SEAFLO SFUAS1-01

SEAFLO Ultrasonic Hull Defense System User Manual

Model: SFUAS1-01 (1 Transducer System)

1. Product Overview

The SEAFLO Ultrasonic Hull Defense System is an advanced, fully automated anti-fouling device designed to prevent the attachment and growth of barnacles, algae, and other marine organisms on your vessel's hull, drives, and running gear. By emitting high-frequency ultrasonic pulses, this system creates an environment unfavorable for marine growth, significantly reducing drag, improving fuel efficiency, and extending the lifespan of your bottom paint.



Figure 1: Main components of the SEAFLO Ultrasonic Hull Defense System, including the control unit, the submersible transducer, and the aviation-grade signal cable.

2. Key Features and Benefits

- **Advanced Ultrasonic Technology:** Utilizes high-frequency ultrasonic pulses (20–45 kHz) to continuously repel marine fouling.
- **Large Coverage Area:** Each transducer provides approximately 200 square feet of protected underwater surface area.
- **Extends Bottom Paint Life & Reduces Maintenance:** Keeps hull surfaces cleaner longer, reducing the frequency and intensity of hull cleaning, and extending bottom paint lifespan.
- **Improves Boat Performance & Fuel Economy:** Maintains a clean hull, minimizing drag, optimizing speed, and enhancing fuel efficiency.
- **Increased Boat Resale Value:** Equipping your vessel with this technology enhances its appeal and value.
- **IP68 Submersible Waterproof Transducer:** Built to IP68 standards, fully sealed for continuous underwater operation.
- **Fully Automated, Easy DIY Installation:** Features automatic calibration and continuous 24/7 operation. Simple

installation requires no special tools.

- **Ideal for Hull, Drives & Running Gear:** Provides dedicated protection for isolated components like drive shafts, props, rudders, struts, swim platforms, exterior engine brackets, and trim tabs.



Figure 2: Visual representation of the system's effectiveness, showing a fouled hull before and a clean hull after using the SEAFLO Ultrasonic Hull Defense System.



Figure 3: Explanation of the advanced ultrasonic technology, showing sound waves preventing marine organisms from attaching to the hull.

3. Installation Guide

The SEAFLO Ultrasonic Hull Defense System is designed for easy DIY installation. Follow these steps for optimal performance.

3.1 Components Included

Ensure all components are present before beginning installation:

- (1) Ultrasonic Transducer
- (1) Control Unit
- (1) 15 ft Aviation-Grade Signal Cable

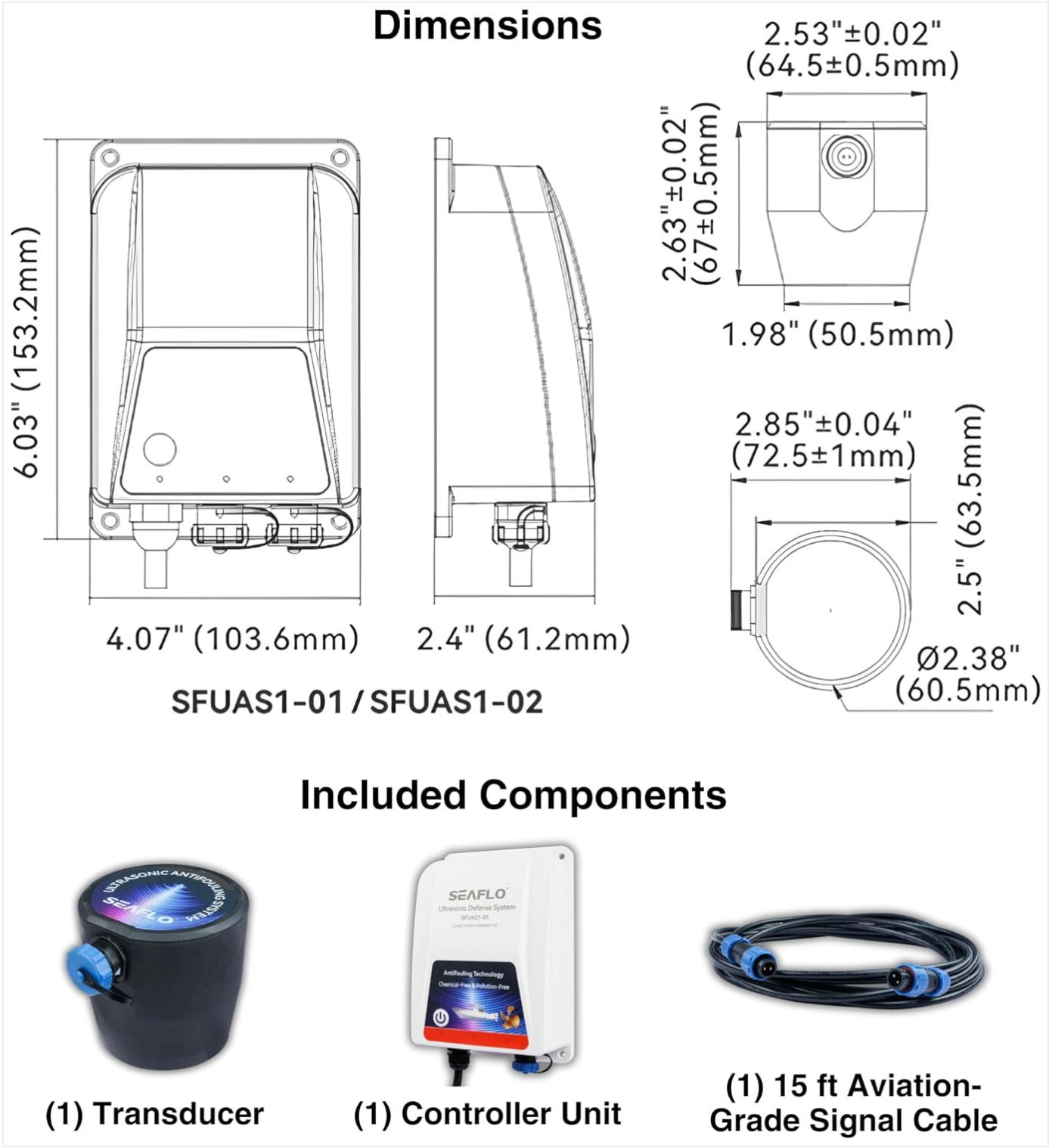


Figure 4: Overview of included components and dimensional drawings for the control unit and transducer.

3.2 Placement Considerations

Proper placement of the transducer is crucial for effective coverage. Each transducer covers approximately 200 sq.ft of underwater surface area. For optimal coverage, consider the following:

- **Hull:** For mono-hull vessels, the number of transducers depends on the length at the waterline (LWL). For catamarans, consider the LWL and beam.
- **Drives & Running Gear:** Isolated components such as drive shafts, props, rudders, struts, swim platforms, exterior engine brackets, and trim tabs require their own dedicated transducer for complete protection.

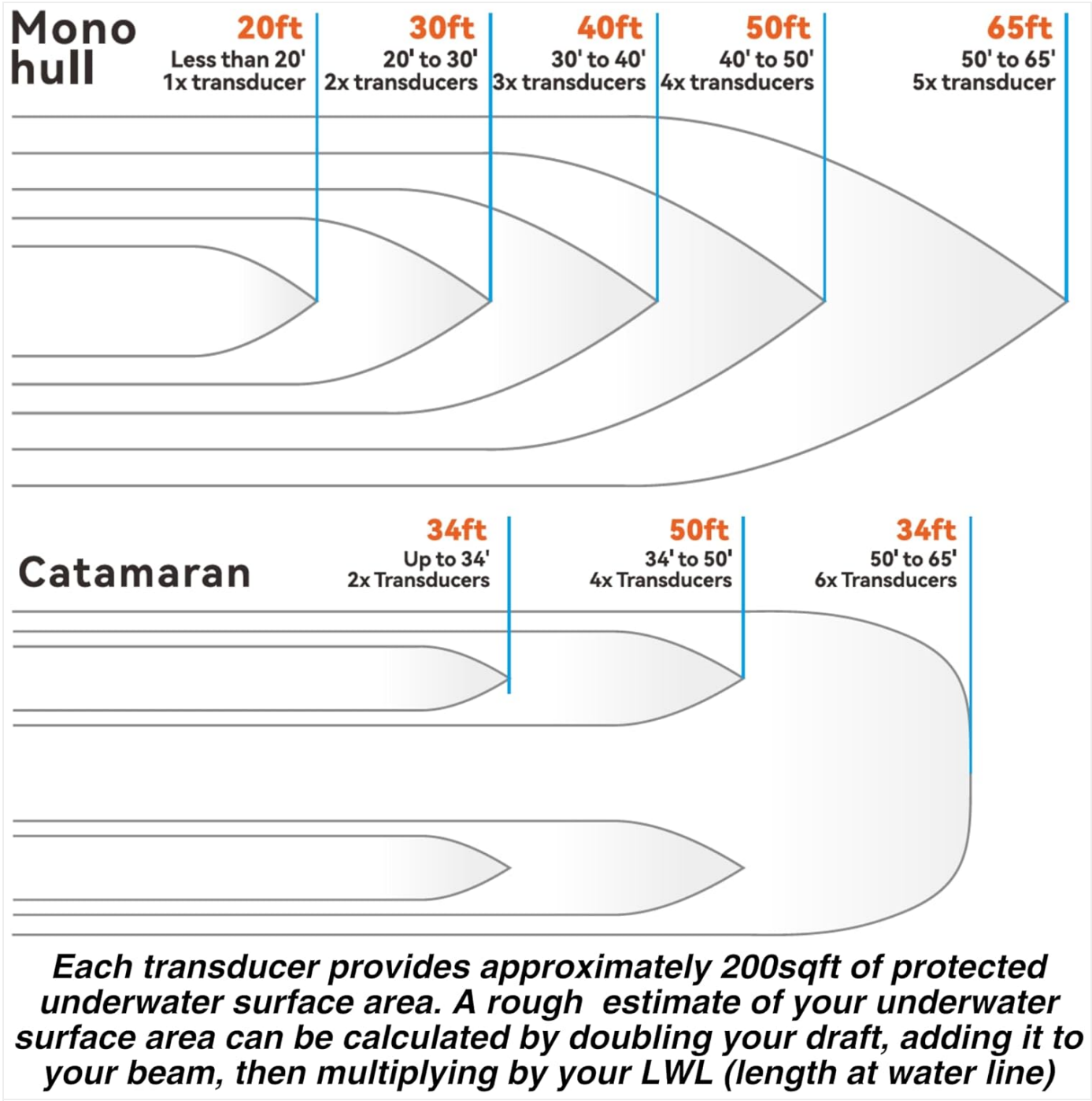


Figure 5: Transducer quantity recommendations based on boat type (mono-hull, catamaran) and length, illustrating coverage zones.



Figure 6: Specific transducer placement guidelines for various propulsion systems, including pods, sterndrives, and inboard/sail drives.

3.3 Installation Steps (General)

1. **Mount the Control Unit:** Choose a dry, accessible location within the boat, away from direct sunlight and excessive heat. Secure the control unit using appropriate fasteners.
2. **Mount the Transducer:** The transducer should be mounted internally on the hull, directly against the hull surface, in an area that provides good acoustic coupling to the water. Ensure the mounting surface is clean and flat. The transducer is IP68 rated and fully submersible, but it is typically mounted inside the hull.
3. **Connect Signal Cable:** Connect the 15 ft aviation-grade signal cable between the transducer and the control unit. Ensure connections are secure and watertight.
4. **Connect Power:** Connect the control unit to a 12V DC power source. The system features automatic calibration upon startup.



Figure 7: Visual details of the system's components emphasizing ease of installation and robust IP68 waterproof connections.

4. Operation

The SEAFLO Ultrasonic Hull Defense System is designed for fully automated, continuous operation once installed and powered. It operates 24/7 to provide constant anti-fouling protection.

4.1 Operating Modes

The system automatically adjusts its operation based on the input voltage, ensuring efficient power usage and continuous protection:

- **Full Power:** Output Range: 12.7V to 18.0V
- **Reduced Power:** Output Range: 12.0V to 12.6V
- **Sleep/Idle:** Output Range: Below 12.0V



Figure 8: Details of the system's automatic operating modes, adapting to power availability for optimal performance.

The system performs automatic calibration upon startup and continuously adjusts pulse intervals based on battery power to ensure efficient operation.

5. Maintenance

The SEAFLO Ultrasonic Hull Defense System is designed to be maintenance-free. Its primary function is to reduce the need for frequent hull cleaning and extend the life of your bottom paint. No user-scheduled maintenance is required for the system itself.

Regular visual inspection of the control unit and transducer connections is recommended to ensure they remain secure and free from damage. Keep the control unit area clean and dry.

6. Troubleshooting

The SEAFLO Ultrasonic Hull Defense System is designed for reliable operation. If you encounter any issues, consider the following basic checks:

- **No Power Indicator:** Check the 12V DC power connection to the control unit. Ensure the battery voltage is within the specified operating range.
- **Reduced Effectiveness:** Verify that the transducer is securely mounted against the hull and that the signal cable connections are tight. Ensure the transducer is not obstructed internally.
- **Unusual Noises:** The system operates silently. If you hear any unusual noises, disconnect power and inspect the unit and connections.

For persistent issues or concerns not addressed here, please contact SEAFLO customer support for assistance. Do not attempt to open or repair the control unit or transducer, as this may void your warranty.

7. Specifications

Specification	Value
Model	SFUAS1-01
Voltage	12V DC
Coverage per Transducer	200 sq.ft (approx.)
Frequency Range	20–45 kHz (adjustable)
Transducer Waterproof Rating	IP68 Submersible
Control Unit Dimensions (L x W x H)	13.11 x 8.62 x 6.18 inches (Package)
Package Weight	4.19 Kilograms
Included Components	(1) Ultrasonic Transducer, (1) Control Unit, (1) 15 ft Aviation-Grade Signal Cable

8. Warranty and Support

The SEAFLO Ultrasonic Hull Defense System is backed by SEAFLO's industry-leading **4-Year Limited Warranty**. This warranty guarantees superior product quality and dependable performance.

For warranty claims, technical support, or any questions regarding your product, please contact SEAFLO customer service. Refer to your purchase documentation for specific contact details or visit the official SEAFLO website.

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