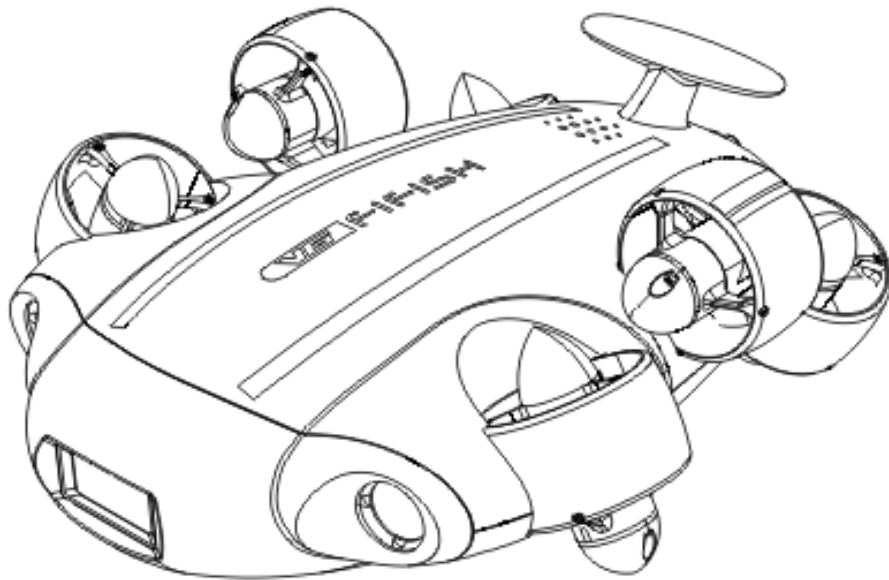


# FIFISH V6/V6S



## Quick Start Guide

V 1.4



Thank you for choosing FIFISH as your underwater exploring kit. This Quick Start Guide will help you learn and operate FIFISH V6 and V6s, the 1<sup>st</sup> compact size **OMNI**-directional ROV.

## Safety and Regulations

Operating FIFISH products requests training and practice. Please read through this document before operating in water.



Do NOT touch the running propeller



Beware of the environment while operating the ROV (tide, water level, water traffics, etc.)



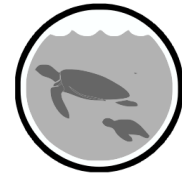
Do NOT throw the ROV when deploying into the water



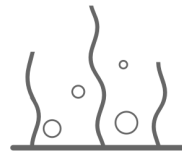
Avoid overheating of motors, do NOT run the thrusters in air for over 30 seconds



Do NOT look directly to the LEDs, and do NOT touch the LEDs when they are ON.



Be part of marine protection and conservation for the local coral and marine life



Avoid the reefs, rocks, seaweeds, fishline or other objects that may cause damage to or entanglement of the ROV or tether



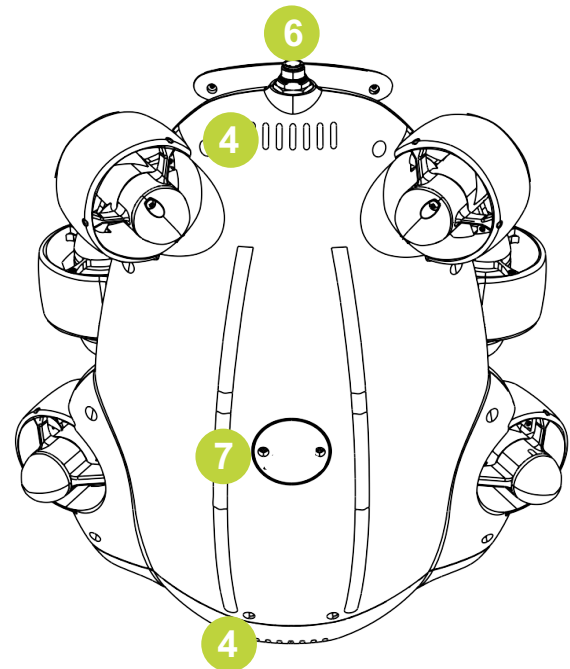
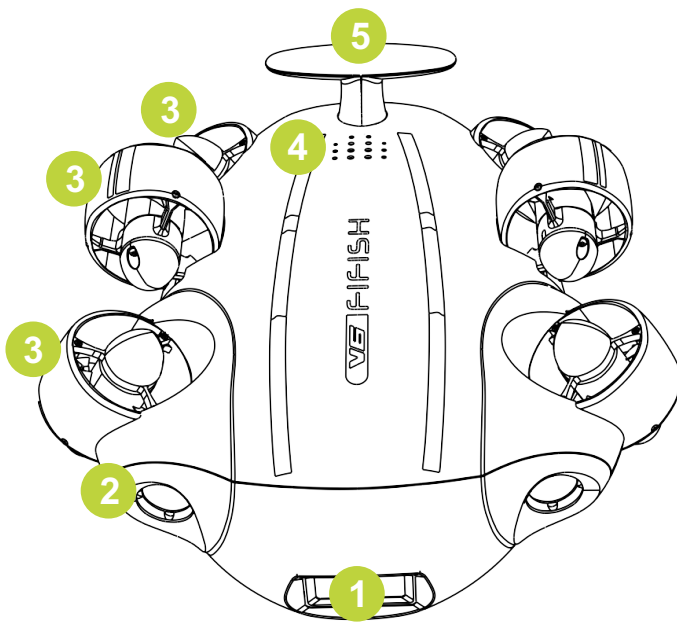
Maintain after dive, check the **Maintenance Guide** in page 23

# Introduction

## About FIFISH V6

FIFISH V6 is a compact-sized **OMNI**-directional ROV equipped with 4K UHD camera. The patented *Smart Thruster Array*<sup>™</sup> enables V6 to break the limits of movement and unleash the user's fully creativity. Moving sideways while tilting in  $\pm 90^\circ$  is now possible. The professional 4K camera, with a  $166^\circ$  FOV fixed lens for underwater video filming / photo shooting, supports H.265 HEVC video format, as well as RAW in DNG.

## ROV (Remotely Operated underwater Vehicle)



1. 4K Underwater Camera
2. 2000 lumens LED  $\times$  2
3. Thrusters  $\times$  6
4. Vent Holes

5. Rear Wing<sup>1,2</sup>
6. ROV Tether Port
7. Mounting Port

Note:

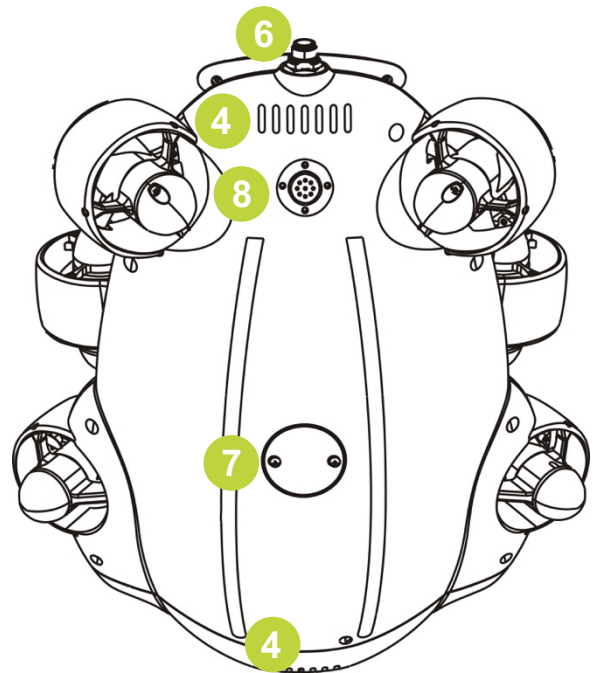
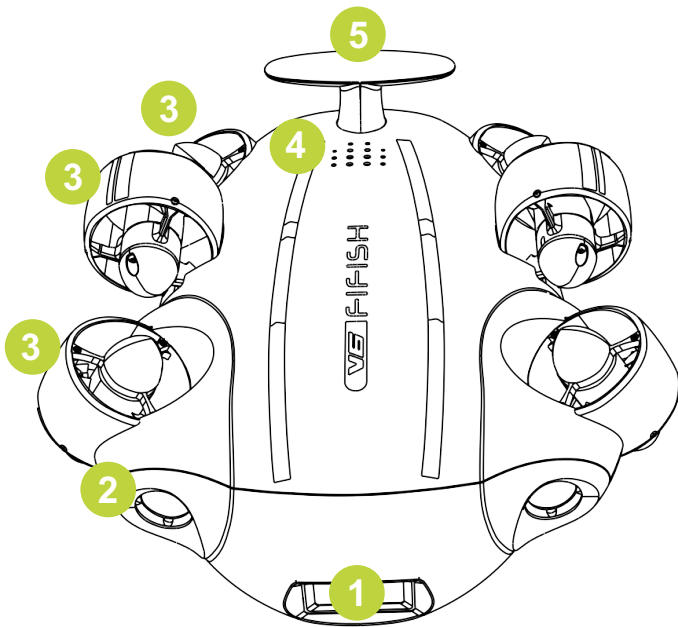


1. Do NOT shake or swing while holding the rear wing
2. Make sure hook the loop of tether on the stem of rear wing when connect  
(See **Preparation and Connection** / **Hardware Connection** / **D** in page 8)

## About FIFISH V6s

FIFISH V6s is the upgrade version of FIFISH V6. V6s equipped with 156 Wh battery, and the underwater robotic arm in standard pack. V6s will allow the underwater objects reachable, perfect tool for scientific survey, marine biology, underwater archaeology, criminal investigation, aquaculture easier than ever.

## ROV



1. 4K Underwater Camera
2. 2000 lumens LED × 2
3. Thrusters × 6
4. Vent Holes

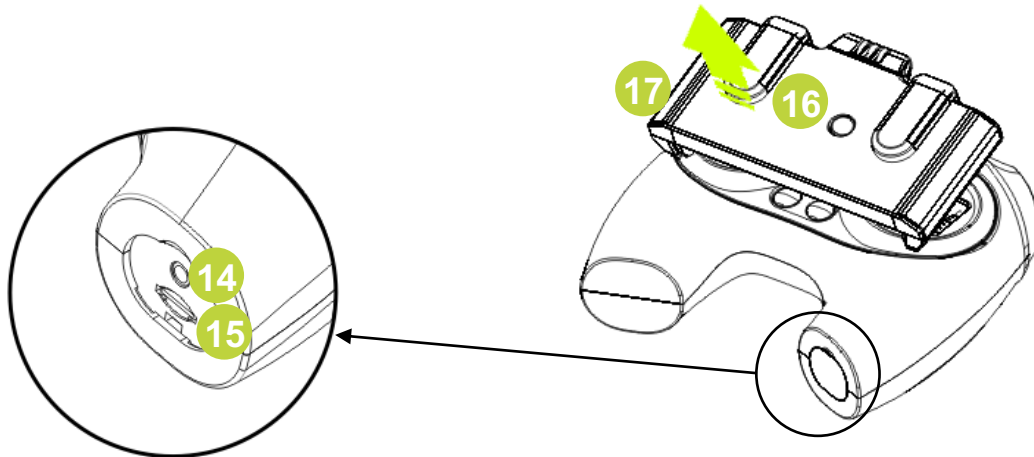
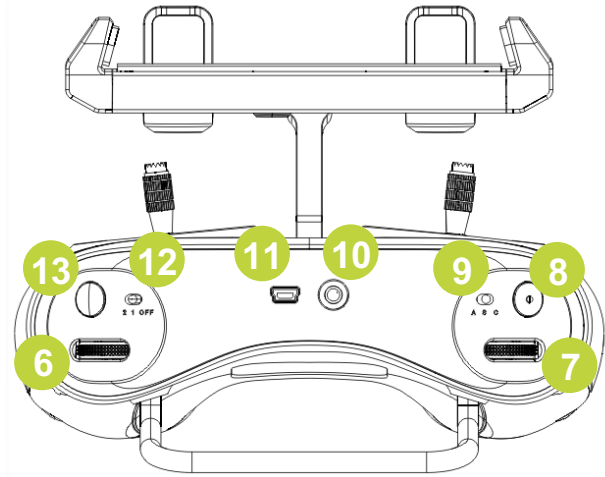
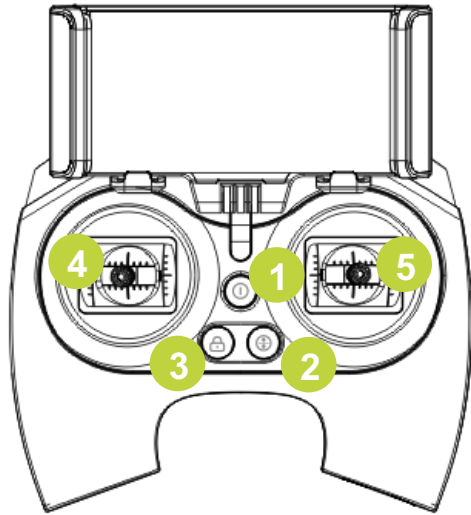
5. Rear Wing<sup>1, 2</sup>
6. ROV Tether Port
7. Mounting Port
8. Robotic Arm Port<sup>3</sup>

### Note:



1. Do NOT shake or swing while holding the rear wing
2. Make sure hook the loop of tether on the stem of rear wing when connect (See **Preparation and Connection** / **Hardware Connection** / **D** in page 8)
3. The robotic arm port shall be clean and dry at all time.

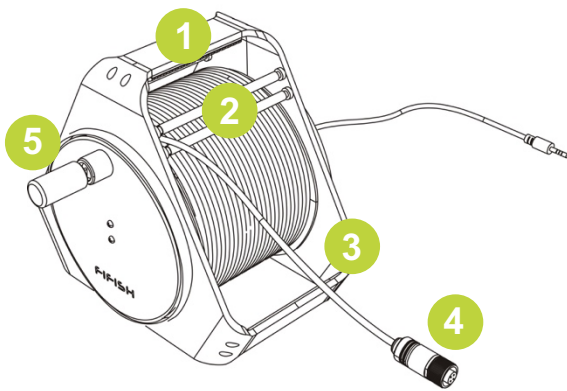
## RC (Remote Controller)



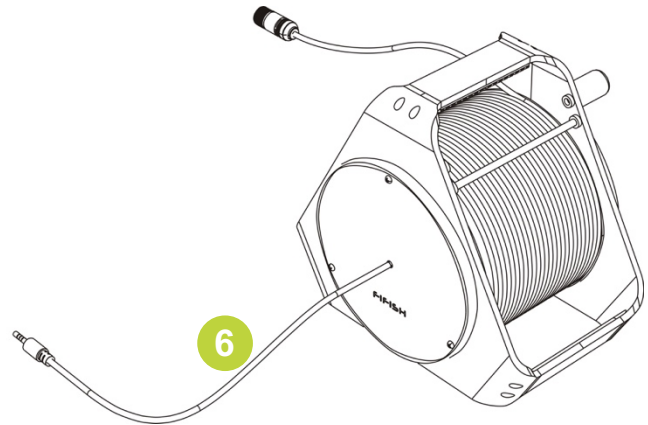
1. ON/OFF
2. Depth Holding (ON/OFF)
3. LOCK/UNLOCK
4. Left Control Stick
5. Right Control Stick
6. Right Wheel
7. Left Wheel
8. Video Record/Stop
9. Control Mode (Attitude / Sport / Combine)

10. Tether Port
11. Ethernet port
12. LED Brightness (OFF, 1, 2)
13. Photo
14. Charging Port
15. Micro SD Slot
16. Clamp Release Button
17. Clamp for Smart Device

## Spool and Tether



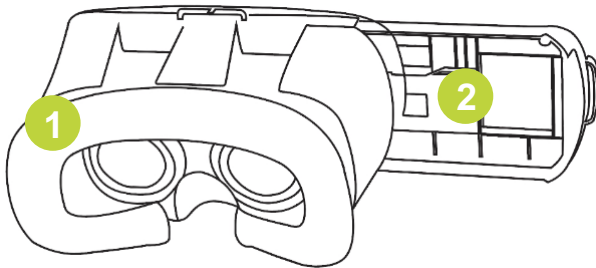
1. Spool Handle
2. Tether Regulator
3. Spool Frame



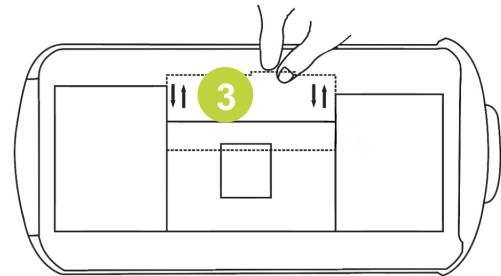
4. Tether Port
5. Foldable Handle
6. Tether

## Optional Upgrade Accessories

### 1. VR Goggle



1. Housing
2. Smart Phone Bracket

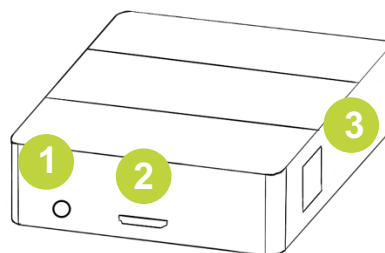


3. Adjustable Clamp (Suitable for 3.5" to 6.0" smart phones)



Hold your cell phone when you lock and unlock the clamp.

### 2. HDMI Box



1. Power Port
2. HDMI Output

3. Ethernet Port

# Preparation & Connection

## Install FIFISH APP

### 1. APP download & Installations

Option 1. Scan the QR code below to download FIFISH APP.

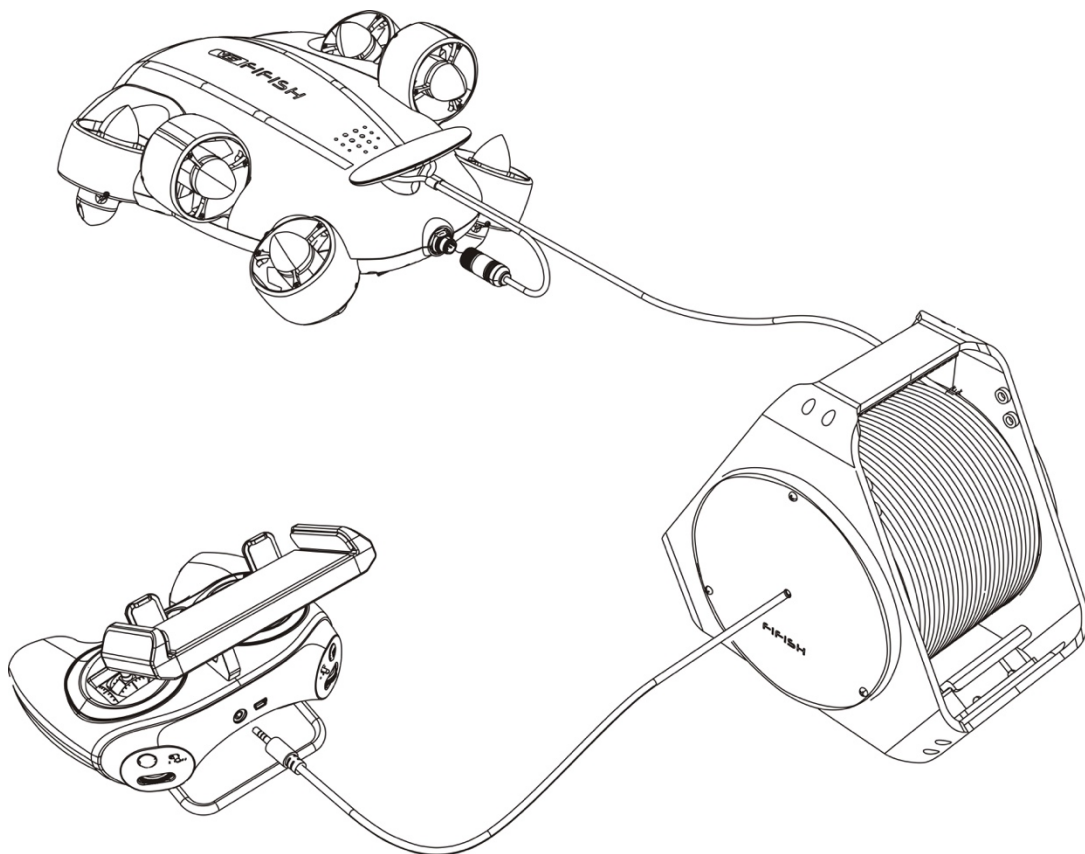


Option 2. Search the FIFISH on App Store (iOS) or GooglePlay (Android).

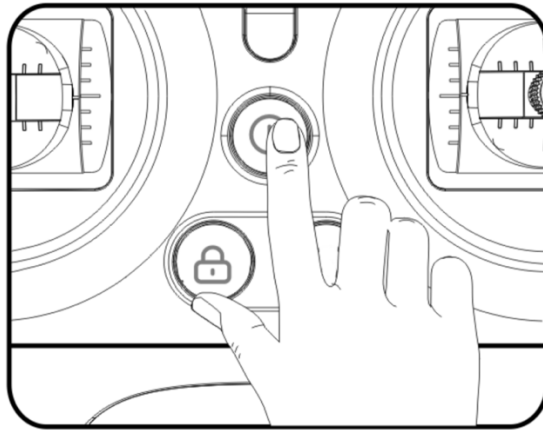
Option 3. Go to QYSEA website ([www.qysea.com](http://www.qysea.com)) support/APP download

### 2. Hardware connection

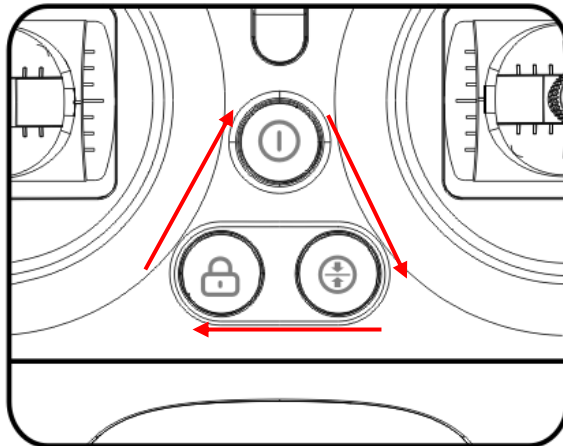
Overview of Hardware connection



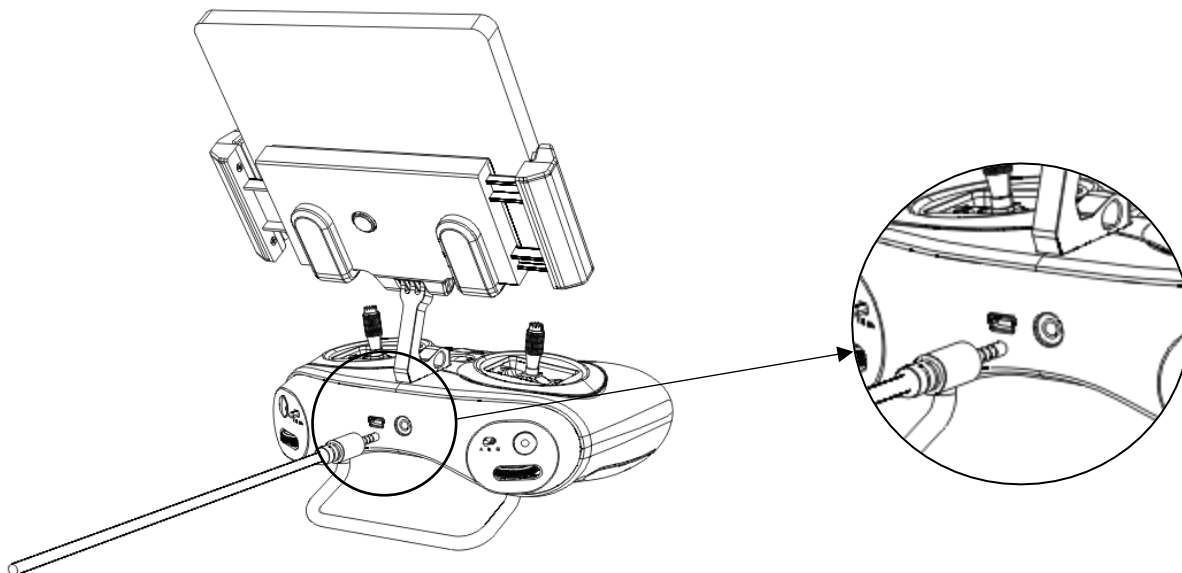




**A.** Turn ON the remote controller. Press and hold the ON/OFF button, until you hear 7 low to high chimes (Do, Re, Mi, Fa, Sol, La, Ti)

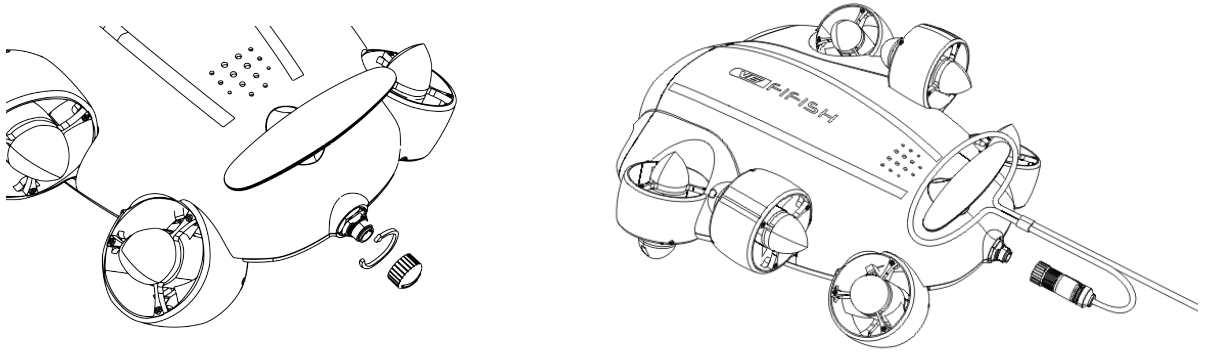


**B.** The “ON/OFF”, “Depth Holding” and “LOCK/UNLOCK” will rotate clockwise, which indicates “Ready to be connected”

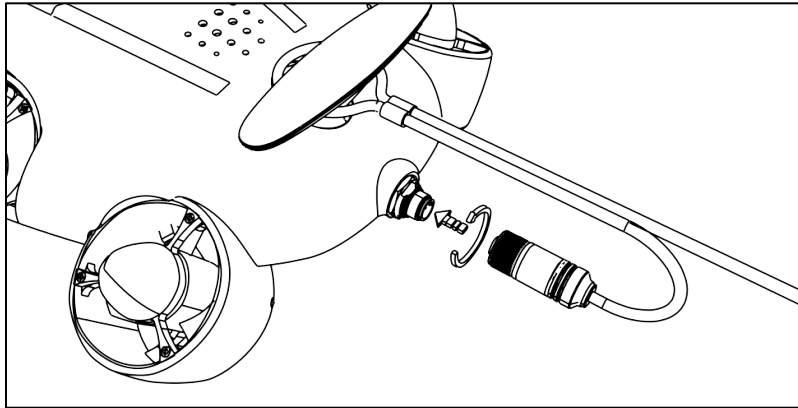


**C.** Plug the tether (3.5 mm head) into remote controller

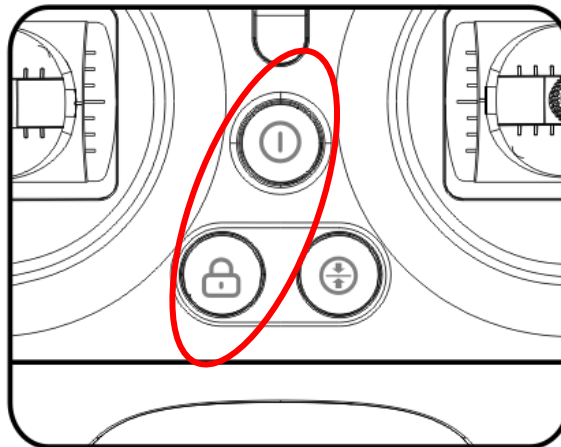




**D.** Take off the protect cap, tie the knot around the rear wing

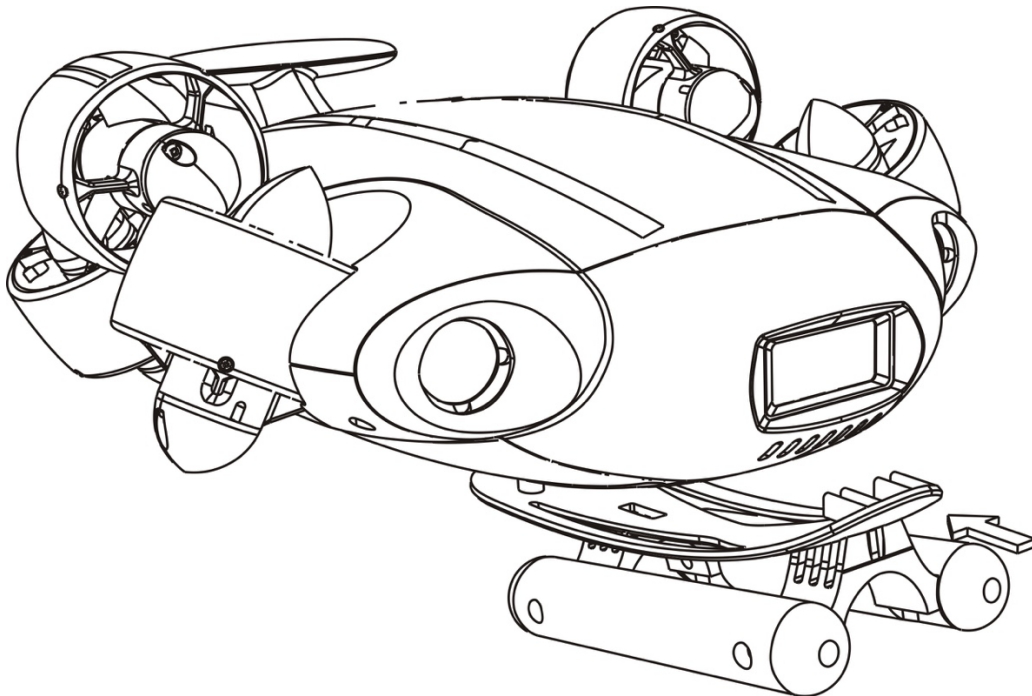


**E.** Plug the tether (ROV end) into the ROV, the ROV will automatically turn on. The music will play 5 chimes: (Do, Re, Mi, Do, Mi)

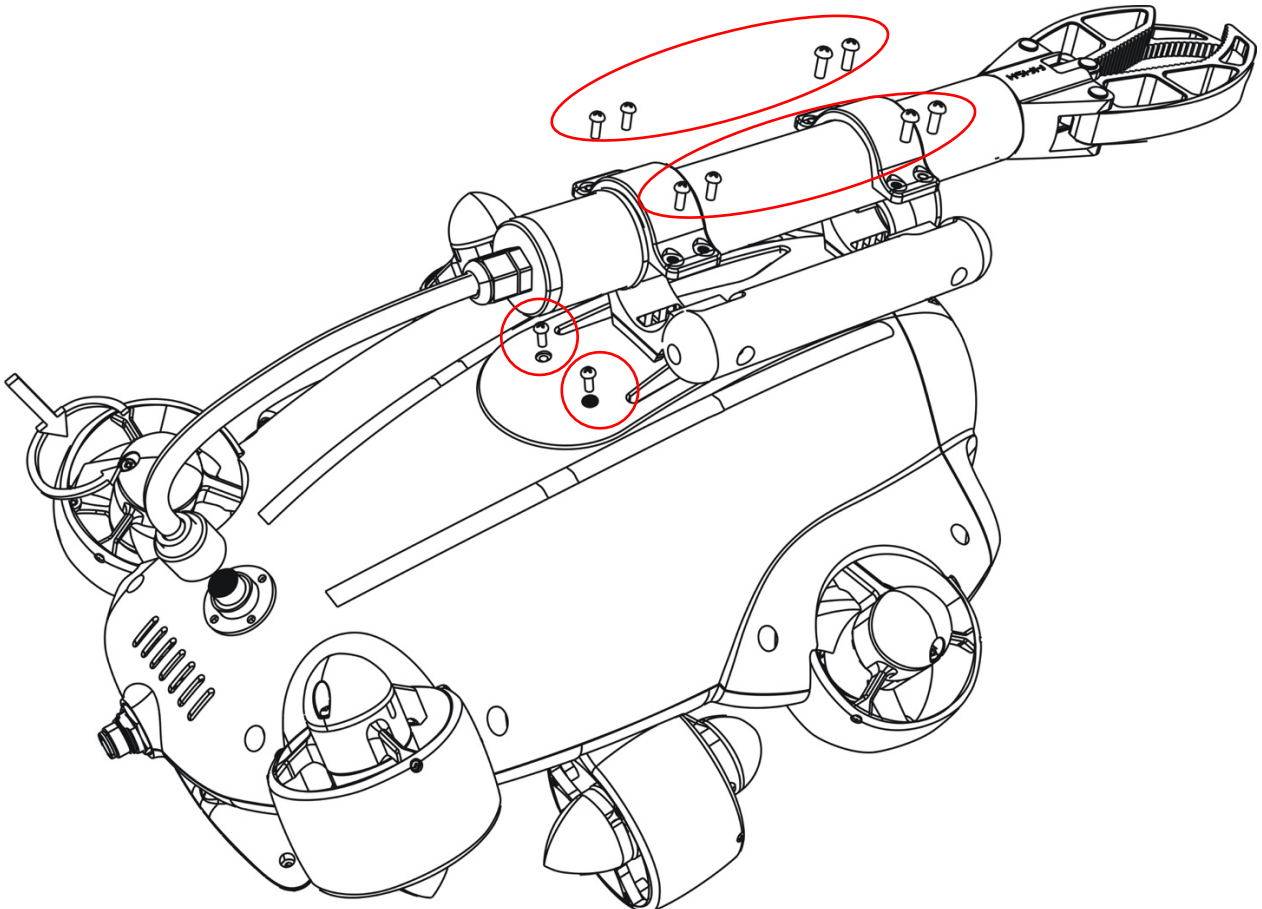


**F.** Check the remote controller, the “ON/OFF” and “LOCK/UNLOCK” buttons consistently on indicates the successful hardware connection

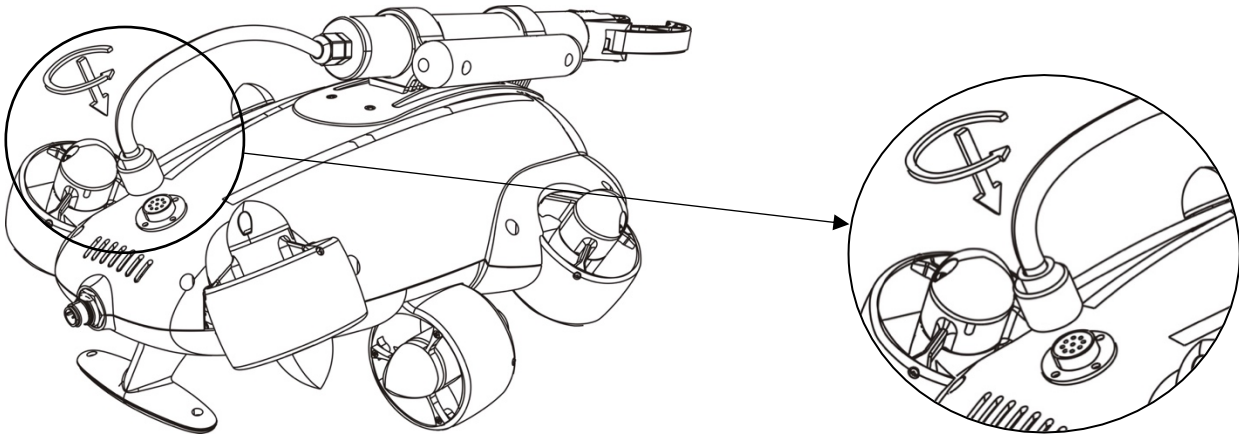
## Robotic Arm Installation for V6s ONLY



**G.** Insert the bracket into front vent holes and mounting port



**H.** Fasten the 10 screws to securing robotic arm on the bracket



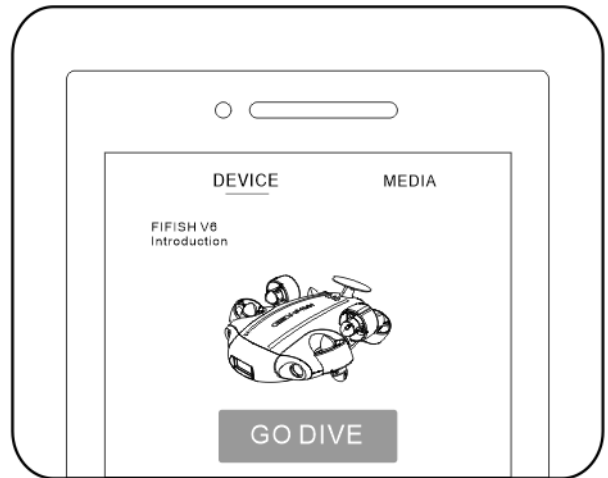
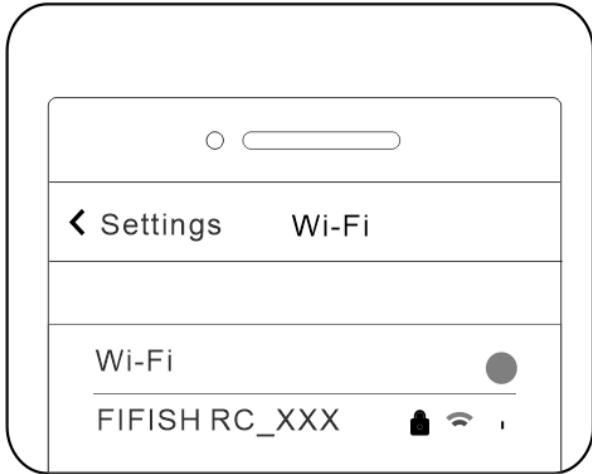
I. Insert the robotic arm plug into robotic arm port.

### 3. Software connection

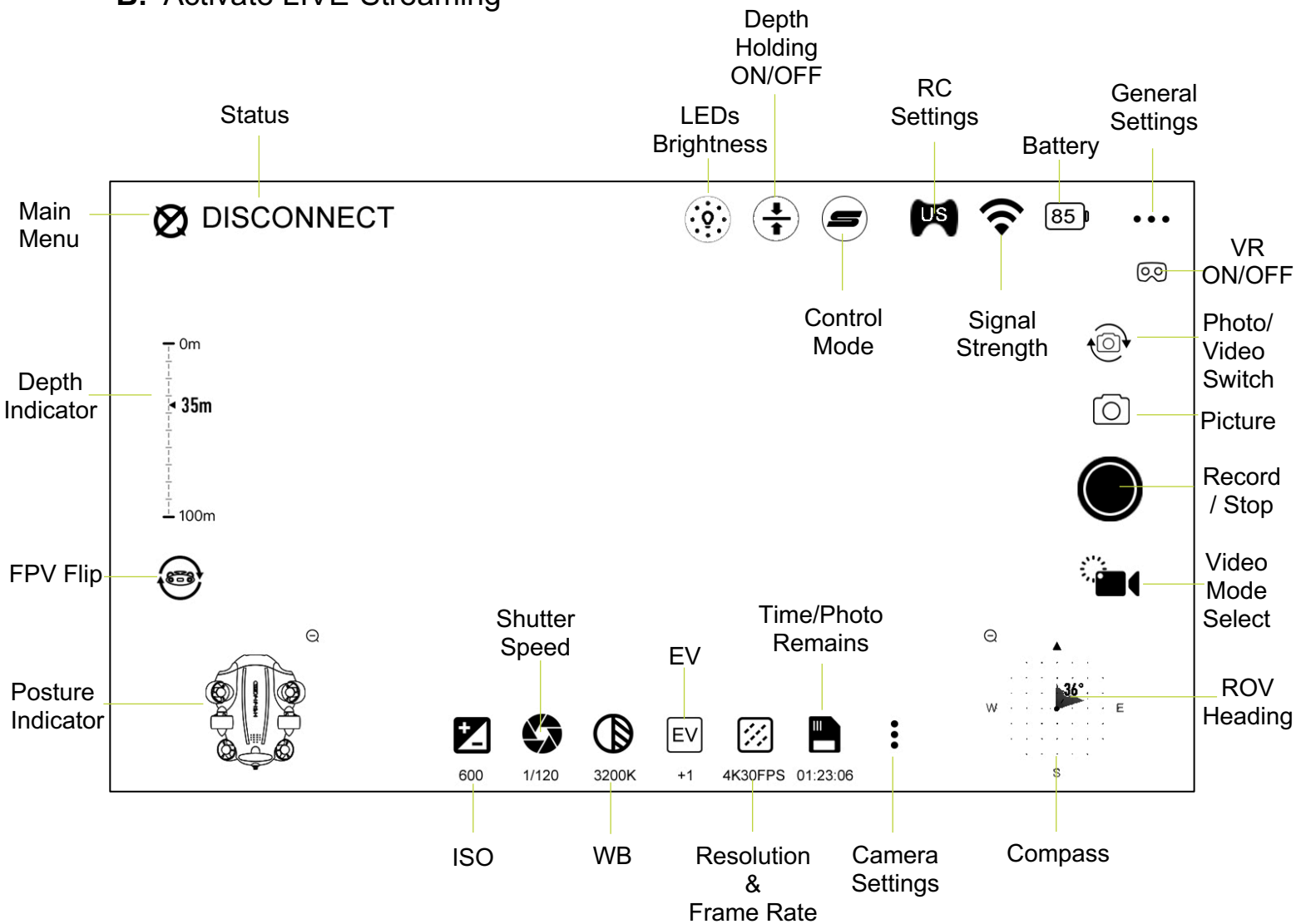
#### A. Connect with the RC's Wi-Fi

Find the Wi-Fi network name "FIFISHRC\_xxxx"

The password is "1234567890"



#### B. Activate LIVE-Streaming

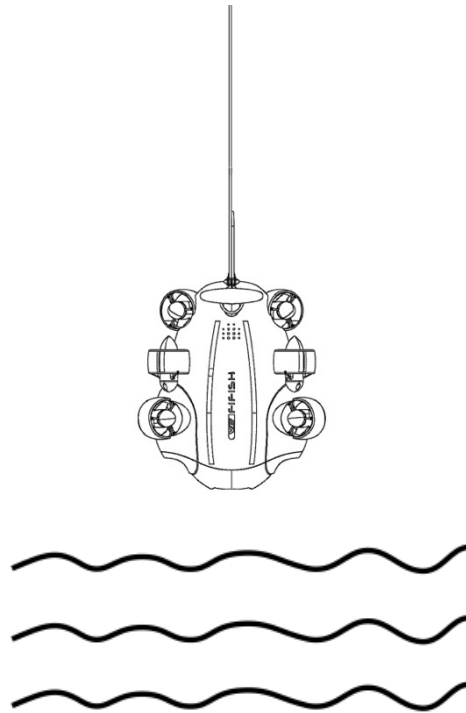


### C. Deploy the ROV



Pull **ONLY** on the tether and deploy the ROV into the water. Unlock the thrusters and start dive.

The depth shall greater than 1 meter (about 3 feet) for better experience.



### 4. Retrieve

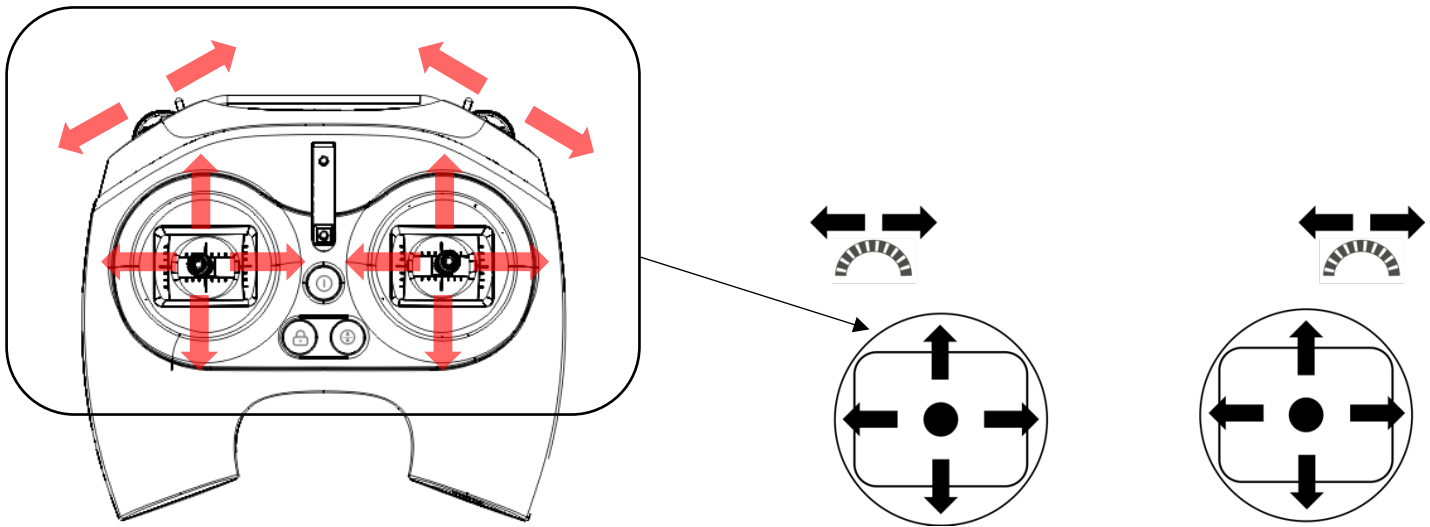
Lock the thrusters and stop recording the video before closing the FIFISH App. Pull **ONLY** on the tether to retrieve the ROV.

# Introduction of Control

The FIFISH V6/V6s uses the patented *Smart Thruster Array*™ to ensure the ultimate maneuverability and delivers the 6 DOF (degree of freedom).

- V6/V6s can move in descend & ascend, left and right, forward and backward.
- V6/V6s can rotate in 360° yaw (z-axis), 360° pitch (y-axis), 360° roll (x-axis).

We have simplified the Left Joystick, Right Joystick, Left Wheel and Right Wheel into the following symbol. The arrows on RC indicate the command and the arrows on ROV indicate the actual movements. **For more information, please check on FIFISH APP, Go Dive/General Settings/Second Column.**



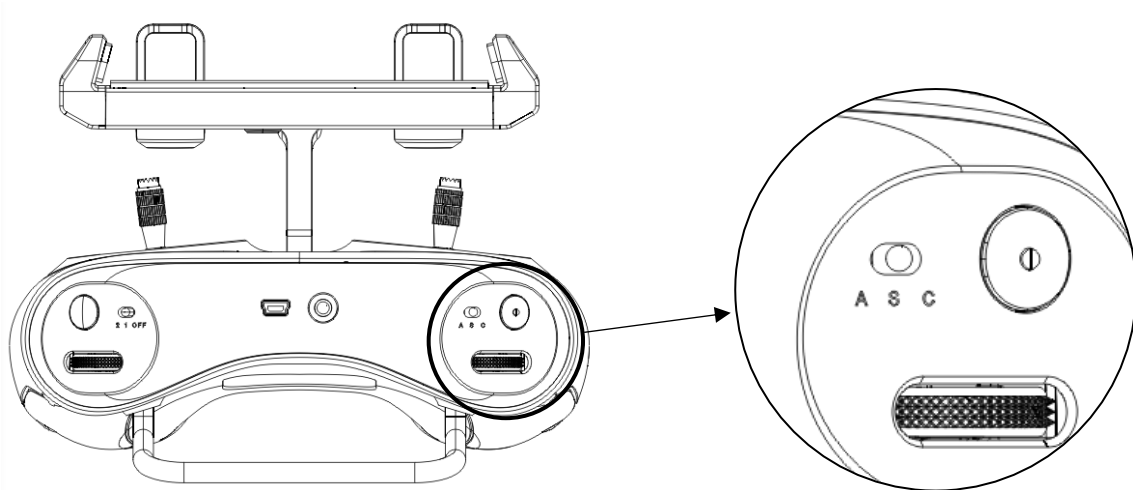
Remote Controller	V6 Operation Preference Setting	
	ROV Modes (USA/JPN/CHN)	UAV Modes (USA/JPN/CHN)
	<p>Ascend</p> <p>Descend</p>	<p>Pitch Up</p> <p>Pitch Down</p>
	<p>Left</p> <p>Right</p>	<p>Roll Counter Clockwise</p> <p>Roll Clockwise</p>

Note: 1. From the FPV (first person view) the bright yellow is rolling clockwise and black is rolling counter clockwise, and the rolling can activate in sport or Combination mode.

## Methods of Control

FIFISH V6/V6s supports 3 modes for control: A, S, and C.

A is Attitude Auto mode, S is Sport mode, C is the Combination mode.



### 1. Attitude Mode

Attitude mode is designed for beginners. The ROV will not roll in Attitude mode. The ROV will stay in same depth moving when depth holding is ON. Even with pitch angle, the depth will be the same.

### 2. Sport Mode

Sport mode is designed for skillful pilots. Sport mode will enable the rolling freedom, so, you will access all 6 degree of freedom of V6/V6s. Controlling and moving based on the FPV (Frist Person View), do not operate in third person view. The ROV will only stay in the same depth with no command input, when depth holding ON.

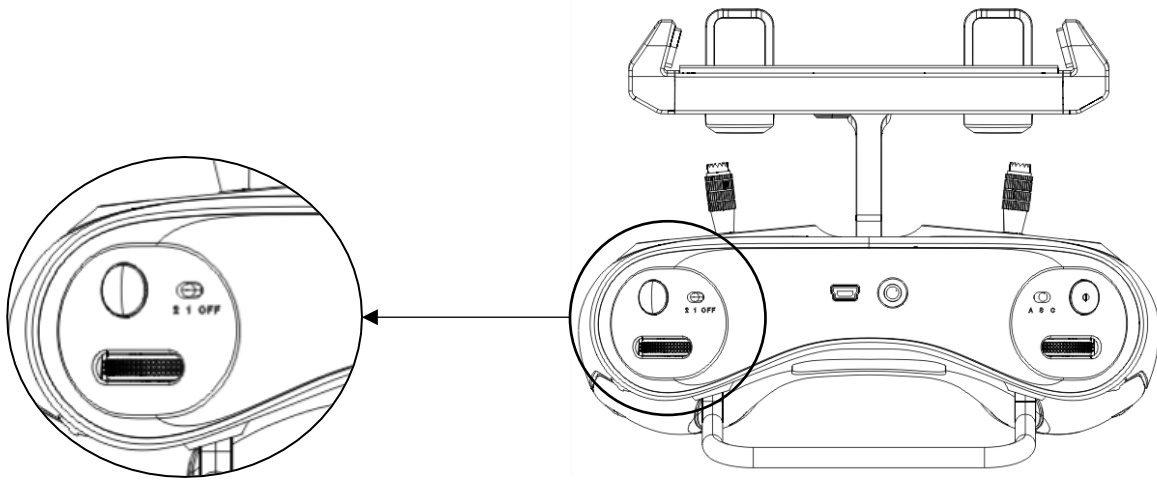
### 3. Combination Mode

Combination mode activate the head tracking controlling via FIFISH VR Goggle, which allow pilot to use the FIFISH VR Goggle to pitch, roll and yaw. Combination mode delivers the intuitive control and immersive experiences. Combination mode supports head tracking and remote controller working together.



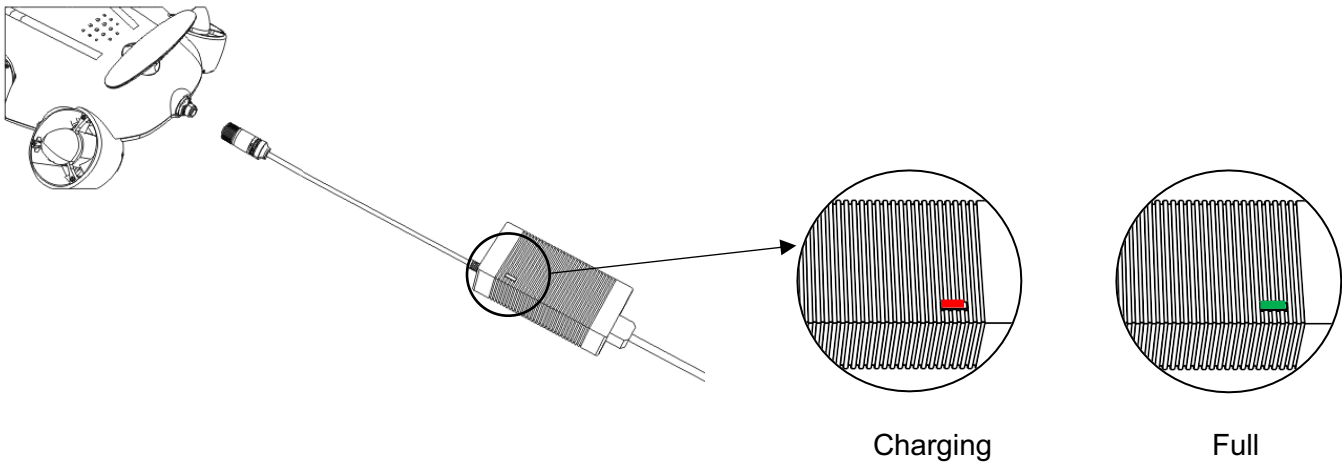
#### 4. Robotic Arms for V6s ONLY

The robotic arm can be activated ONLY in Attitude mode. Use the right wheel to open and close the robotic claws.



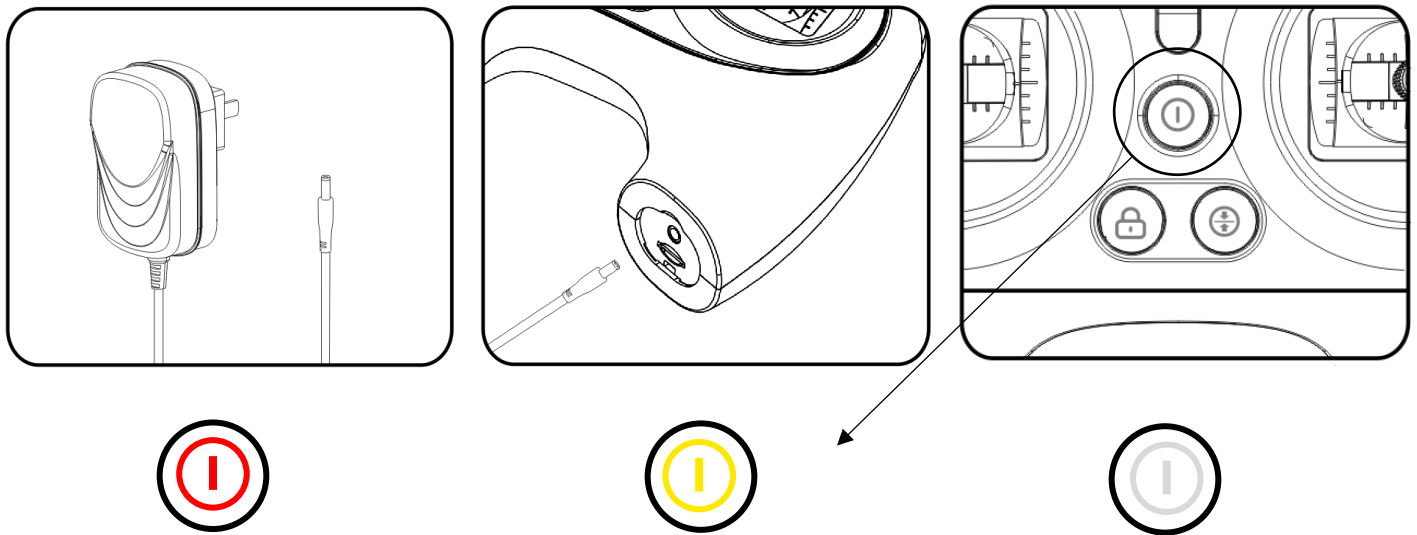
# Charging

## 1. ROV Charging



RED LED indicator illuminates while charging and green LED indicator illuminates while fully charged.

## 2. RC Charging



Red, less than 30%

Yellow, 30% to 70%

White, 70% or higher

Flashing POWER button, RC is charging,  
White steady POWER button, RC is fully charged.

# Maintenance

1. Soak ROV at least 1 hour after dive, then let the motors run in fresh water at least 10 minutes and rinse the ROV with fresh water. Air dry and avoid direct sunlight (for more information, please check the ***Maintenance Guide***)
2. Keep the every connector (port and plug) dry and clean at all time. Put on the protective cap all the time. The salt and moisture may cause corrosion on the connector. Clean the plug with running fresh water and dry with cotton pad or tissue paper.
3. Check the propellers after every dive. Make sure NO entanglement, i.e. seaweed or fishing lines. Turn on the ROV (See the ***Preparation & Connection*** Section, page 5-12) and check the thruster and test movement and rotation.
4. Clean sand regularly. Soak the ROV inside the clean fresh water at least 1 hour. Shake ROV tail down or head down position, let sand washed out through the venting holes. Wash until the clean water drips out.
5. Check the tether on regular basis, replace the tether if break or damage appears.
6. Store ROV and RC in dry and cool environment (Temperature range: 5°C to 25°C or 41°F to 77°F).
7. For long-term storage, keep 50% to 60% of battery level. Charge and discharge every 90 days to keep the activation of Lithium battery.

# Specifications:

## ROV:

Dimension	383 mm × 331 mm × 143 mm (15 in × 13 in × 5 5/8 in)
Weight	3.9 kg (8 5/8 lbs)
Thrusters	6 (4 × Vector + 2 × Horizontal)
Maneuverability	6 DOF (Degree of Freedom): Moving: left & right, up & down, forward & backward Rotation: 360° yaw, 360° pitch, 360° roll
Posture Lock™	± 0.1° pitch angle or ± 0.1° roll angle and moving in any direction
Depth Holding	Suspending in ± 1 cm
Speed	Max 3 knots (1.5 m/s) in still water
Depth Rating	100 m (328 ft)
Operating Temp.	-10 °C ~ 60 °C (14 °F ~ 140 °F)
Max Dive Time	Up to 4 hours
<b>V6</b> Battery	Rated Capacity 9,000 mAh / 97.2 Wh
<b>V6s</b> Battery	Rated Capacity 14,400 mAh / 155.5 Wh

## Camera:

Sensor	1/2.3" SONY CMOS Effective Pixels 12MP ISO Range 100-6400 in Auto / Manual
Lens	Field of View 166° Aperture f/2.5 Min Focusing Distance 0.4 m
Shutter	5~1/5000 second Auto/Manual (Electronic Shutter Speed)
Burst shooting	1 / 3 / 5 / 7 / 10 frames
White Balance	2500K ~ 8000K Auto / Manual
Exposure	- 3 EV ~ + 3 EV
Compensation	
Photo Resolution	4:3: 4000 x 3000
Photo Format	JPEG, DNG
Video Resolution	4K UHD: 25/30 fps 1080P FHD: 25/30/50/60/100/120 fps 720P HD: 25/30/50/60/100/120/200/240 fps
Video Encode	MPEG4- AVC/H.264, HEVC/H.265
Stabilization	EIS (Electronic Image Stabilization)
Color System	NTSC and PAL
Internal Storage	64 GB standard (128 GB is Optional)

## LED Beams:

Brightness	4000 lumen
CCT	5500 K (Correlated Color Temperature)
Beam Angle	120°
Dimming	3

## Remote Controller:

Wireless	5 GHz Wi-Fi supported
Battery Life	Up to 4 hours
Copy & Download	Support Micro SD Card FAT32 and exFAT format ( $\leq 128\text{GB}$ )

## Charger:

<b>V6</b> ROV	Input: 100-240 V, 50/60 Hz, 1.3 A MAX Output: 12.6 V = 5A
<b>V6s</b> ROV	Input: 100-240 V, 50/60 Hz, 3.0 A MAX Output: 12.6 V = 10A
RC	Input: 100-240 V, 50/60 Hz, 0.5 A MAX Output: 5 V = 3A

## Tether:

Length	100m (328 ft) on Spool
Breaking Force	80 kgf (176 lbf)

## Spool:

Dimension	238 mm × 205 mm × 207 mm (9 3/8 in × 8 1/8 in × 8 1/8 in)
Capability	Hold up to 100 m tether (328ft)

## V6s Robotic Arm:

Claws Opening	140 mm (5 1/2 in)
Gripping Force	5.0 kg (11 lbs)

# Disclaimer

We provide customers with after-sale services, excluding the following circumstances:

- Crashes damage caused by non-manufacturing factors, including but not limited to, pilot errors.
- Damage caused by unauthorized modification, disassembly, or shell opening not in accordance with official instructions or manuals.
- Damage caused by improper installation, incorrect use, or operation not in accordance with official instructions or manuals.
- Damage caused by a non-authorized service provider.
- Damage caused by unauthorized modification of circuits and mismatch or misuse of the battery and charger.
- Damage caused by dives which do not follow instruction and manual recommendations.
- Damage caused by operation in bad water conditions (i.e. strong currents, huge waves, etc.)
- Damage caused by operating the product in an environment with electromagnetic interference (i.e. in mining areas or close to radio transmission towers, high-voltage wires, substations, etc.).
- Damage caused by operating the product in an environment suffering from interference from other wireless devices (i.e. transmitter, video-downlink, Wi-Fi signals, etc.).
- Damage caused by a forced dive when components have aged or been damaged.
- Damage caused by reliability or compatibility issues when using unauthorized third-party parts.
- Damage caused by operating the unit with a low-charged or defective battery.
- Uninterrupted or error-free operation of a product.
- Loss of, or damage to, your data by a product.
- Any software programs, whether provided with the product or installed subsequently.
- Failure of, or damage caused by, any third-party products, including those that QYSEA may provide or integrate into the QYSEA product at your request.
- Damage resulting from any non-QYSEA technical or other support, such as assistance with “how-to” questions or inaccurate product set-up, installation, and firmware upgrade.
- Damage caused by operating the ROV in the sensitive zone (military, natural resource protection zoning, marine conservation and ocean conservation, etc.)
- Damage caused by unpredictable factors (current, cave collapse, swallow by animal, etc.)
- Products or parts with an altered identification label or from which the identification label has been removed.
- The presence of water droplets or water stains on the ROV may be due to the running tests in water performed at our factory. This will not affect the features and function of FIFISH underwater robot.

For more information, please check our website for tuition videos, or read FAQ in FIFISH APP/help/FAQ.

<https://www.qysea.com/fifishv6>

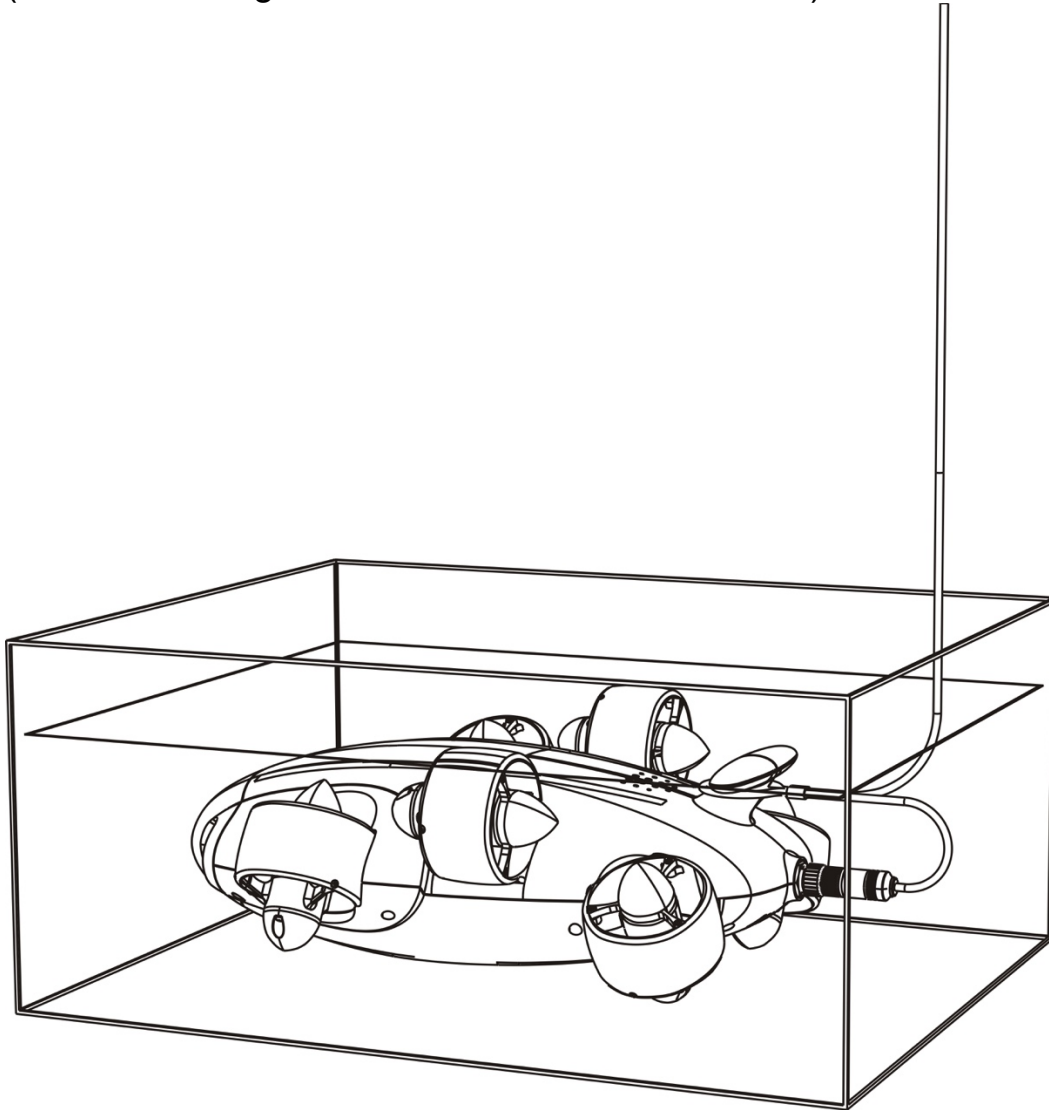
This content is subject to change without prior notice.





## 1. Motors Maintenance (After Every Dive)

- 1.1. Connect the remote controller to V6/V6s, and open the FIFISH App (see Hardware connection section, in Quick Start Guide).
- 1.2. Make sure every motor is immersed inside fresh water, see the picture (vertical soaking in bucket will have same results).



- 1.3. Open FIFISH App, homepage, Click “Help” on the bottom right corner. Click “Maintain”, and then “Cleaning Program” will start. All motors will rotate slowly.
- 1.4. In about 10 mins the Cleaning Program will stop. Air dry V6/V6s in the cool place and avoid direct sunlight.

## 2. Battery Maintenance

- 2.1. Keep 50% to 60% battery level before long term storage.
- 2.2. Charge to full once every 90 days.

## 3. Robotic Arms

- 3.1. Rinse with fresh water after every dive.
- 3.2. Keep connector (port and plug) dry and clean at all time.



# **Maintenance Guide**

**In order to have your V6/V6s in a good condition at all time, soak and clean your V6/V6s with clean fresh water after every dive. The cleaning process in FIFISH App will instruct you to get rid of the salt residues and salt crystallization inside the motors, as well as, clean the chlorine from pool water. The standard maintaining steps are listing in page 22,**