARE IS YOUR RESPONSIBILITY.



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1 Introduction

Thank You for your recent purchase of the Pulsar Algae control apparatus for your algae control needs. Sonic Pure products and solutions control algae and biofilm safely, efficiently, and in an environmentally friendly way – without the use of dangerous chemicals.

Below you will find step by step instructions on how to set up and install your algae control system.

2 Instructional Warnings

READ AND FOLLOW

1. Read and follow instructions that are on the product and/or provided with the product.
2. Use device(s) only where advised.
3. **DO NOT** use tools to install cables.
4. **DO NOT** operate Pulsar out of water.

IMPORTANT: FAILURE TO FOLLOW
INSTRUCTIONS MAY RESULT IN NON-WARRANTY

3 Safety Requirements

1. Read and follow instructions that are on the product and/or provided with the product.
2. Use device(s) only where advised.
3. Route all cords to remove trip hazards, possible vehicle damage, or damage from equipment with cutting blades, such as lawn mowers and hedge clippers.
4. If water animals are present in or near your water system, additional cable protection is recommended. Use nylon or polyester braided sheath.
5. Have more than one adult present while installing or working on unit(s).



IMPORTANT: FAILURE TO FOLLOW INSTRUCTIONS COULD RESULT IN
PERSONAL INJURY, LOSS OF LIFE, AND/OR PROPERTY DAMAGE.

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4 DC Powered System

4.0 Overview

The DC Powered System receives power from an external DC power source. The DC Power Source provides power to our patented DC Power Supply that distributes power throughout the DC Power Hub that uses a medical grade power supply to power our Pulsar system. Within the DC Power Hub, is our advanced communication device collecting telemetry metrics that syncs to a cloud interface for real time data viewing.

4.1 Safety Warnings

Pulsar Head:

- Do not touch Transducer or allow skin contact while unit is powered.
- Transducer cable should be located to avoid damage by vehicles, pedestrians, mowers, wildlife, etc.
- For high traffic areas, cable should be buried approximately 6 inches (15cm) below surface and/or wrapped in a protective sheath.

If using an AC powered DC power supply:

- Product must be connected to a customer supplied GFCI protected AC receptacle.
- Use UL certified surge protectors.
- AC connection must be made to a dedicated breaker.
- Keep DC Power Hub out of direct sunlight.
- Obey State, Federal, and Local regulations if making outdoor accommodations for unit(s).

4.2 Assembly Components

DC Power Hub  QTY: 1	PULSAR HEAD  QTY: 1(SINGLE HEAD) QTY: 2(DUAL HEAD)	FLOAT  QTY: 1 PER PULSAR HEAD	LTE ANTENNA  QTY: 2
DC Power Hub WALL MOUNT TABS  QTY: 4	10m ANCHOR ROPE  QTY: 10 METERS PER ANCHOR	DIELECTRIC COMPOUND  QTY: 1	CABLE  QTY: LENGTH PREDETERMINED BY SALES TEAM
¼" STAINLESS STEEL SCREW PIN WIDE D SHACKLE  QTY: 1	¼" STAINLESS STEEL SCREW PIN SHACKLE  QTY: 1	ANCHOR  QTY: 1 PER PULSAR HEAD	

4.3 Not Included with Kit

- Boat/Canoe/Raft – pending anchoring location as pre-determined by Sonic Pure sales team.
- Tools.

4.4 CABLE ALIGNMENT INSTALLATION:

READ BEFORE PROCEEDING:

WHEN MAKING CABLE CONNECTIONS, APPLY PEA SIZE AMOUNT OF DIELECTRIC COMPOUND TO CONTACTS LOCATED WITHIN RECEPTACLES BEFORE ATTACHING CABLE. ALIGN KEY. HAND TIGHTEN CABLE CONNECTIONS. **NO TOOLS!**

Hold this area by hand! No tools are to be used during the tightening process.

This is the only part of the connector that moves. Turn this end clockwise to tighten. Overtightening will damage connector.

Align key and key seat during cable installation. Correctly aligned keys will easily slide together. DO NOT FORCE!

Fig. 7.1

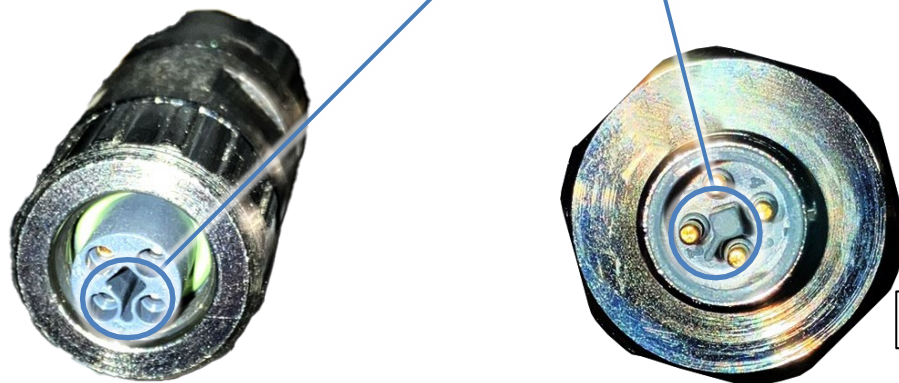


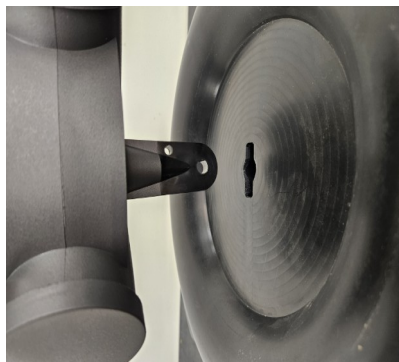
Fig. 7.2

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4.5 Installment Instructions

A. Pre-Deployment Preparation

i. Connect Pulsar to Float



1 Insert Sonic Head head through hole in float.



2 Securely Install Wide D 1/4" Shackle through hole of Sonic Head Head.



3 Lay assembly top side down.

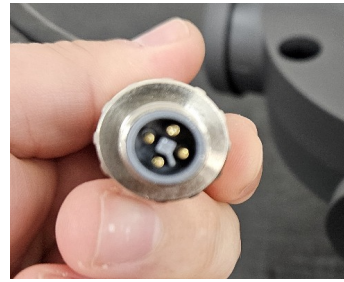
ii. INSTALL CABLE END AND ANCHOR SHACKLE



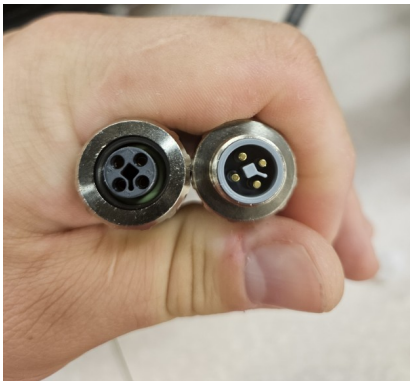
4 Locate Pulsar Head Receptacle Cap.



5 Remove caps from cable end and the pulsar.



6 Apply dielectric grease to the contacts on the pulsar head.



7 Align “Keys” from the cable and pulsar unit insert one to the other.

Cable ends will not bottom out!



8 Twist the top of the cable ends into one another. Hand tighten only. Do not force. There will be a gap.



9 Install 1/4” Screw Pin Shackle.

iii. FLOAT DEPLOYMENT



10

Tie rope to Anchor Shackle per instructions provided and lower into water at deployment location.

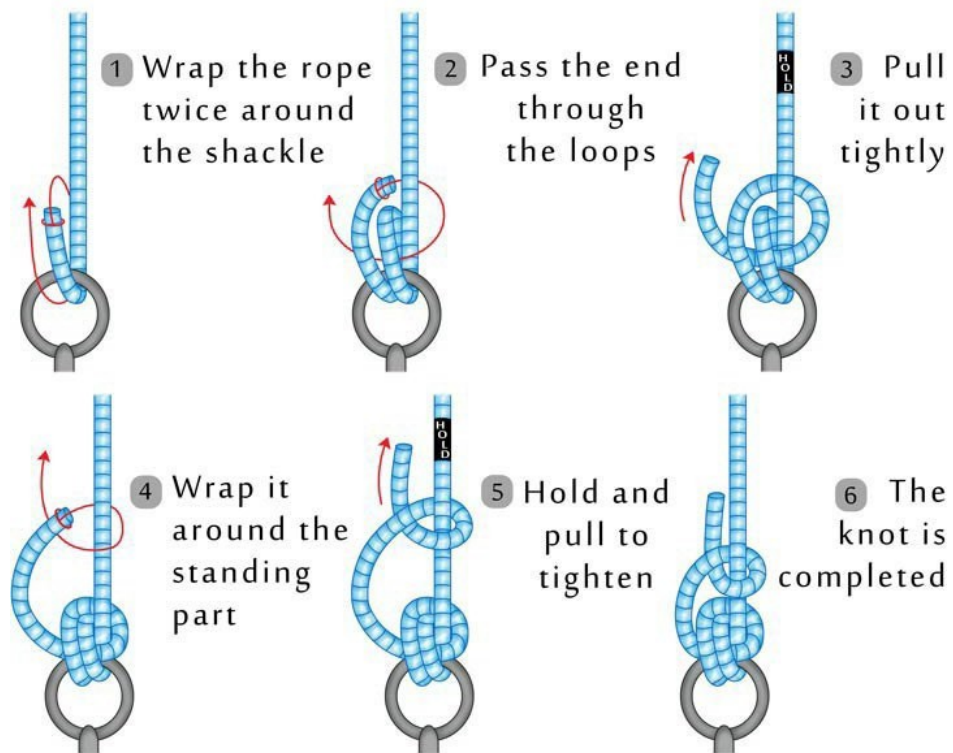


11

Pull slack from rope and tie to Pulsar Head shackle. Set Float/Head assembly into water oriented as shown.



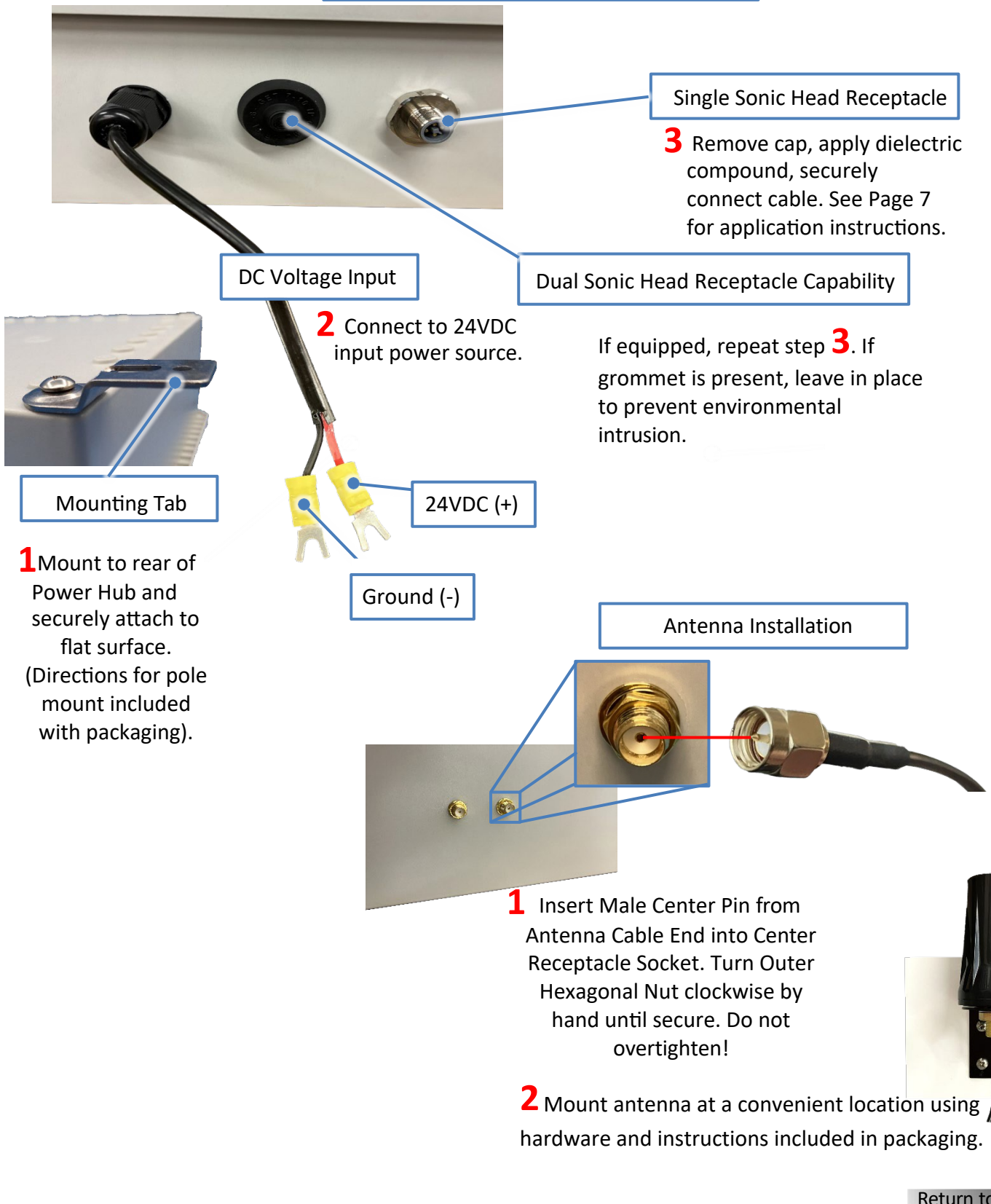
B. Anchor Hitch Instructions



SPACE INTENTIONALLY LEFT BLANK

Using the below image, prepare the DC Power Hub Accessories

Solar Panel and Pulsar Connections



D. Installing in the Water

The Pulsar algae control unit emits sound waves in a 360° pattern. The unit is designed to be suspended below the surface of the water. You will anchor the unit, suspended from the float, in the approximate location as pre-determined by the Sonic Pure sales team as the best location in the pond/water for optimal coverage.



360° Algae Control Zone



D. Installing in The Water

- **Complete Sonic Head and Float Assembly.**

- Place float in water with Sonic Head submerged.
- Set anchor at location site (boat/canoe/raft may be required at this time).

NOTE: It does not matter if the Sonic Head or float rotates as the ultrasound signal is emitted in a 360° pattern.

E. Installing in the Water Continued

- **Complete DC Power Hub setup.**

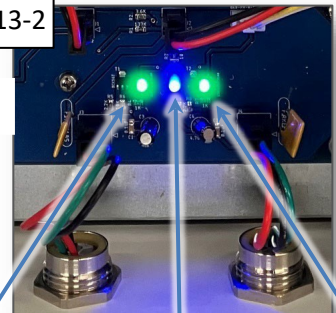
- Mount DC Power Hub at desired location, do not turn on.
- Connect Sonic Head cable(s) to DC Power Hub (Page 11). Mark cable assuring it is visible and out of the way of people, animals, lawn mowers, etc.
 - a. Remove all packing material from inside DC Power Hub.
 - b. Connect DC Input power source.
 - c. Flip switch at DC Power Hub once all steps are complete to power on unit. (Fig. 13-1)
 - i. Blue power LED indicates proper function.
 - ii. If Fuse LED is lit, please contact customer service.
 - d. Reference Fig. 13-2 for activity during proper operation.
 - e. Verify green LEDs are active *only* if Sonic Head Connection exists.

FIG. 13-1



Power ON/OFF

FIG. 13-2



Pulsar head 2
(Green Blink)

Pulsar head 1
(Green Blink)

Power ON (Solid Blue Display).

LED's light when powered on in accordance with system options.

Close DC Power Hub and secure latches. (Fig 13-3)



FIG. 13-3

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5 System Maintenance

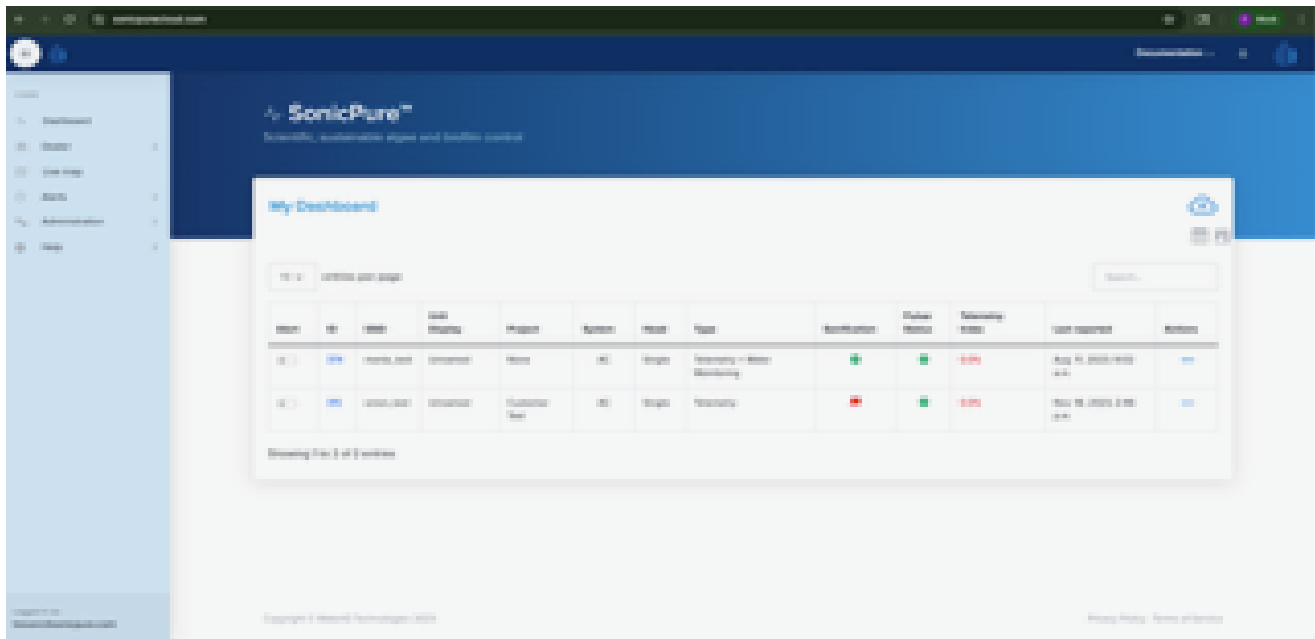
The Pulsar family products come equipped with coating for anti-fouling on the ultrasound unit. SonicPure recommends cleaning of the unit to be performed every 6 weeks with a soft cloth. Some bodies of water may require more frequent cleaning until sufficient water purity has been reached.

WARNING: METAL PLATES MAY BE HOT

1. Turn off power to DC Power Hub per switch indicated in Step 2 on Page 16.
2. Unplug DC Power Hub from power source, if applicable.
3. Remove Sonic Head Float Assembly from water and wipe off with soft cloth.
4. Check cable to ensure no damage has occurred.
5. Place into water.
6. Plug Power Hub into power outlet, if applicable.
7. Reestablish power, if applicable.
8. Open DC Power Hub and ensure LED(s) are functioning properly per Step F, Substep c, Page 13.
9. Close lid and secure with latches.

6 Cloud User Registration

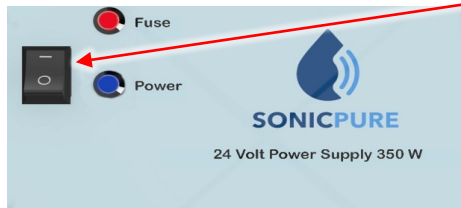
1. Go to sonicpurecloud.com/users/register
2. Register using the form in the link above. A user will be created and emailed to you.
Note: If you do not receive an email with login information within 24 hours please email support@sonicpure.com or go to sonicpurecloud.com/administration/create_ticket



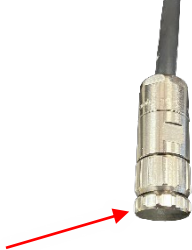
3. On the left side you will see a navigation bar. From top to bottom:
 - a. Dashboard
 - i. On the dashboard page you will see your project name at the top of the table. Underneath will be a list of all project devices. You can hover over each column name to get more information about each column. You can also click on each unit link under Unit ID to get details about the data from each unit report.
 - b. Live Map
 - i. On the live map page, you will see a marker on the map where each unit is located.
 - c. Alerts
 - i. On the alerts page you can set and view alerts. The alerts can be set to trigger an email or text message on a certain value reporting from the unit. This can be used to remotely monitor your devices activity and performance.
 - d. Help
 - i. On the help page you can click to submit a ticket for technical support. After filling out the form you can talk directly to a technical support agent for assistance.

7 Winterization

1. Place water probe in storage in a dry, safe area.
2. Power off unit by flipping switch at the DC Power Hub to the "OFF" position.



3. Verify Power LED is not lit. The LED will take a few moments to dissipate stored electricity.
4. Remove Pulsar from water.
5. Remove cable from head and immediately place cap on end of cable and onto Pulsar receptacle.



6. Clean sonic head with soft cloth and place in storage in a dry, safe area.
7. When redeploying, repeat installation instructions.

Solar panel limitations extend to its ability to turn sunlight into energy. While these parameters are -40°F(-40°C) to 185°F(85°C), there is not a lower temperature limit for exposure. Once aforementioned processes are completed, the rest of the construct can remain at its current location. Please be sure to use a damp cloth to clean solar panels when reactivating the unit.

8 Technical Specifications

Mechanical Data	Materials and Technical Data
Housing	Brass / Die cast stainless steel 316l
Housing Surface	Nickel plated
Inserts	Pbt fire protection class V-0
Contacts	Copper alloy/ Brass
Contact surface at point of contact	Gold Plated
Minimum mating cycles	>100
Seals/O-Rings	Fkm / buna-n/ Hnbr
Temperature Range	-40°f – 257°f (-40°c – 125°c) (k + l) -40°f – 185°f (-40°c – 85°c) (s + t)
Type of Contacts	Screw S + T
Protection	iP 67 / iP 69k (When Mated)
Connector diameter	20mm
Cable Conductor	Class K per ASTM B174
Cable Insulation	Thermoplastic Elastomer (TPE)
Cable Jacket	SJEOOW / SJOOW
Cable AWG	18
Cable Stranding	16/30
Cable Insulation Thickness	0.762mm
Cable OD	8.331mm
Cable Weight	0.09 kg/ meter
Cable Ampacity	10 / 30A
Cable Capacity	150A 300V
Cable Standards	UL 62 CSA C22.2 No. 49 OSHA Accepted Sunlight Resistant Oil Resistant Abrasion Resistant

	Electrical Reference	Electrical Specification
INPUT	Voltage Range	22 ~ 32VDC
	Fuse Rating	20A
OUTPUT	DC Voltage	44V
	Rated Current	7A Max continuous
	Rated Power	352W

SonicPure LLC – Limited Warranty Statement
Effective January 1, 2026

1. Warranty Overview – Parts Only

This is a Limited Warranty provided by SonicPure LLC (“SonicPure”) to the original end user (“Purchaser”) of the SonicPure System (the “System”). The “System” refers to the complete ultrasonic algae control solution(s) sold by SonicPure. By installing, operating, or using the System, the Purchaser acknowledges and agrees to be bound by the terms of this Limited Warranty.

The warranty period will begin on the date of shipment, as verified by invoice.

SonicPure will supply, at its option, new, like-kind, or rebuilt replacement parts. “Parts” are defined as integral components of the SonicPure System.

SonicPure warrants that, for the time periods set forth in the table below, the System will be free from defects in materials and workmanship under normal use and approved applications. Any rented, repaired or replaced component or part of the System will be covered for the remainder of the original warranty period.

This Limited Warranty is limited to defects in materials and workmanship and does not guarantee that the System will achieve any particular level of algae, cyanobacteria, or biofilm reduction, as actual results depend on site conditions, nutrient loading, hydraulics, and other external factors beyond SonicPure’s control.

The table below specifies the warranty periods for key Parts within the System.

SonicPure Warranty Term Table

Warranty Period (1)	3 years	2 years	1 year
Common Components:			
Pulsar Transducer	X		
Pulsar Power Cables	X		
Telemetry Hardware	X		
Pulsar Kit Additional Items			
Power Hub	X		
Float	X		
Anchor System	X		
Shoreline Solar Kit Additional Items			
Solar Panel	X		
Solar Charge Controller	X		
Solar Power Supply Unit	X		
Battery Box Components (2)	X		
Batteries (2)		X	
Frame	X		
Float	X		
Anchor System	X		
Sentinel AIQ & AIQ+ Kit Additional Items			
Solar Panel	X		
Solar Charge Controller	X		
DC Power Hub	X		
Battery Box Components (2)	X		
Batteries (2)		X	
Frame	X		
Pontoon Float	X		
Navigation Lights			X
Bird Deflector			X
Water Quality Monitoring System (3)		X	

(1) For any installations that involve placing equipment in saltwater or highly saline/brackish environments, all warranty periods are reduced by 50%. For example, the 3-year warranty for the transducer goes from 3 years to 18 months.

(2) Battery box components do not include batteries. See separate line for battery warranty. Batteries installed in Shoreline Solar and Sentinels must meet required specifications provided by SonicPure or the warranty for Shoreline Solar and Sentinel units may be voided.

(3) The water quality monitoring system may be sold as a standalone unit or integrated into the Sentinel AIQ+ kit.

2. PROPER INSTALLATION

This Limited Warranty applies only to Systems that are either (a) installed by a SonicPure-authorized representative, or (b) installed by the customer in full accordance with (i) SonicPure's installation and operating instructions, and (ii) generally accepted trade practices.

3. TERMS OF WARRANTY

Before requesting service, please review the user instructions and technical documentation for your System to ensure that power is properly supplied and all cables are correctly installed.

To obtain warranty parts service, contact SonicPure technical support at +1-931-277-0456 or email support@sonicpure.com. Proof of purchase is required to validate this Limited Warranty.

To maintain warranty eligibility, retain all purchase documentation, follow the installation instructions, and confirm that the product and packaging serial numbers have not been altered or removed.

This Limited Warranty covers only the provision of replacement Parts as described above and, where SonicPure requires return of a component for inspection, SonicPure's in-shop diagnostic and repair labor for confirmed warranty defects. It does not cover any on-site labor or other costs incurred by the Purchaser or any third party in connection with installation, removal, reinstallation, service, maintenance, or repair of the System. The Purchaser is solely responsible for all such labor and associated costs. Please consult the applicable technical documentation regarding maintenance procedures.

This Limited Warranty shall not be modified or amended by, and no obligation or liability shall arise out of, SonicPure providing, directly or indirectly, any technical advice, information, or service to the Purchaser in connection with the System.

4. THESE LIMITED WARRANTIES DO NOT COVER:

- a.) Any System purchased from an unauthorized online retailer.
- b.) A System not installed, serviced, maintained, or operated in accordance with instructions and guidelines set forth in the installation, operation, maintenance, software, or engineering publications made available by SonicPure.
- c.) A System that had a serial number or any part(s) thereof altered, defaced, or removed in any way.
- d.) Any and all shipping or freight charges or damages arising from transportation of parts covered by the Limited Warranty.
- e.) Damage and/or failure caused by fire, water, wind, floods, impact damage from projectiles, earthquake, theft, riot, vandalism, force majeure, acts of war, or any acts of God.
- f.) Damage and/or failure caused by power surge, interruptions of electrical power, faulty power supply, improper wiring or installation, or fluctuations in electrical power.
- g.) Damage and/or failure caused by misuse, neglect, improper adjustment of user controls, incorporation with other products, or any modification, alteration, reconfiguration, or

customization of the System or its components.

h.) Damage and/or failure caused by locating or exposing the System to extreme weather or environmental conditions, or to corrosive chemical vapors and/or liquids, including but not limited to: salt air or spray, chlorinated water or vapor, fluorine vapor, formaldehyde, sulfur, or other components of formicary corrosion.

i.) Wear and tear or changes in appearance of the System that do not affect its performance.

j.) Replacement of fuses and replacement or resetting of circuit breakers.

k.) System installation or setup, or removal of a System from the location where it was originally installed.

l.) Incorrect matching of product or System.

m.) Any third-party component(s) or part(s) used to install the SonicPure System.

n.) Any discrepancy between promotional or advertising materials and the actual System specifications provided at the time of sale.

o.) Any software, firmware, or connectivity-related issues that are not caused by a defect in SonicPure-supplied software or firmware, including (by way of example) unauthorized modifications or updates, user-installed applications, loss or corruption of data, or interruptions, limitations, or failures in third-party wireless, cellular, or other communications networks used by the System.

p.) Damage or deterioration resulting from improper storage or failure to install within a reasonable period following delivery.

5. Warranty Disclaimer and Limitation of Liability

THE WARRANTIES STATED ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT OF THIRD-PARTY RIGHTS, AND FITNESS FOR A PARTICULAR PURPOSE. UNDER NO CIRCUMSTANCES SHALL SONICPURE BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, OR OTHER ECONOMIC LOSS, WHETHER BASED ON BREACH OF WARRANTY, TORT, OR OTHERWISE, EVEN IF SONICPURE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL SONICPURE'S LIABILITY EXCEED THE PURCHASE PRICE OF THE SYSTEM.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above exclusions or limitations may not apply. Residents of California and Quebec are not required to register the System in order to obtain all of the rights and remedies applicable to this Limited Warranty.

6. DISPUTE RESOLUTION AND ARBITRATION

This Limited Warranty shall be governed by and construed in accordance with the laws of the State of Wyoming, without regard to its conflict of law principles. Any dispute, claim, or controversy arising out of or relating to this Limited Warranty, including its breach, termination, enforcement, interpretation, or validity ("Dispute"), shall be resolved exclusively through final and binding arbitration.

Before initiating arbitration, the Purchaser must first provide written notice to SonicPure describing the nature of the Dispute and the relief sought. The parties agree to make good faith efforts to resolve the Dispute informally for a period of thirty (30) days from the date the notice is received. If the Dispute is not resolved within that period, either party may proceed to arbitration.

The arbitration shall be administered by the American Arbitration Association (AAA) pursuant to its Commercial Arbitration Rules, and conducted in Los Angeles, California, before a single arbitrator. Judgment on the arbitrator's award may be entered in any court of competent jurisdiction.

Purchaser and SonicPure agree that:

No class or representative claims may be brought;

The arbitration will not be consolidated with any other proceedings;

Any Dispute must be initiated within one (1) year after the claim accrues, unless otherwise required by applicable law.

If a separate written agreement between SonicPure and Purchaser contains different dispute resolution terms, those terms will govern in the event of any conflict with this Limited Warranty.

7. SEVERABILITY

If a term or condition of this Limited Warranty is held invalid, void or unenforceable, such holding shall not affect any other terms or conditions of this Limited Warranty.

8. MODIFICATION

No term or condition of this Limited Warranty, as it applies to a previously purchased System, may be amended or modified except by an instrument in writing executed by an authorized officer of SonicPure. SonicPure reserves the right to amend the terms and conditions of this Limited Warranty prospectively, and such changes shall apply only to Systems purchased after the effective date of the amended warranty.

SonicPure LLC support@sonicpure.com

+1-931-277-0456