CHASING
INNOVATION

GLADIUS mini

Conquer the Waters

User Manual

⚠ DISCLAIMER _____ Contents 📖

Congratulations on your purchase of the Chasing-Innovation Gladius underwater drone. Please read this entire document carefully before using the drone. By using this product, you hereby signify that you have read this disclaimer and all instruction beyond carefully and that you understand and agree to abide by the terms and conditions herein.

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GLADIUS MINI is a five thrusters miniature portable underwater drone for underwater shooting, exploration and real-time observation. Chasing-innovation accepts no Liability for damage,injury or any legal responsibility incurred directly or in directly from the use of Gladius in following conditions:

01. Damage(s) or injuries incurred when users are drunk, taking drugs, drug anesthesia, dizziness,
      fatigue, nausea and any other conditions no matter physically or mentally that could impair your ability.
02. Damage(s) or injuries caused by subjective intentional operations
03. Any mental overcompensation caused by accident.
04. Failure to follow the guidance of the manual to assemble or operate.
05. Malfunctions caused by refit or replacement with non-Chasing-Innovation accessories and parts,
      or unauthorized modification,disassembly or shell opening not in accordance with official instructions.
06. Damage(s) or injuries caused by using third party products or fake Chasing-Innocation products.
07. Damage(s) or injuries caused by misoperation or subjective misjudgment.
08. Damage(s) or injuries caused by mechanical failures due to erosion, aging.
09. Damage or injury caused by operating the unit with a low battery alert, the drone is out of maximum safe range and depth.
10. Damage(s) or injuries caused by knowingly operating the product in abnormal condition(such as the assembly is not completed,
      or the main components have obvious faults, obvious defect or missing accessories).
11. Damage or injury caused by operating the drone in the sensitive zone such as the military area or public waters without official permission.
l2. Damage or injury caused by using in bad water conditions (such as high winds, or turbid zone).
13. Damage or injury caused by uncontrollable external factors, including severe collision, tidal wave. swallowed by animal.
14. Damage(s) or injuries caused by infringement such as any data, photo or video material recorded by the use of Gladius.
15. Other losses that are not covered by the scope of Chasing-Innovation' s liability.

ROV

GLADIUS MINI is a five thrusters miniature portable underwater drone for underwater shooting, exploration and real-time observation. Its fuselage imitates the submarine and unique design of five thrusters structure let the GLADIUS MINI more stably and faster, the speed can up to 2m/s. At the same time, it has depth- lock mode /self-stabilizing mode, supports vertical up and down / +-45 ° adjustable tilt-lock mode, it can sneak into the water 100 meters for 4K ultra high-definition shooting and stable observation.
The drone is easy operation, small and can be carried in single shoulder pack, the battery life is 2h, whether diving, sea fishing, underwater photography or yachting, the GLADIUS MINI is your best choice.
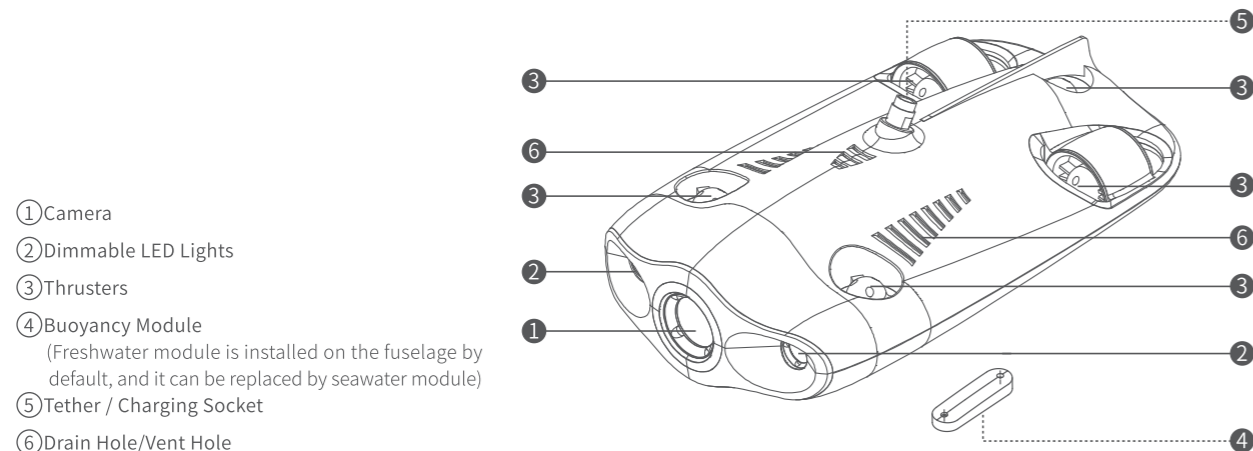
① Camera
② Dimmable LED Lights
③ Thrusters
④ Buoyancy Module
　(Freshwater module is installed on the fuselage by default, and it can be replaced by seawater module)
⑤ Tether / Charging Socket
⑥ Drain Hole/Vent Hole

Base Station

The function of the base station is to provide Wi-Fi signal,so that the mobile phone can connect with ROV through Wi-Fi, make it possible to control the ROV in real time and display the shooting picture. It has HDMI output function, compact and easy to carry.
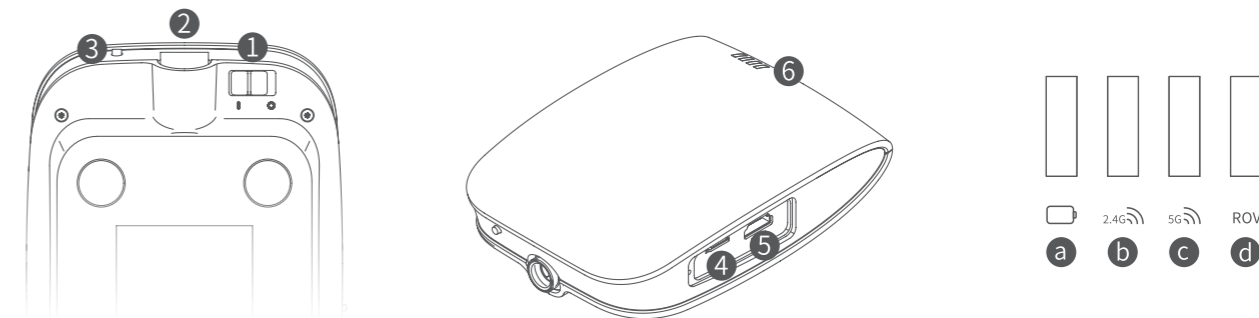
① Power Switch
② Tether / Charging Socket
③ Reset Button (Switch to 2.4G or 5G Wi-Fi)
④ Micro SD Card Slot
⑤ HDMI Socket
⑥ Indicator Lights

⚠ Note: Do not put the base station in the water to avoid damage.

Indicator Lights Introduction
ⓐ **Battery Icon:** Base station battery indicator with three color states:
　(Red: less than 25%　Yellow: 25~75%　Green: 75~100%)
ⓑ **2.4G:** 2.4G Wi-Fi indicator, always on when working.
ⓒ **5G:** 5G Wi-Fi indicator, always on when working.
ⓓ ROV:　Indicates the communication between the base station and the ROV. Steady light indicates successful connection, and if it is blinking, it means not connected.

Winder & Tether

The winder is used to store the tether.
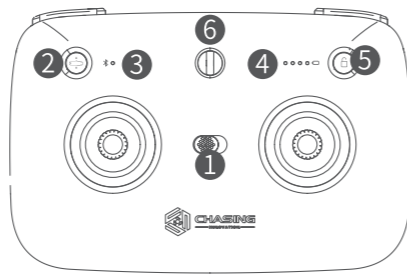The tether is used to connect the ROV and base station.
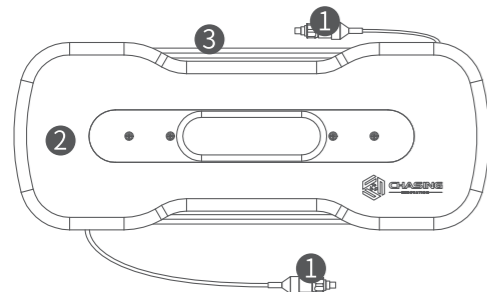
① Tether Connectors
② Tether
③ Winder

⚠ **Note:** Do not put the tether connectors that are unconnected into the water to avoid damage.

Remote Controller

It is used to control the navigation of the ROV and communicate with the mobile phone via Bluetooth. Its stand supports 5"-10.5" mobile phones or tablets.


① **Power Switch:** Turn on/off the controller.
② **Mode Switch:** Press to switch the depth-lock/self-stabilizing mode.
③ **Bluetooth State:** Flashing means no connection, steady light means connected, and it will also flash when charging.
④ **Power Indicator:** One LED stands for 25% of the battery.
⑤ **Unlock/lock:** Unlock/Lock the motor.
⑥ **Safety Buckle:** A safety lanyard can be attached to prevent the controller from falling.

Remote Controller
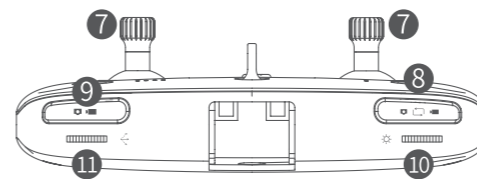
⑦ **Joystick:** Used to control the navigation of the ROV. For the specific operation, refer to Navigation Posture.
⑧ **Mode Switch Video/Photo:** Switch the photo/video mode.
⑨ **Video/Photo:** Press to start taking photo/recording video.
⑩ **Light Control:** Scroll to left for decreasing brightness, to right for increasing brightness.
⑪ **Angle Adjustment:** Scroll to left for lowering the head, to right for lifting the head, press to back a horizontal position.

Remote Controller Bracket
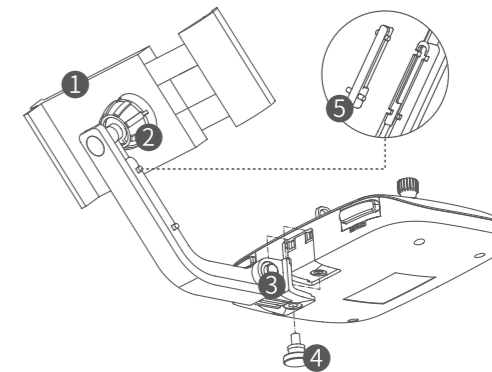
① **Mobile Phone/Tablet Clip:** Support fixed equipment size from 5 inches to 10.5 inches.
② **Adjustable Nut a:** Used to fix bracket.
③ **Adjustable Nut b:** Used to fix brace.
④ **Adjustable Nut c:** Used to fix the entire bracket and easy to quick assembly and disassembly.
⑤ **Built-in Tool:** Used to adjust the adjustable nut 2 and is stored in the bracket rod. It can be removed from the bracket stem by the bulging points on both sides.
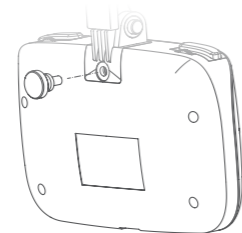
⚠ **Note:** 1) When the controller is charging, the Bluetooth indicator will continue to flash, and the battery indicator will show the current battery level.
2) Do not put the controller in the water to avoid damaging the device.
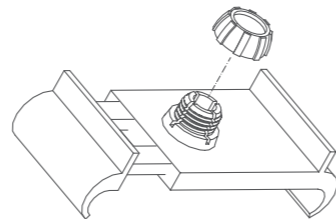
Mounting Controller Bracket

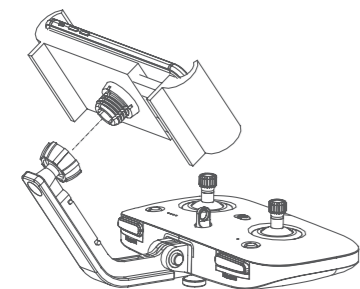❶ Insert the bracket into the mounting slot on the back of the controller.
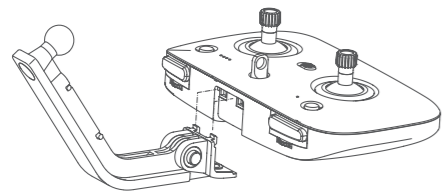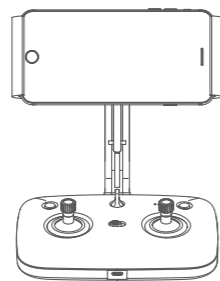

❷ Fixed with M5*8 screw.

❸ Remove the nut on the back of the mobile phone/tablet clip.

❹ Snap the bracket onto the mobile phone/tablet clip and screw the nut.

❺ Put in your phone/tablet, it supports turn the phone/tablet from multiple angles.
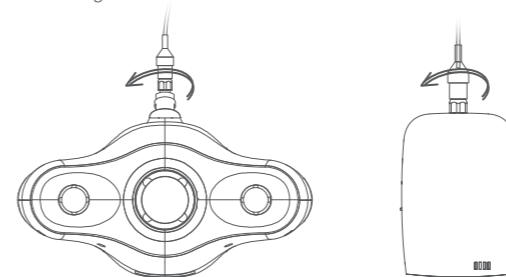

❶ Download IF.Dive App

IF.Dive App : (For iOS 9.0/Android 4.4 and above) Scan the below QR code to download or visit the iOS App Store / Google Play to download.

Watch the instructional video：
(https://www.chasing-innovation.com/gladius/video)

❷ Connect ROV with Base Station

Insert the two connectors of the tether into the ROV and base station, then tighten the nut.

⚠ Note: Check if the O-rings on the tether connectors are dropped or damaged. If there are missing or damaged, please replace them in time.

❸ Boot

Turn on the power switch on the back of the base station (I is on, O is off). After the boot, the base station power indicator lights up, 5G or 2.4G and ROV LED are always lighted. At the same time the LED lights of the ROV show a short light up and accompanied by the two self-test sounds.
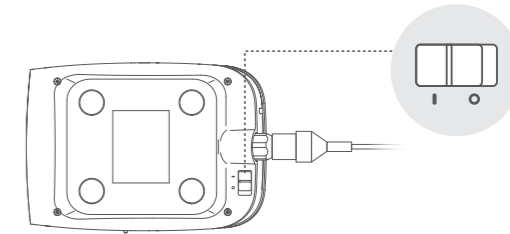
❹ Wi-Fi Connection

Enter the phone Wi-Fi interface, wait for 5-10 seconds, Gladius_5G_xxxxx will appear, click to connect. Wi-Fi password: 12345678
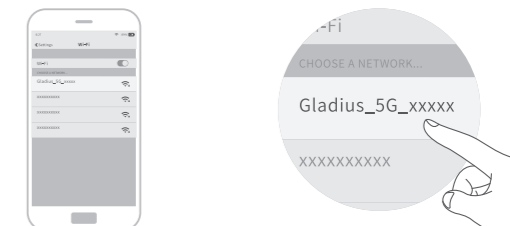
⚠ Note: Press the "reset" button of the base station to switch to Gladius _2.4G_xxxxx .
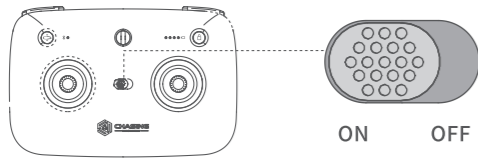
❺ Turn on Bluetooth

Once Bluetooth button is turned on, you can go straight to the next step without having to manually pair the controller.

❻ Open Controller

Switch to the left (ON), the Bluetooth indicator flashes, and the battery indicator lights.

ON   OFF

❼ Connecting Controller and Mobile Phone

【iOS】Open the app, and the phone will automatically establish a connection with the controller. If the Bluetooth indicator on the controller is always on, it means the controller is connected successfully.

【Android】Open the app, click the 'start' button, the controller connection interface will pop up, click the 'Connect Controller', wait for the 'The controller is connected' which stands for the controller is connected successfully, then the Bluetooth indicator on the controller is always on.

Connect Controller

No,I will set it later
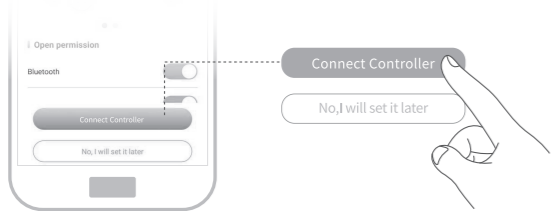
❽ IF. Dive APP Usage

If you open the app for the first time, you will see the help of graphics to get started quickly and recommend you watch it patiently.After go to the app and you will see the image taken by Gladius. Click on the bottom propeller icon or press unlock/lock button on the controller to unlock. Now you can see the corresponding motor rotation by sliding the joystick on the controller.

Since the app will be updated frequently, the quickly user guide will not introduce the app. For the related introduction of the app, controller and FAQ, refer to the app start up interface -> upper right corner icon -> help, or direct send Email to support@chasing-innovation.com.

❾ Installing Buoyancy Module

If you need to go to seawater, please replace the assembled freshwater module with seawater module.

SEAWATER 海水

FRESHWATER 淡水
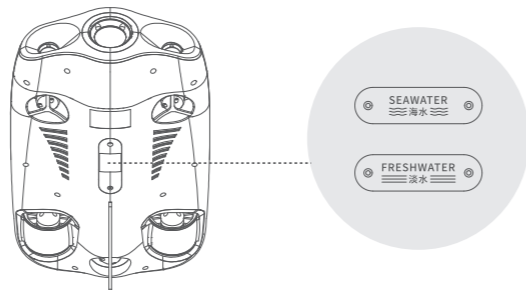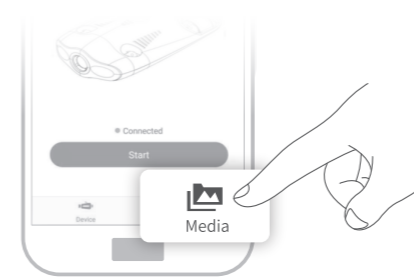
❶ Connect Wi-Fi

1)Connect ROV and base station, then power on the base station.
2)Find Gladius_5G_xxxxxxxx or Gladius_2.4G_xxxxxxxx from the mobile phone/tablet.
3)Input the password:12345678.

Gladius_5G_xxxxx

❷ Download(Mobile Phone/Tablet)

1) Open IF.Dive app, click the Media in the lower right corner.

Media

2) Find the video/photo that you need to download. Click the download button to download them, the video and photo will be saved directly to the phone/tablet photo album(Download folder).
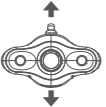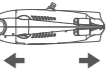
Save

❸ Download(Computer)

1)Open the web browser and enter IP address: 192.168.1.88.
2)Click the video or photo that you need to download. Click the download icon and save, which is generally saved in the Download folder.
3)To ensure the smooth download of photos and videos, recommend you use Firefox or Google.

Media   Not secure | 192.168.1.88

1/11
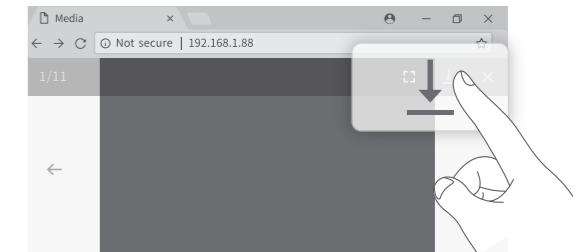
Navigation Posture

The underwater drone has 8 states totally, going up, dive, left turn, right turn, forward, backward, lowering the head, and lifting the head. The relationship between the navigation posture and the controller is as follows:

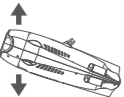| ROV (Flight Direction)	Remote Controller (American Hand)	Remote Controller (Japanese Hand)	Remote Controller Customization
Going Up/Down	Left joystick up and down	Right joystick up and down	Support customization
Turn Left/Right	Left joystick left and right	Left joystick left and right	Support customization
Forward/Backward	Right joystick up and down	Left joystick up and down	Support customization
Lowering the head/ Lifting the head	Scroll the right wheel to left for lowering the head, to right for lifting the head	Scroll the right wheel to left for lowering the head, to right for lifting the head	

⚠ Note: The default remote controller mode in the IF.Dive app is Japanese hand. You can switch to American hand or custom in the app.

Charging Guide

ROV
The adapter light is in red to indicate normal charging and the green light indicates that charging is completed. After charging, please unplug the adapter in time.
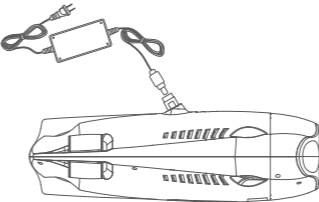
Base Station
The adapter light is in red to indicate normal charging and the green light indicates that charging is completed. After charging, please unplug the adapter in time.
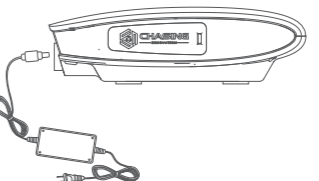
Remote Controller
Plug in the 5V USB charging cable and recommend to charge for 1 hour. When the battery is fully charged, the 4-state battery indicator are all light up.

Specifications

Base Station	
Weight	<400g
Battery Capacity	29.25Wh (2500mAh)
Battery Life	≥6h (depending on the environment)
Battery Cycle	>300 times
HDMI Output	Yes
Micro SD (TF) Memory Recording	Yes
Size	151x107x45mm
Wireless WIFI Distance	≤10m

⚠ Note: The base station is not waterproof and should not be put into water.

Dimmable LED Lights	
Brightness	2x1200LM
Color Temperature	4000K-5000K
CRI	80
Maximum Power	2x10W
Dimming	Manually adjustable

Winder & Tether	
Weight	1.2kg(50m)/1.8kg(100m)
Tether	50m/100m

ROV

Size	385x226x138mm
Battery Capacity	55.5Wh (5000mAh)
Weight	<2.5KG
Buoyancy	-10g~10g
Operating Temperature	-10°C~40°C
Maximum Depth	100m
Maximum Speed	>4Kn (2m/s)
Maximum Rise/Fall Speed	2Kn(1m/s)
Maximum Flow Resistance	4Kn (2m/s)
Battery Life	2h(go forward at L speed advances in the fixed depth mode)
Battery Cycle	>300 times

Remote Controller

Working Frequency	2.4GHz-2.485GHz
Wireless Distance (Between smart device and controller)	<10m
Charging Time	1h
Battery Life	5h

Adapter

adapter	3A/12.6V
ROV Charging Time	2h
Base Station Charging Time	1h
⚠ Note: ROV and base station are used the same adapter.	

Camera

CMOS	1/2.3 inches
Aperture	F3.0
Focal Length	4.0mm
ISO Range	100-3200
Field of View	95°
Maximum Resolution of the Image	12M(4000*3000)
Picture Type	JPEG/DNG
Video Resolution	FHD：1920x1080 30Fps
	FHD：1920x1080 60Fps
	FHD：1920x1080 120Fps
	FHD: 3840x2160(4K) 30fps
Video Maximum Stream	60M
Video Type	MP4
SD Card Memory	64G

Sensor

IMU	Three-axis gyroscope/acceleration/compass
Depth Sensor	+/- 0.5m
Temperature Sensor	+/- 2°C

❶ Navigation Safety

Open sea navigation

Relatively clear water quality, no dense seaweed

No dense radio around and radar

100m ↓ Diving no more than 100 meters

❷ Battery Protection

Do not run out of battery power

Charge it when the power is less than 25%

When not in use, keep battery power at 50% - 70%

Working temperature -10℃~60℃
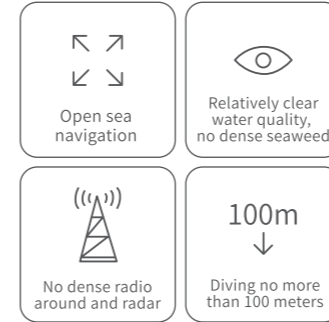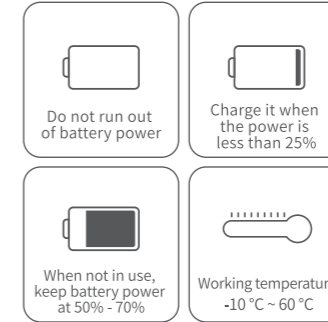
❸ Charging Protection

· Use the official standard adapter.
· Red light means charging.
· Green light means the the charging is completed. When finished, unplug the adapter in time.

❹ Thruster/ Propeller

· After use, clean the attachments on the thrusters (make sure the ROV is completely off), rinse with fresh water and dry it with a dust-free cloth.

❺ Tether

· Before use, check if there water on the connector of the tether. If yes, Wipe it with a special absorbent towel provided by Chasing-Innovation.

Other

1.Do not turn on the LED lights of the ROV before entering the water to avoid burning.
2.The rusted screws should be replaced immediately;
3.After each use, rinse the ROV with fresh water and make it dry;
4.The base station should not be rinsed with water and should be wiped with a cloth;
5.Do not place heavy objects on the machine to avoid possible damage to the ROV.
6.Young people under the age of 16 need to use this ROV accompanied by an adult.
7.When not in use, do not expose the machine to sunlight. Store it in a cool place or in a special box.
8.Chloride or other chemicals can erode GLADIUS MINI. If the pool contains high chlorine, do not use it.

Support

1. If you have any questions, please send an email to support@chasing-innovation.com or contact E-chat customer service.
2. You can search on Facebook: Gladius Mini Group, join the official Gladius group to get more ROV official news and app update notifications, or share your wonderful photos with other customers.