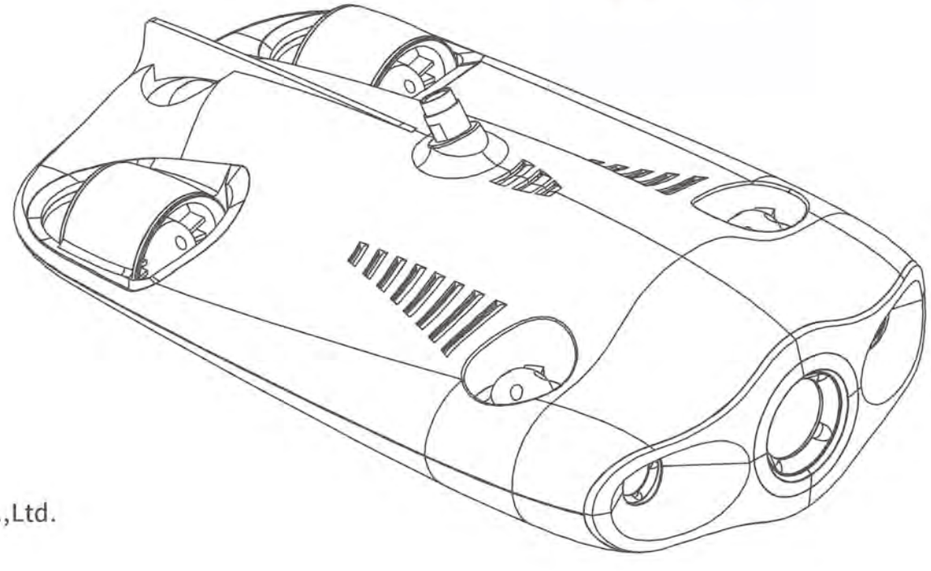


GLADIUS mini

Conquer the Waters

User Manual

Chasing-Innovation Technology Co.,Ltd.
Web. : www.chasing-innovation.com
E-mail: support@chasing-innovation.com

DISCLAIMER

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

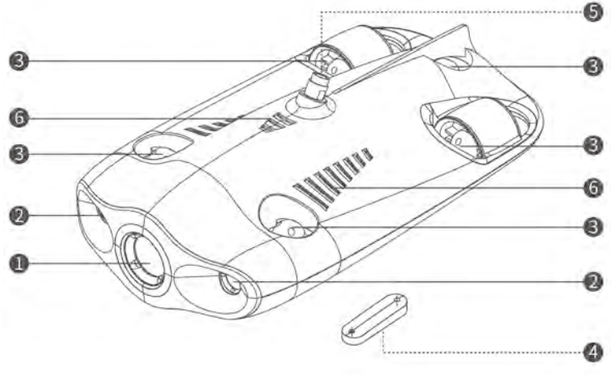
GLADIUS MINI is a five thrusters miniature portable underwater drone for underwater shooting, exploration and real-time observation. Chasing-innovation accepts no Liability for damage,injury or any legal responsibility incurred directly or in directly from the use of Gladius in following conditions:

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

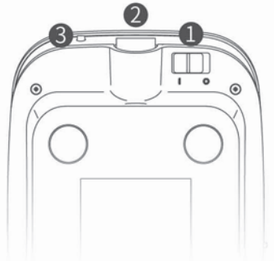
GLADIUS MINI is a five thrusters miniature portable underwater drone for underwater shooting, exploration and real-time observation. Its fuselage imitates the submarine and unique design of five thrusters structure let the GLADIUS MINI more stably and faster, the speed can up to 2m/s. At the same time, 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 duration of flight is 2h, whether diving, sea fishing, underwater photography or yachting, the GLADIUS MINI is your best choice.

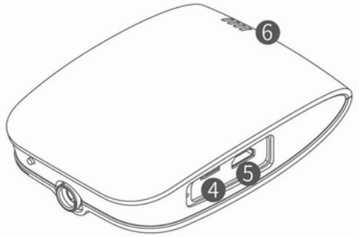
① Camera
② LED
(Dimmable LED Lights)
③ Thrusters
④ Buoyancy Module
(Freshwater module is installed on the fuselage by default, and it can be replaced by seawater module)
⑤ Buoyancy Wire Socket / Charging Socket
⑥ Drain Hole/Vent Hole

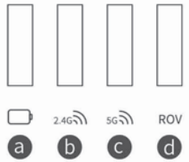


Base Station

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. The data can be moved to the pluggable Micro SD card and HDMI output is also available.







① Power Switch
② Buoyancy Wire Socket / Charging Socket
③ Reset Button (Switch to 2.4G or 5G Wi-Fi)
④ SD Card Slot
⑤ HDMI Connector
⑥ Indicator Lights

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

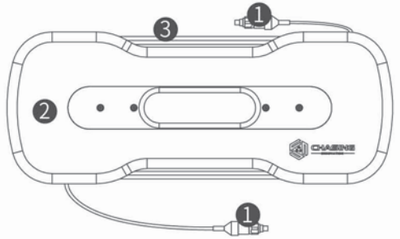
Indicator Lights Introduction

ⓐ 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. Blinking when the connection is successful, and if it is steady, it means not connected.

GLADIUS mini Introduction

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

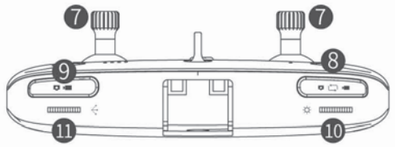
⚠ Note: Do not put the tether connectors that are unconnected into the water.

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 wi
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.

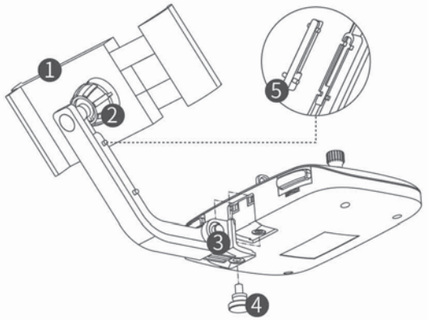
⑧ **Mode Switch Video/Photo:** Switch the photo/video mode.

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 control 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.

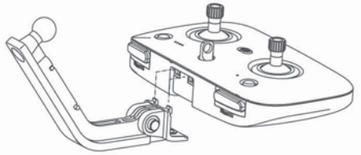
⑤ **Built-in Tool:** Used to adjust the adjustable nut 2 and is stored in the bracket rod.
=It can be removed from the bracket stem by the bulging points on both sides.

⚠ 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 into the water avoid to damage to the equipment.

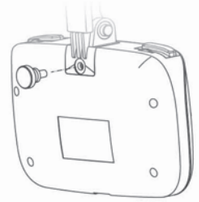
GLADIUS mini Introduction

Mounting Controller Bracket

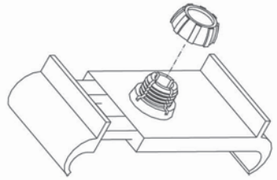
❶ Insert the bracket into the mounting slot on the back of the controller.



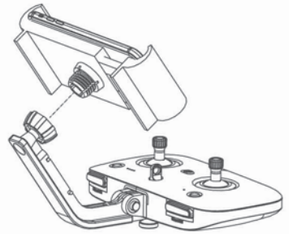
❷ Fixed with M5*8 screw.



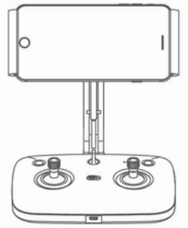
❸ Remove the nut on the back of the mobile phone/tablet clip.



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.



Installation & Connection

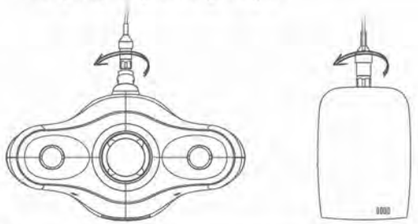
1 Download IF.Dive App

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)

2 Connect ROV with Base Station

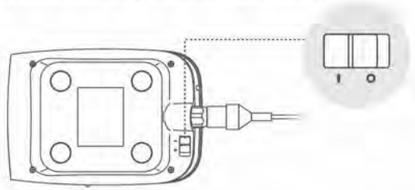
Insert the two plugs of the buoyancy line into the submersible and the repeater, and tighten the tightening nut.



⚠ 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.

3 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 is always lighted. At the same time the ROV LED lights show a short light up and accompanied by the two times self-test sounds.



4 Wi-Fi Connection

Enter the phone WIFI interface, wait for 5-10 seconds, Gladius_5G_xxxxx will appear, click to connect. WiFi password: 12345678.

⚠ Note: Press the "reset" button of the base station to switch to Gladius_2.4g_xxxxx .

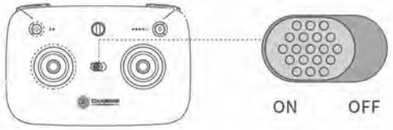
Installation & Connection

5 Turn on Bluetooth

Enter the phone WIFI interface, wait for 5-10 seconds, Gladius_5G_xxxxx will appear, click to connect. WiFi password: 12345678.

6 Open Controller

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



7 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"connect" button, the controller connection interface will pop up, click the 'Connection handle', wait for the 'The handle is connected' which stands for the controller is connected successfully, then the Bluetooth indicator on the controller is always on.

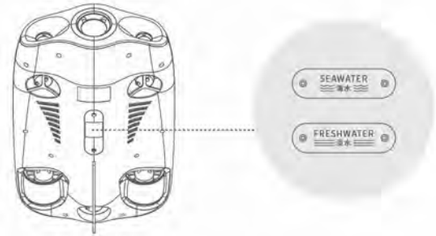
8 IF. Dive APP Usage

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.

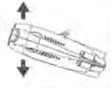
9 Installing Buoyancy Module

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



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:

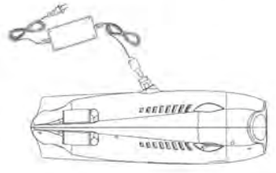
ROV (Flight Direction)	Remote Controller (American Hand)	Remote Controller (Japanese Hand)	Remote Controller Customization
Going Up/Down 	Left joystick up and down 	Right joystick up and down 	Support customization
Turn Left/Right 	Left joystick left and right 	Left joystick left and right 	Support customization
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 USA hand or custom in the app.

Charging Guide

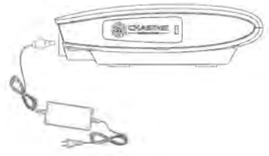
ROV

The adapter light is in red to indicate normal charging and the green light indicates that charging is completed. After charging, please unplug the charger 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 charger 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	28.8Wh (2600mAh)
Battery Life	⩾8h (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	10W
Dimming	Manually adjustable

Specifications

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

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

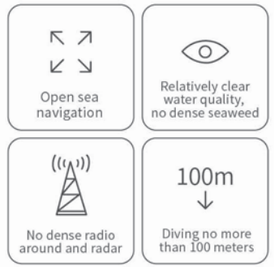
Camera	
CMOS	1/2.3 inches
Aperture	F3.0
Focal Length	4.0mm
ISO Range	100-3200
Field of View	95°
Maximum Resolution of the Image	12M(4000*3000)
Picture Type	JPEG/DNG
Video Resolution	FHD:1920x1080 30Fps
	FHD:1920x1080 60Fps
	FHD:1920x1080 120Fps
	FHD: 3840x2160(4K) 30fps
Video Maximum Stream	60M
Video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

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

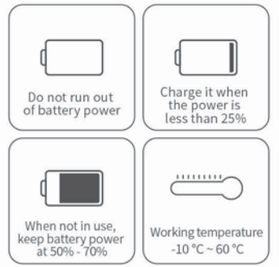
Sensor	
IMU	Three-axis gyroscope/acceleration/compass
Depth Sensor	+/- 0.5m
Temperature Sensor	+/- 2°C

Maintenance and Precautions

❶ Navigation Safety



❷ Battery Protection



❸ Charging Protection

- Use the official standard charger.
- Red light means charging.
- Green light means the the charging is completed. When finished, unplug the charger 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 ,dry it with a dust-free cloth if water found and do not use them until the connector gets dry.

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.

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 official news and app update notifications, or share your wonderful photos with other customers.

FCC Warning

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

ISEDC RSS warning

This device complies with Innovation, Science and Economic Development Canada Compliance licence-exempt RSS standard (s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference,including interference that may cause undesired operation of the device.

*Le présent appareil est conforme aux CNR d'*Innovation, Sciences et Développement économique Canada *applicables aux appareils radio exempts de licence.*
L'exploitation est autorisée aux deux conditions suivantes:
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC/ **ISEDC Radiation Exposure Statement**(For remote controller)

This equipment complies with ISEDC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme avec ISEDC les limites d'exposition aux rayonnements définies pour un contrôlé environnement.
Cet émetteur ne doit pas être co-localisés ou fonctionner en conjonction avec une autre antenne ou émetteur.

FCC/ **ISEDC Radiation Exposure Statement**(For Base Station)

This equipment complies with FCC/ ISEDC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Cet équipement est conforme avecFCC/ ISEDC les limites d'exposition aux rayonnements définies pour un contrôlé environnement.
Cet émetteur ne doit pas être co-localisés ou fonctionner en conjonction avec une autre antenne ou émetteur.
Cet équipement doit être installé et utilisé avec un minimum de 20cm de distance entre le radiateur et votre corps.