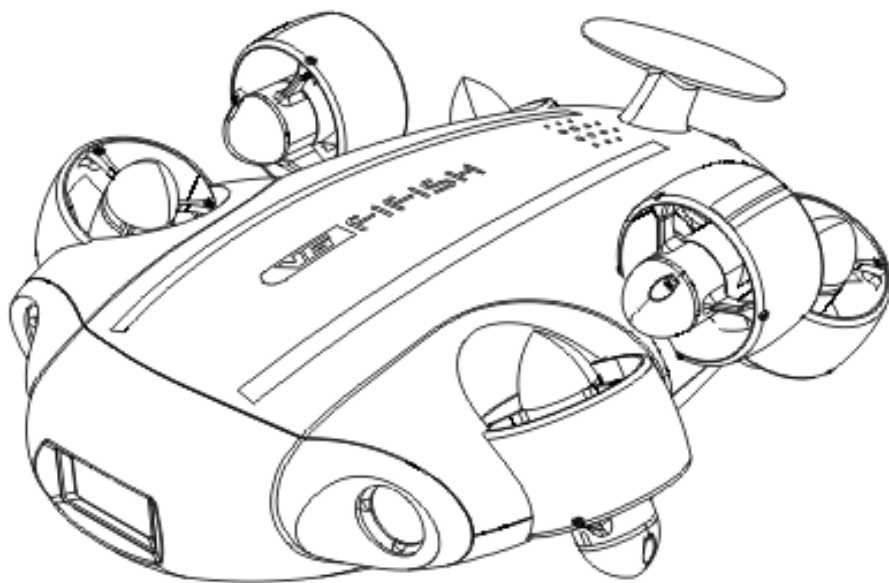# FIFISH V6

Quick Start Guide

V 1.3

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

Safety and Regulations

Operating FIFISH V6 requests training and practice. Please read through this document before operating in water.

Do NOT touch the running propeller

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

Beware of the environment while operating the ROV (tide, water level, water traffics, etc.)
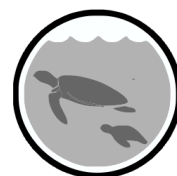
Be part of marine protection and conservation for the local coral and marine life

Do NOT throw the ROV when deploying into the water

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

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

Introduction

About FIFISH V6

FIFISH V6 is a compact-sized **OMNI**-directional ROV equipped with 4K UHD camera. The patented *Smart Thruster Array™* enables V6 to break the limits of movement and unleash the user's fully creativity. Moving sideways while tilting in ± 90° is now possible. The professional 4K camera, with a 166° 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)
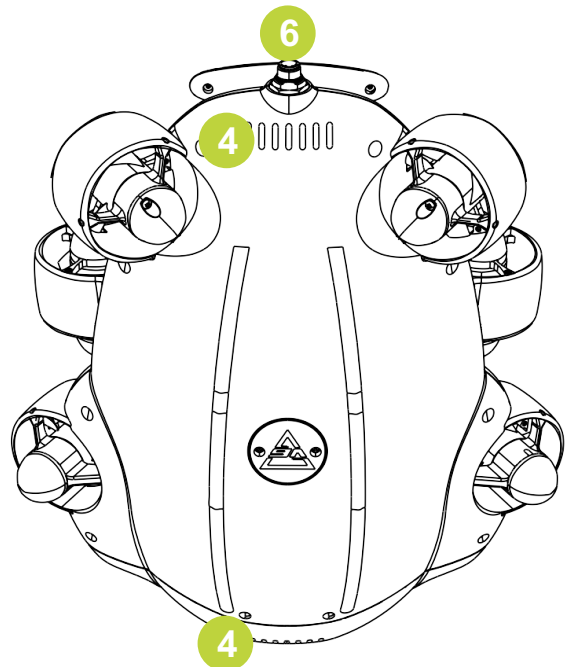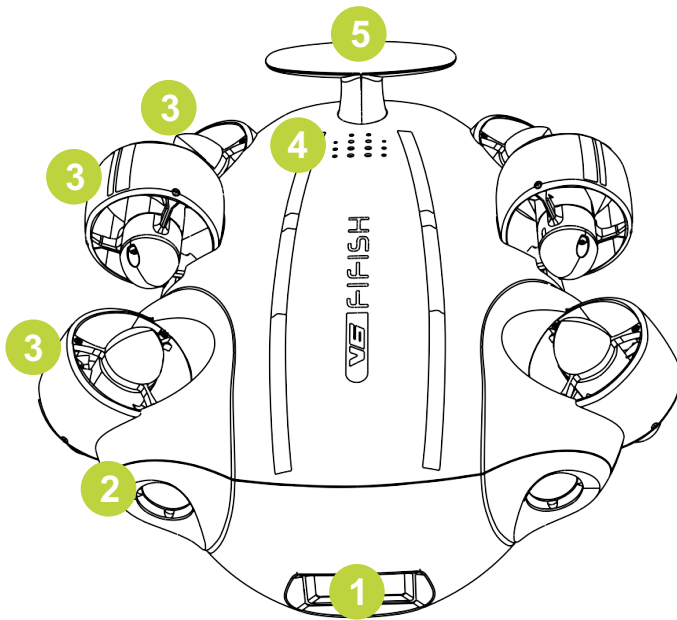
1. 4K Underwater Camera
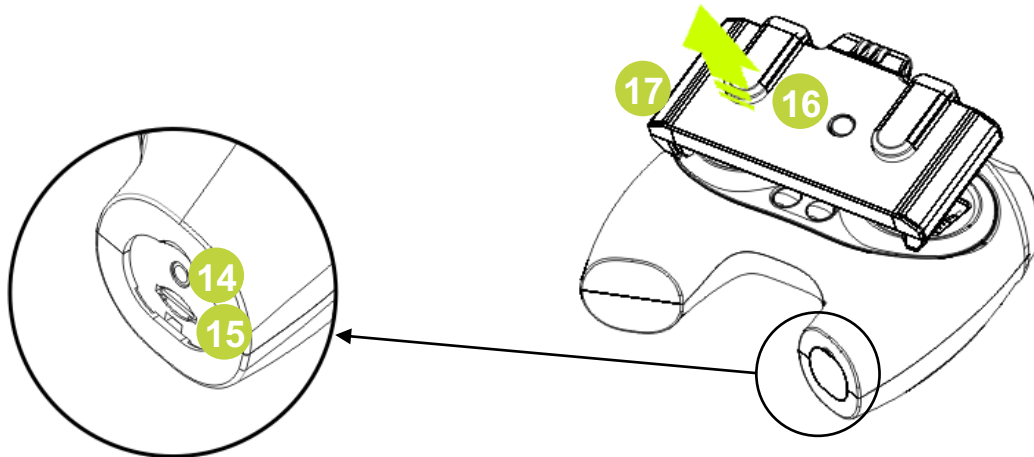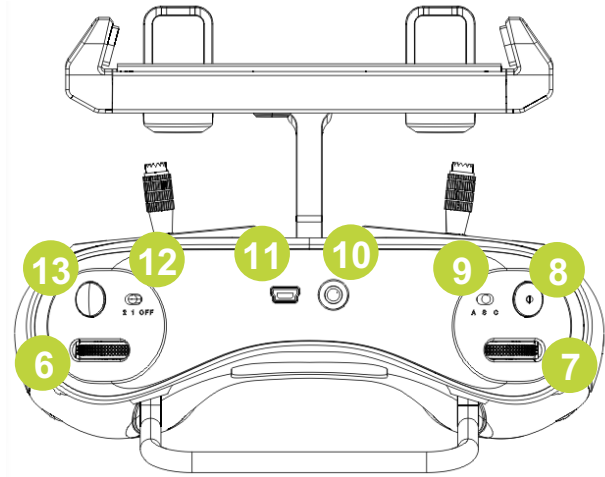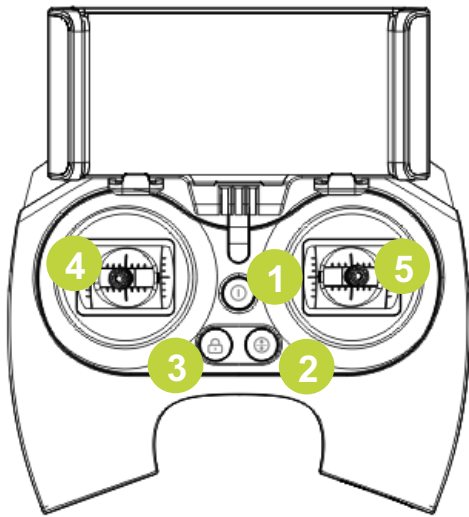2. 2000 lumens LED × 2
3. Thrusters × 6
4. Vent Holes
5. Rear Wing[1,2]
6. ROV Tether Port

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 7)

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
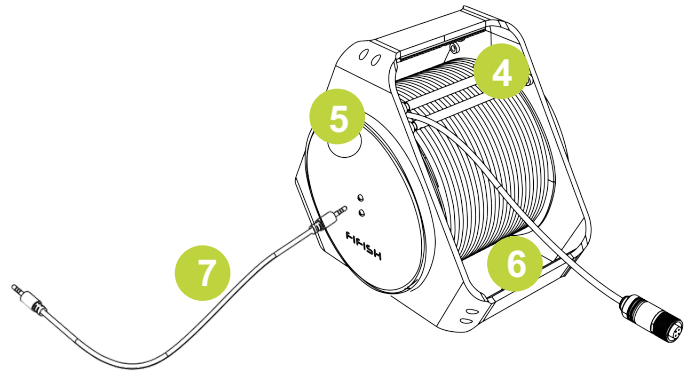9. Control Mode (Attitude / Sport / Combine)
10. Tether Port
11. Ethernet port
12. LED Brightness (OFF, 1, 2)
13. Photo (As default can be customized defined)
14. Charging Port
15. Micro SD Slot
16. Clamp Release Button
17. Clamp for Smart Device

Optional Upgrade Accessories

1. Spool and Tether
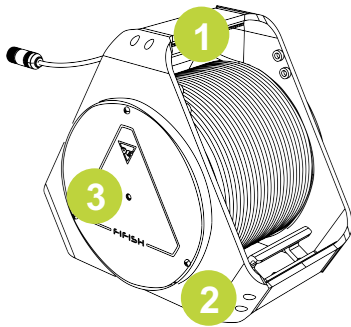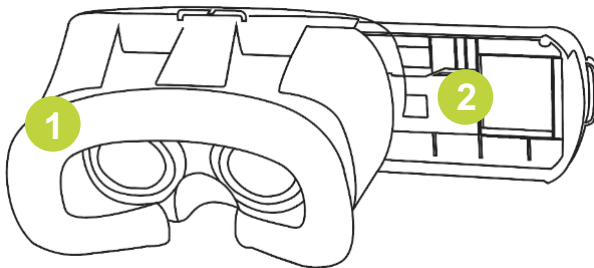

1. Handle
2. Frame
3. Tether Port
4. Tether Regulator
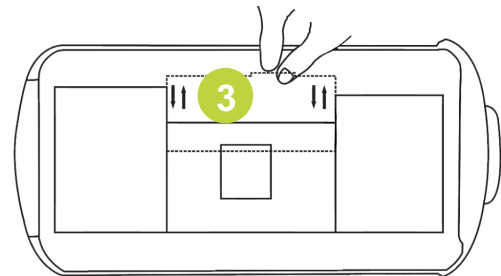
5. Hand Reel
6. Plug Holder
7. Data Cable

2. 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.

3. HDMI Box
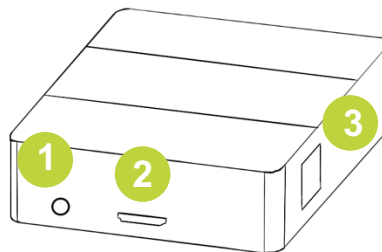
1. Power Port
2. HDMI Output

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) support section

2. **Hardware connection**

Overview of Hardware connection
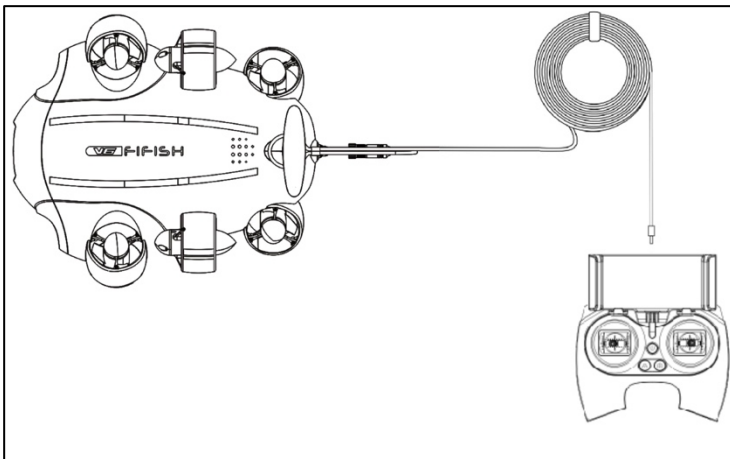
Standard Connection   With Optional Spool
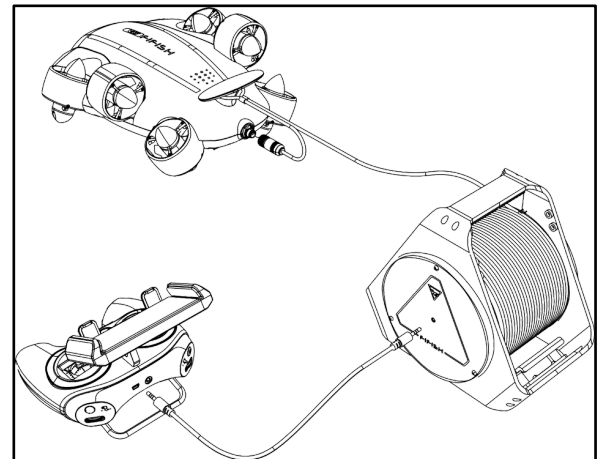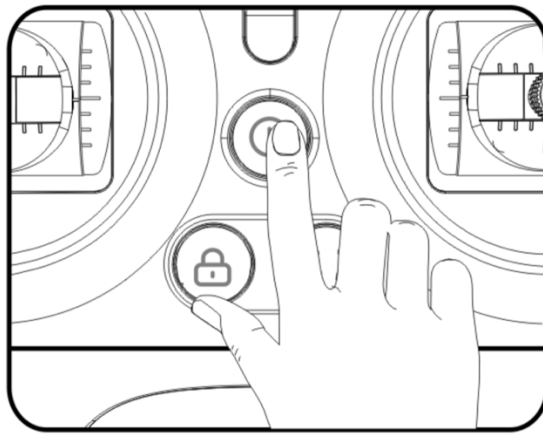
A. Turn ON the remote controller. Press and hold the ON/OFF button, until you hear 7 low to high chimes (Do, Re, Mi, Fa, Sol, La, Ti)
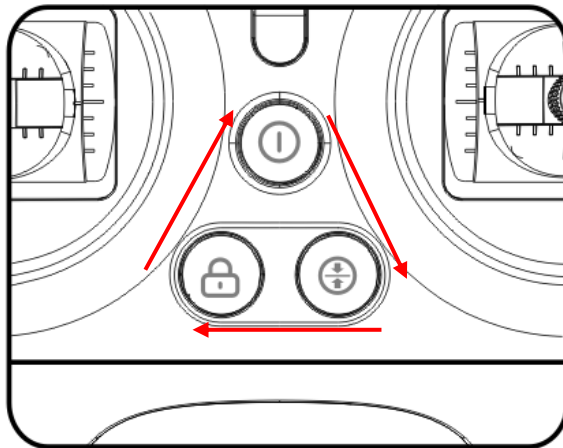
B. The "ON/OFF", "Depth Holding" and "LOCK/UNLOCK" will rotate clockwise, which indicates "Ready to be connected"
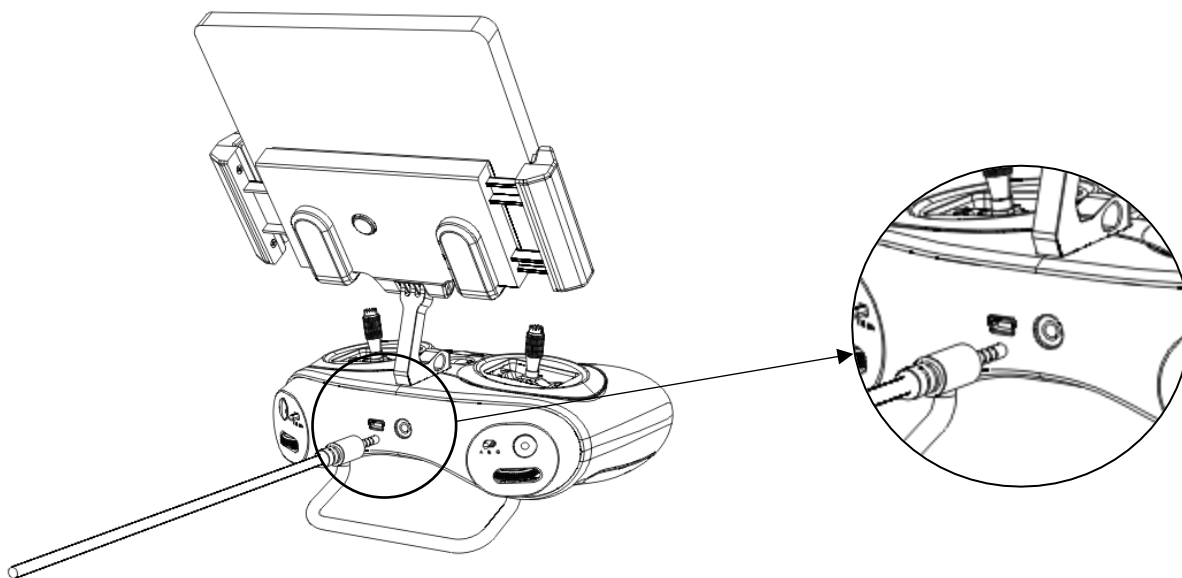
C. Plug the tether (3.5 mm head) into remote controller
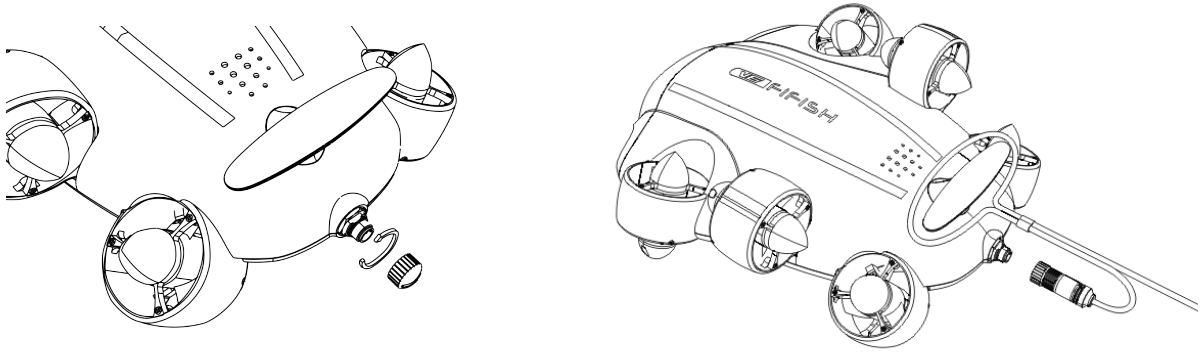
D. Take off the protect cap, tie the knot around the rear wing
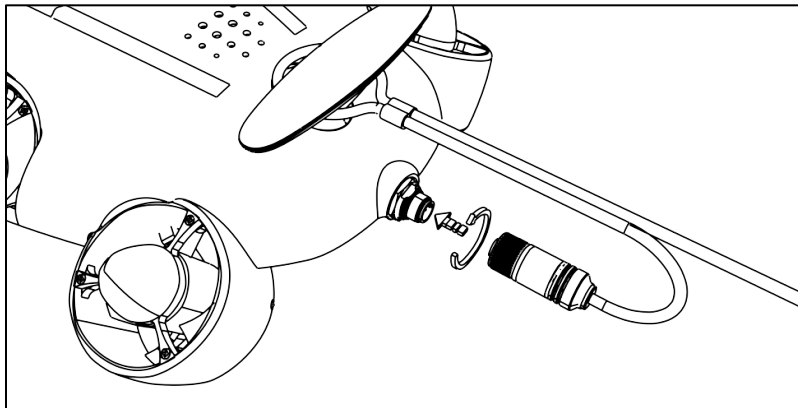
E. Plug the tether (ROV end) into the ROV, the ROV will automatically turn on. The music will play 5 chimes: (Do, Re, Mi, Do, Mi)
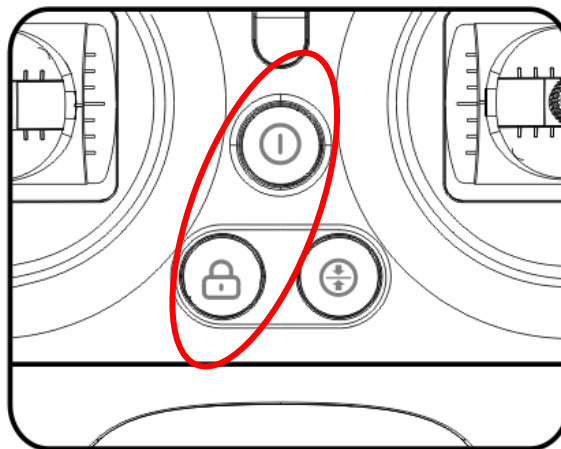
F. Check the remote controller, the "ON/OFF" and "LOCK/UNLOCK" buttons consistently on indicates the successful hardware connection

3. Software connection

A. Connect with the RC's Wi-Fi
Find the Wi-Fi network name "FIFISHRC_xxx"
The password is "1234567890"
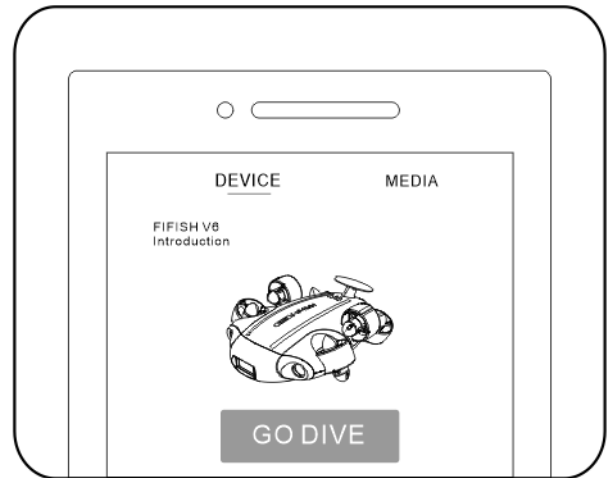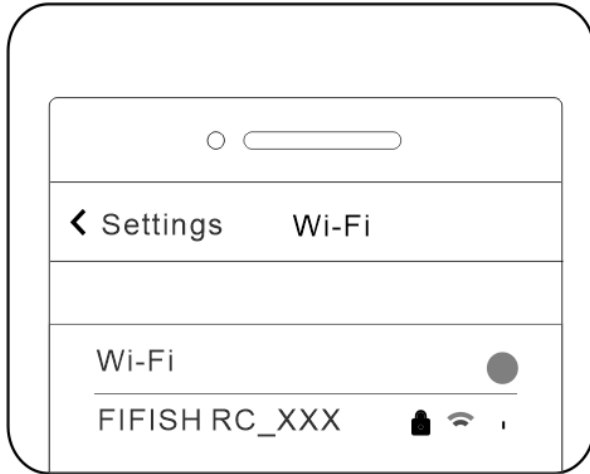
B. Activate LIVE-Streaming
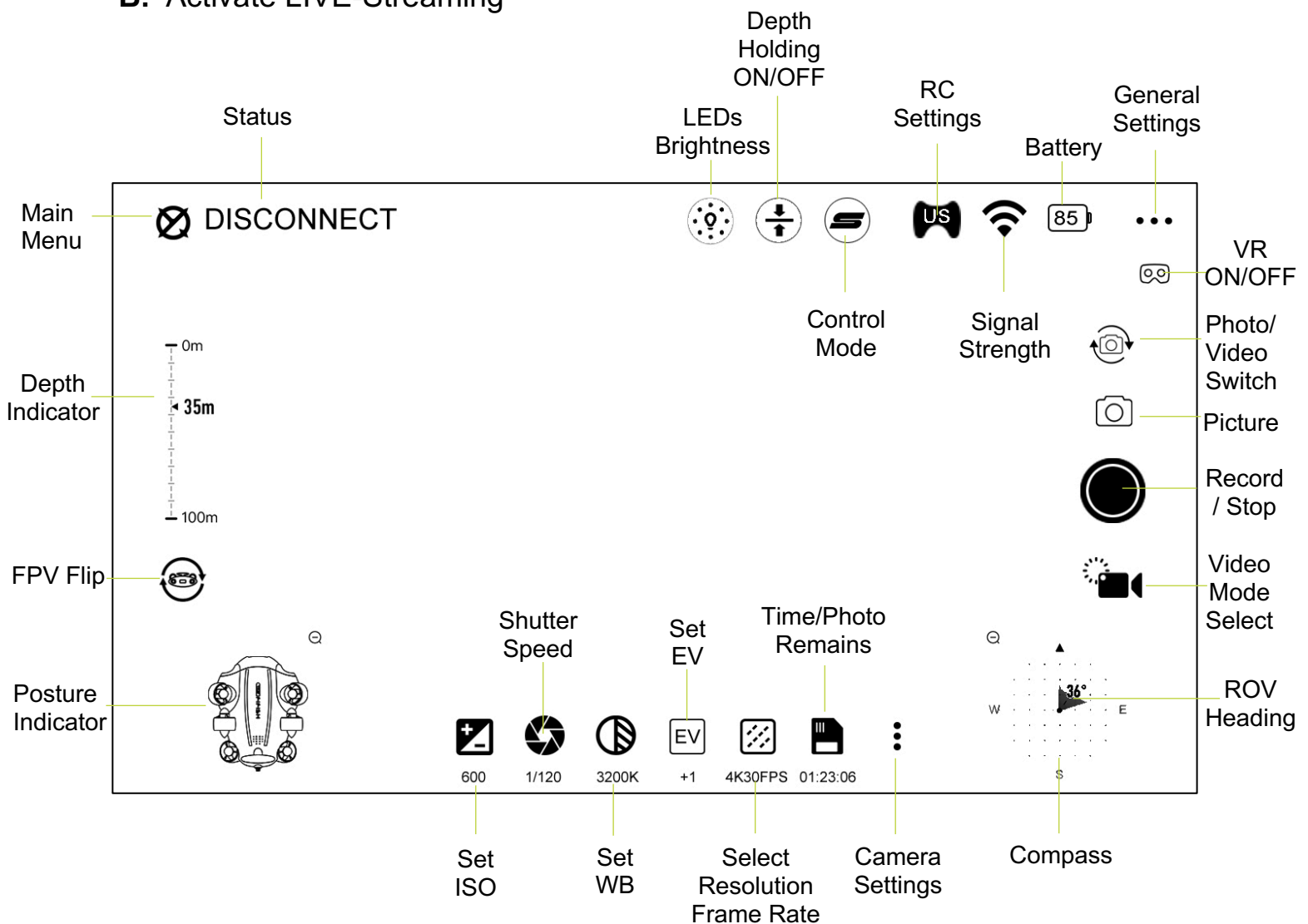
C. Deploy the ROV

⚠ 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.
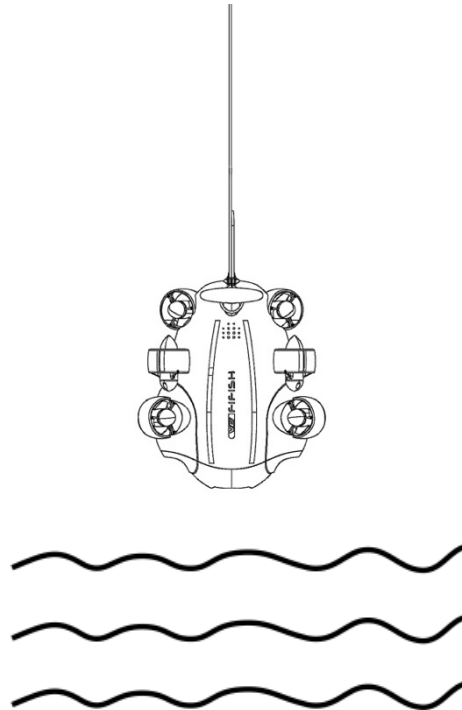
4. Retrieve

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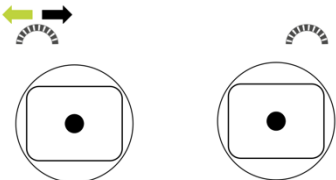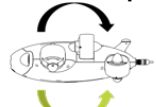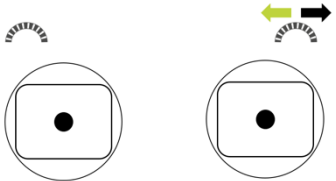
The FIFISH V6 uses the patented *Smart Thruster Array™* to ensure the ultimate maneuverability and delivers the 6 DOF (degree of freedom).

- V6 can move in descend & ascend, left and right, forward and backward.
- V6 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, check the APP/General
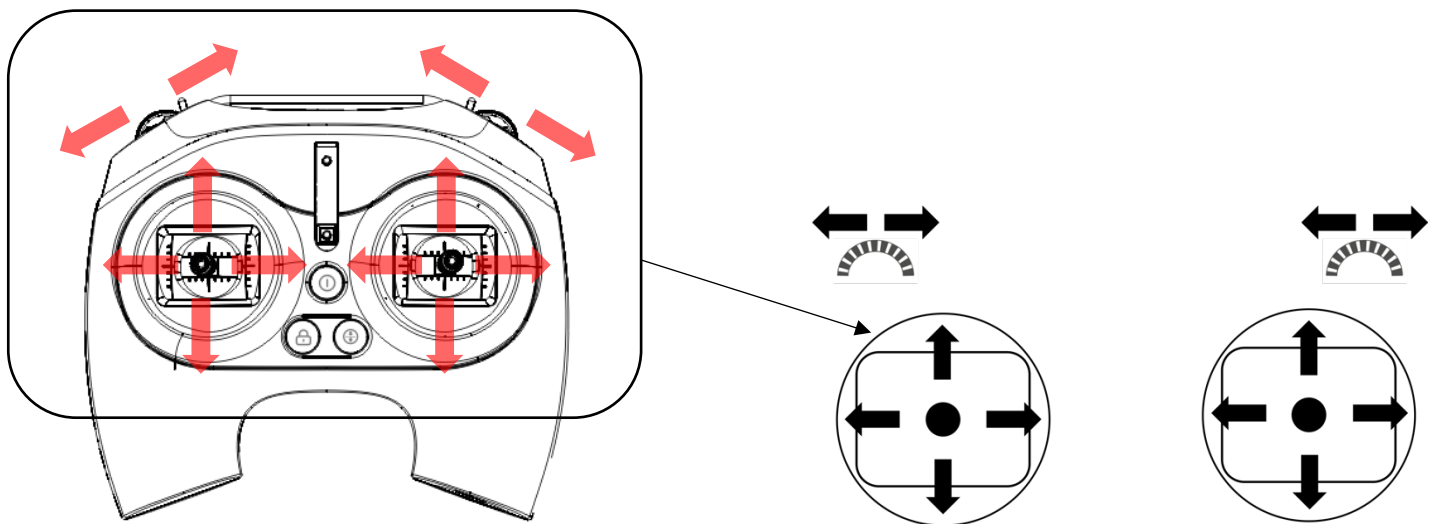
Left and Right：

Remote Controller	V6 Operation Setting	
	V6 Mode	UAV Mode
	Ascend / Descend	Pitch Up / Pitch Down
	Left ← → Right	Roll Counter Clockwise / Roll Clockwise

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 on sport mode.

Methods of Control

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

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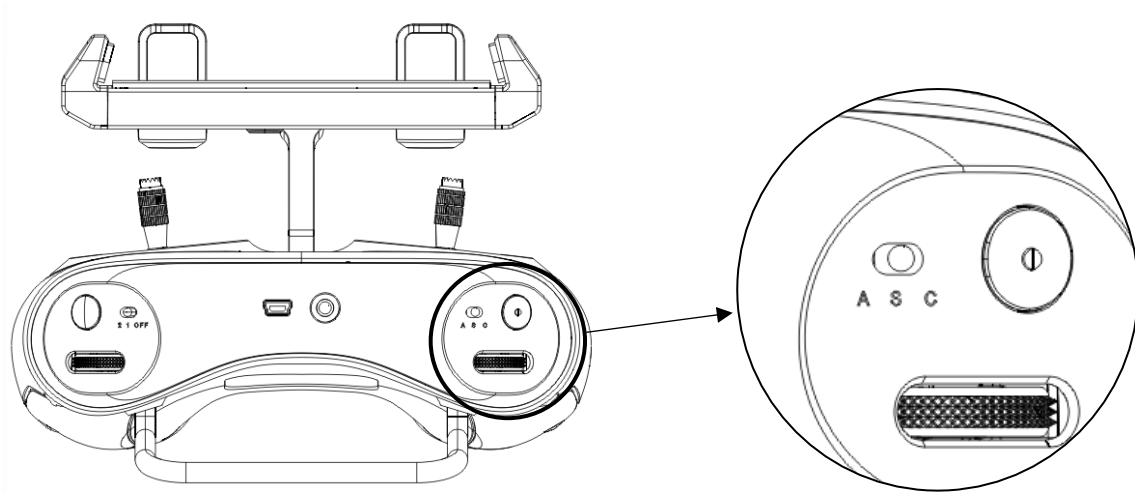
1. Attitude Mode

Attitude mode is designed for beginners. The ROV will not roll in Attitude mode. The *FIFISH Posture Lock™* algorithm helps to hold the tilting point while moving and turning.

2. Sport Mode

Sport mode is designed for skillful pilots. Sport mode offers the full movements of the V6 in 6 degree of freedom. Controlling and moving based on the FPV (Frist Person View).

3. Combination Mode

Combination mode supports head tracking and remote controller controlling together. Pilot can use the FIFISH VR Goggle to control the pitch, roll and yaw via head tracking feature. Combination mode delivers the intuitive control and immersive experiences.

Charging

1. ROV Charging
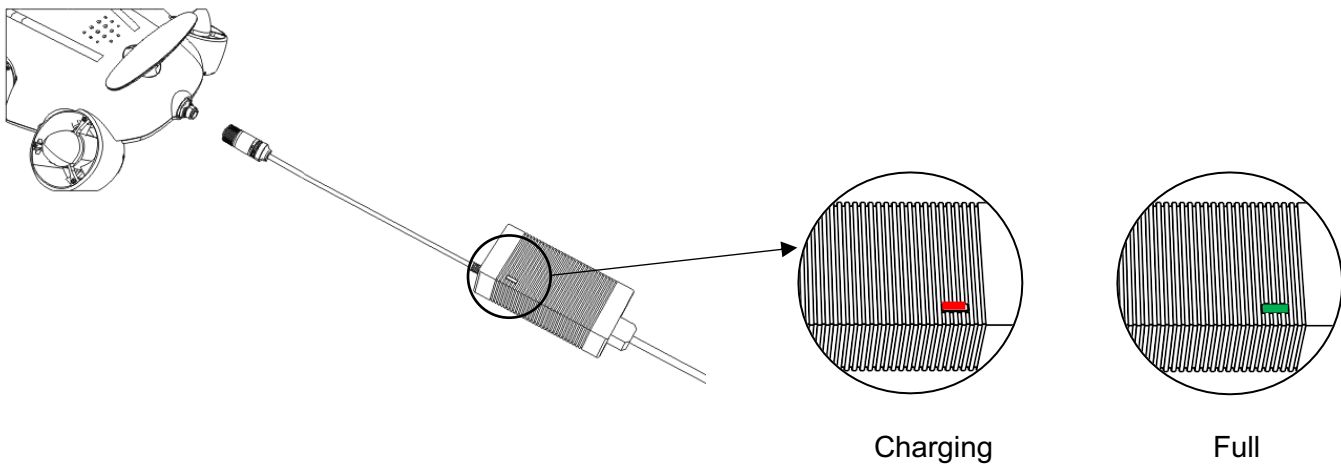
Charging   Full

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

2. RC Charging
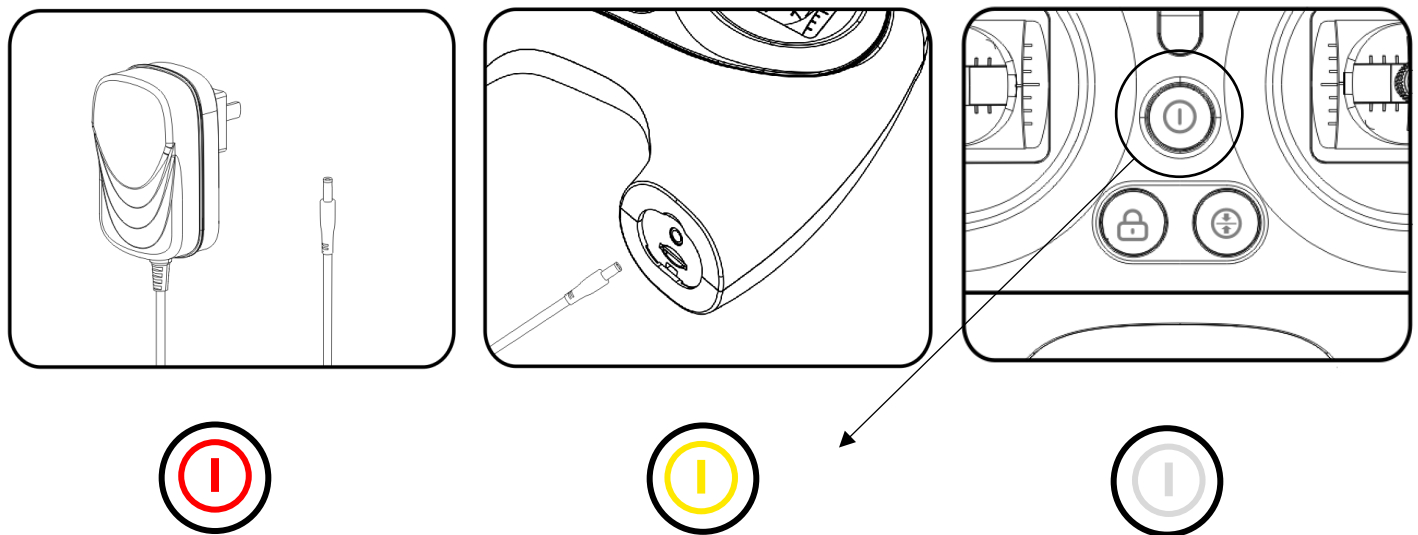
Red, less than 30%   Yellow, 30% to 70%   White, 70% or higher

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 ***Motors and Battery Maintenance Guide***)

2.　Keep the ROV tether plug dry and clean. 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 5-9) 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
Battery	Rated Capacity 9000 mAh / 97.2 Wh
	Max Charging Voltage 12.6 V
	Charging Time 1.0 hour with FIFISH Quick Charge
	Battery Type Li-ion Panasonic 18650

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 Compensation	- 3 EV ~ + 3 EV
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	Wi-Fi supported
Battery Life	Up to 4 hours
Copy & Download	Support Micro SD Card FAT32 and exFAT format (≦128GB)

Charger:

ROV	Input: 100-240 V, 50/60 Hz, 1.3 A MAX
	Output: 12.9 V ⎓ 6A
RC	Input: 100-240 V, 50/60 Hz, 0.5 A MAX
	Output: 5 V ⎓ 3A

Tether:

Length	Standard 50 m (164 ft)
	Optional 100 m (328 ft)
	Customized Accepted
Breaking Force	80 kgf

Spool:

Dimension	238 mm × 207 mm × 160 mm (9 3/8 in × 8 1/8 in × 6 1/4 in)
Capability	Hold up to 100 m tether (328ft)

Disclaimer

We provide customers with after-sale services, excluding the following circumstances:
● Crashes or fire 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 read the User Manual.

https://www.qysea.com/fifishv6

This content is subject to change without prior notice.