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ApisQueen U5 SET

ApisQueen U5 Underwater Thruster Set Instruction Manual

Model: U5 SET

Brand: ApisQueen

1. INTRODUCTION

This manual provides essential information for the safe and effective operation of your ApisQueen U5 Underwater Thruster Set. Please read this manual thoroughly before installation and use. The U5 underwater thruster set is designed for various watercraft, offering powerful propulsion and precise control.



Image 1.1: The ApisQueen U5 Underwater Thruster Set, featuring two thrusters, a control box, a remote control, and two fins.

Key Features:

- **High Strength Construction:** Made of composite material with stainless steel bearings for rust and corrosion prevention.
- **Waterproof Design:** Potted seal ensures a waterproof depth of 50 meters, suitable for various watercraft.
- **Pre-configured Remote Control:** The remote control is pre-set for immediate use upon power connection.
- **100A Bi-Directional ESC:** Equipped with multiple protections including high voltage, over-current, over-temperature, and low voltage protection.
- **Freshwater Use Only:** Designed exclusively for freshwater environments. Seawater use is not supported and will significantly reduce thruster lifespan.

2. SAFETY INFORMATION

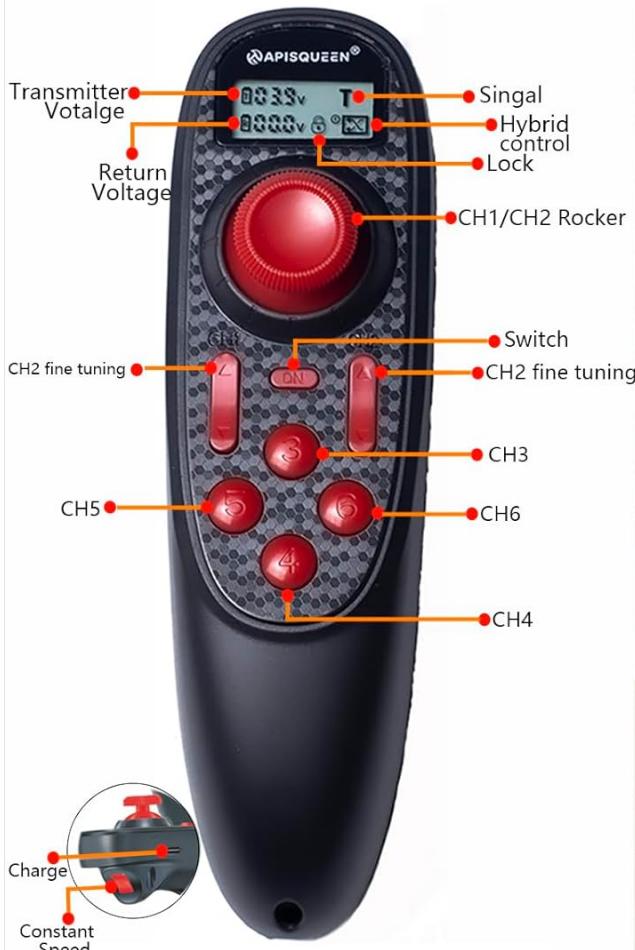
Adherence to the following safety guidelines is crucial for preventing injury and damage to the product.

- **Freshwater Use Only:** This U5 brushless motor is only suitable for freshwater environments. Use in seawater is not supported and will rapidly shorten the life of the thruster due to corrosion.

- **Remote Control is NOT Waterproof:** The remote control is not designed to be waterproof. Protect it from water exposure to prevent damage.
- **Power Connection:** Ensure all power connections are secure and correct before operating. Incorrect wiring can cause damage to the ESC and thrusters.
- **Propeller Safety:** Keep hands, hair, and loose clothing clear of the propellers when the thruster is powered on. Propellers can cause serious injury.
- **Voltage Compatibility:** Use only with 12-24V power sources. Exceeding the maximum voltage (29.2V full charge) can damage the system.
- **Adult Supervision:** Recommended for users aged 14 months and up. Adult supervision is advised during operation, especially for younger users.
- **Storage:** Store the thruster set in a dry, cool place away from direct sunlight and corrosive materials.

3. PACKAGE CONTENTS

Verify that all items listed below are present in your package:



- The remote control has completed all the setting, you don't need to do any setting operation;
- The remote control is switched on directly and the thruster operation can be controlled by toggling the rocker;
- Other channel functions of the remote control are mainly reserved for DIY enthusiasts to add other equipment;

Wrong Demonstration



the return voltage shows 0.00V and the signal doesn't show up, which indicates that the power was not turned on successfully, hybrid control doesn't display 1 indicating that the settings of the remote control have been disturbed.

Correct demonstration



After successfully turning on the power, the voltage, signal will be displayed.

Image 3.1: All components included in the ApisQueen U5 Underwater Thruster Set package.

- CW Thruster (1 unit)
- CCW Thruster (1 unit)
- Fins (2 units)
- Fin Holders (2 units)
- White Sealed Control Box (1 unit)
- Screws (6 units)
- Remote Control (not waterproof) (1 unit)
- ESC (Built into the white waterproof sealed box) (2 units)

4. PRODUCT OVERVIEW

The ApisQueen U5 Thruster Set consists of several key components designed for robust underwater propulsion and

control.

4.1 Underwater Thrusters

The set includes two powerful brushless thrusters, one clockwise (CW) and one counter-clockwise (CCW), providing a total thrust of 14Kg (30.86LBS). They are constructed with high-strength composite materials and feature stainless steel bearings for enhanced durability and resistance to rust and corrosion.



Image 4.1: Stainless steel bearings used in the thrusters, designed for rust and corrosion prevention.

4.2 Control Box with ESC

The waterproof control box houses two 100A Bi-Directional Electronic Speed Controllers (ESCs). These ESCs manage the power to the thrusters, enabling forward, backward, left, and right movements. They are equipped with multiple protection features including high voltage, over-current, over-temperature, and low voltage protection.



Image 4.2: Close-up view of the ApisQueen waterproof marine thruster control box.

PRODUCT PARAMETER			
PARAMETER TABLE			
suitable type	Model Boat/Drag Net Boat /Fishing Boat	Spread spectrum method	FHSS
Number of channels	6	responding speed	PWM: $\leq 20\text{ms}$
Weight	80g	Frequency Range	2.4GHZ ISM
distance	Ground: 300M Air: 800M	Receive sensitivity	-96 dbm
Transmit power	$\approx 90\text{mA}$	Receiver power supply range	DC 4V-9V
Modulation mode	GFSK	Transmitter power supply range	DC 4V-9V

*Remote control distance is based on actual usage, different receiver antenna models, hull characteristics will change, marking distance is for reference only



Image 4.3: Diagram illustrating the bi-directional functionality of the ESC, showing how propeller rotation dictates thrust direction for movement and turning.

4.3 Remote Control

The remote control is pre-configured for immediate use. It features a display for transmitter voltage, return voltage, signal strength, and hybrid control lock. It also includes a CH1/CH2 rocker for primary control, fine-tuning buttons, and additional channels (CH3-CH6) reserved for DIY enthusiasts to add other equipment. **Note: The remote control is NOT waterproof.**

5. INSTALLATION & SETUP

Follow these steps to properly install and set up your ApisQueen U5 Underwater Thruster Set.

5.1 Attaching Fins and Thrusters

1. Securely attach the two fins to your watercraft using the provided fin holders and screws. Ensure they are positioned to provide optimal thrust and maneuverability.
2. Mount the CW and CCW thrusters to the fin holders. Ensure a firm connection to prevent movement during operation.

5.2 Connecting the Control Box

1. Mount the white sealed control box in a secure, accessible location on your watercraft.
2. Connect the thruster cables to the corresponding ports on the control box. Ensure a tight, waterproof seal for each connection.
3. Connect the power cables from the control box to your 12-24V battery source. Observe correct polarity (positive to positive, negative to negative).

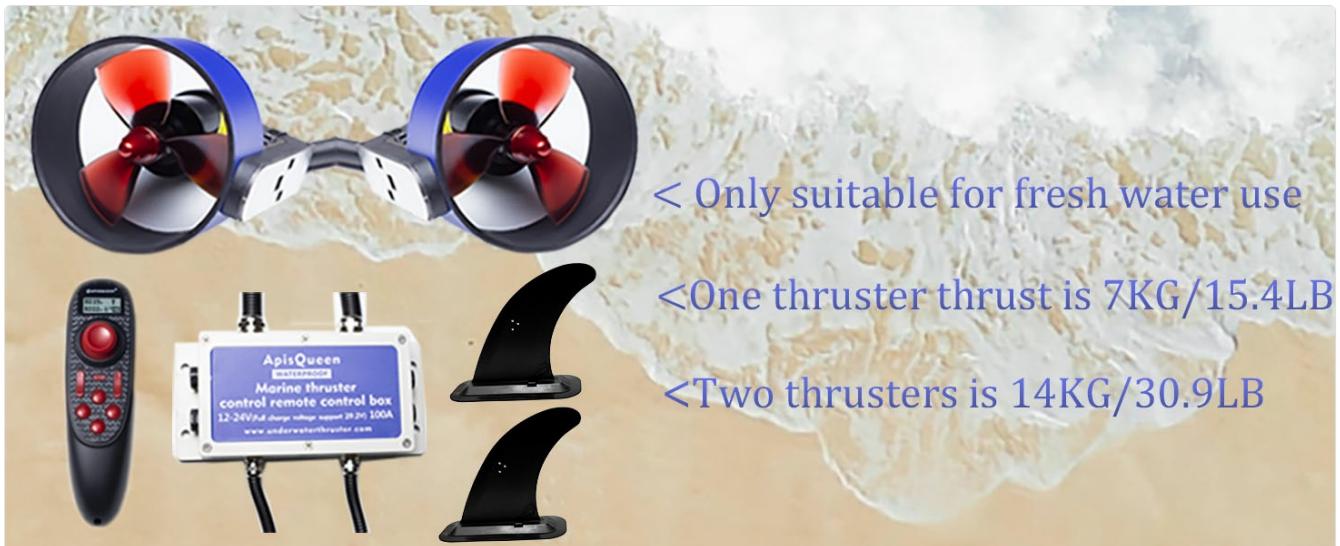


Image 5.1: Diagram illustrating the proper power connection points for the thruster system to a battery.

6. OPERATING INSTRUCTIONS

The remote control for the U5 set has completed all necessary settings. No additional configuration is required for basic operation.

6.1 Powering On

1. Ensure the thrusters are submerged in freshwater.
2. Connect the power source to the control box.
3. Turn on the remote control. The display should show the voltage and signal strength.



Image 6.1: Correct remote control display showing voltage and signal after successful power-on.

6.2 Remote Control Functions



Image 6.2: Diagram of the ApisQueen U5 remote control with labeled components and functions.

- **CH1/CH2 Rocker:** This is the primary control for thruster operation. Toggle the rocker to control the speed and direction of the thrusters.
- **CH1/CH2 Fine Tuning:** Use these buttons for minor adjustments to the thruster output.
- **Switch:** Power on/off the remote control.
- **Constant Speed:** Activates or deactivates a constant speed mode.
- **Charge Port:** For charging the remote control's internal battery.
- **Transmitter Voltage:** Displays the remote control's battery voltage.
- **Return Voltage:** Displays the main battery voltage of the thruster system.
- **Signal:** Indicates the strength of the connection between the remote and the control box.
- **Hybrid Control Lock:** Locks the hybrid control mode.
- **CH3, CH4, CH5, CH6:** These channels are mainly reserved for DIY enthusiasts to add other equipment and are not typically used for standard thruster operation.

6.3 Advanced ESC Tuning (For Professional Users)

For professional players or corporate customers who require ultimate customization, the ESC offers open tuning software. A separate tuning board is required to set desired parameters. For general users, it is recommended to use the factory default parameters.

7. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your thruster set.

- **After Each Use:** Rinse the thrusters and control box with fresh water to remove any debris or residue.
- **Inspection:** Regularly inspect propellers for damage or entanglement. Check all cables and connections for wear or corrosion.
- **Bearing Care:** The stainless steel bearings are designed for corrosion prevention, but periodic inspection for smooth operation is recommended.

- **Storage:** Store the entire set in a dry, cool place. Ensure the remote control is kept away from moisture.
- **Battery Care:** Follow the manufacturer's guidelines for your battery's charging and storage to maximize its lifespan.

8. TROUBLESHOOTING

If you encounter issues with your ApisQueen U5 Thruster Set, refer to the following common problems and solutions.

8.1 Remote Control Display Issues

If the remote control display shows 0.00V for return voltage and no signal, this indicates a power issue or that the remote control settings have been disturbed.



Image 8.1: Incorrect remote control display showing 0.00V return voltage and no signal.

- **Check Power Connection:** Ensure the main battery is properly connected to the control box and is charged.
- **Re-pair Remote (if applicable):** Although the remote is pre-set, if settings are disturbed, consult ApisQueen support for re-pairing instructions.
- **Remote Battery:** Ensure the remote control itself is charged.

8.2 Thrusters Not Responding

- **Check Remote Signal:** Ensure the remote control shows a strong signal.
- **Battery Level:** Verify that the main battery has sufficient charge. Low voltage protection may prevent operation.
- **ESC Protection:** The ESC has over-current and over-temperature protection. If the system was recently overloaded or overheated, allow it to cool down.
- **Cable Connections:** Inspect all cable connections between thrusters, control box, and battery for looseness or damage.
- **Propeller Obstruction:** Check if anything is obstructing the propellers.

8.3 Reduced Thrust

- **Battery Charge:** A low battery charge will result in reduced thrust.
- **Propeller Damage:** Inspect propellers for chips, cracks, or deformation. Damaged propellers can significantly reduce efficiency.
- **Debris:** Ensure no weeds, fishing lines, or other debris are caught in the thrusters.

9. TECHNICAL SPECIFICATIONS

Detailed specifications for the ApisQueen U5 Underwater Thruster Set.

Feature	Specification
Model Number	U5 SET
Total Thrust	14Kg (30.86 LBS)
Operating Voltage	12-24V (Full charge voltage support 29.2V)
ESC Current	100A (Bi-Directional)
Waterproof Depth	50 meters
Thruster Material	High strength composite material, stainless steel bearings
Recommended Environment	Freshwater only
Product Dimensions (Thruster)	9.6cm (width) x 9.7cm (height)
Product Dimensions (Fin)	18.5cm (base length) x 22.3cm (height)
Product Dimensions (Remote Control)	3.7cm (width) x 13.8cm (length)
Item Weight	6.53 pounds (total package)
Manufacturer Recommended Age	14 months and up
Batteries Required	1 Lithium Polymer battery (for main power, not included)

Dimensions Diagrams:



Image 9.1: U5 Thruster dimensions.



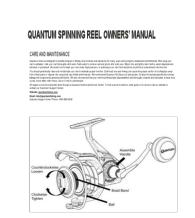
Image 9.2: Thruster fin dimensions.



Image 9.3: Remote control dimensions.

10. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact ApisQueen customer service through the retailer where the product was purchased or visit the official ApisQueen website. Please retain your proof of purchase for warranty claims.

	<p>APISQUEEN O'Hara Series Brushless ESC for RC Boats User Manual</p> <p>User manual for APISQUEEN O'Hara series brushless electronic speed controllers (ESCs) designed for RC boats. Covers features, specifications, wiring diagrams, protection functions, operation instructions, and troubleshooting for models 50A, 70A, 90A, 120A, and 150A.</p>
	<p>Crivit Fishing Rod Sets - User Manual and Technical Data</p> <p>Comprehensive user manual for Crivit fishing rod sets including SPIN ROD FISHING SET 210-5, KIDS' FISHING SET 165-5, LEDGER FISHING/FEEDER ROD SET 300-5, and SPIN ROD FISHING SET 270-5. Contains assembly instructions, usage tips, technical specifications, safety information, and warranty details.</p>
	<p>CARSON Dragster Brushless-Set Turbo: Anleitung, Technische Daten & Fehlerbehebung</p> <p>Umfassende Anleitung für das CARSON Dragster Brushless-Set Turbo (Modelle 500906301/500906302) für 1:10 RC-Autos. Bietet technische Daten, Anschlusspläne, Sicherheitshinweise, Fehlerbehebung und Garantieinformationen in mehreren Sprachen.</p>
	<p>Sharp Atomic Wall Clock SPC971: Instructions and Warranty</p> <p>User manual and warranty information for the Sharp Atomic Wall Clock (Model SPC971), detailing setup, features, and one-year limited warranty.</p>
	<p>Quantum Spinning Reel Owner's Manual: Care, Maintenance, and Operation</p> <p>Comprehensive guide to caring for, maintaining, assembling the handle, spooling line, and setting the drag on your Quantum spinning reel. Includes tips for optimal performance and longevity.</p>
	<p>Kato Engineering Synchronous Motor-Generator Set Instruction Manual</p> <p>Comprehensive instruction manual for the installation, operation, and maintenance of Kato Engineering synchronous, common-shaft motor-generator sets. Includes troubleshooting guidance, safety instructions, and technical details.</p>