# CHASING M2 PRO

User Manual

V1.0

CHASING
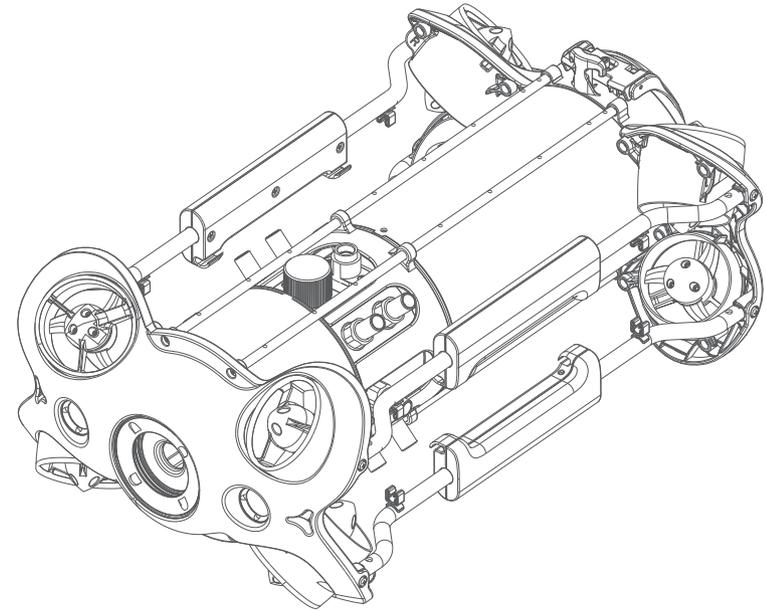
CHASING

⚠ Disclaimer

Thank you for purchasing the CHASING M2 PRO 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 instructions carefully and that you understand and agree to abide by the terms and conditions herein.

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Chasing accepts no liability for damage, injury, or any legal responsibility incurred directly or indirectly from the use of the CHASING M2 PRO in the 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 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 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(s) or injuries caused by operating the unit with a low battery alert.
10. Damage(s) or injuries caused by operating the drone out of maximum safe range and depth.
11. Damage(s) or injuries caused by knowingly operating the product in abnormal conditions (such as the assembly is not completed, or the main components have obvious faults, obvious defect or missing accessories).
12. Damage(s) or injuries caused by operating the drone in a sensitive zone such as a military area or private waters without official permission.
13. Damage or injury caused by using in bad water conditions (such as high winds, or turbid zone).
14. Damage or injury caused by uncontrollable external factors, including severe collision, tidal wave. swallowed by animal.
15. Damage(s) or injuries caused by infringement such as any data, photo or video material recorded by the use of the CHASING M2 PRO.
16. Other losses that are not covered by the scope of Chasing's liability.

ROV

CHASING M2 PRO is a professional underwater ROV designed for professional users and industrial applications. M2 PRO has 8 Vectored Thrusters layout which allows OMNI movement in all directions. Compared to the CHASING M2, the M2 PRO motor has been upgraded by 50%. The Maximum speed is 4 Knots, depth is 150 meters (490 FT) and the maximum horizontal radius is 400 meters (1300FT). M2 pro support AC and battery hybrid power supply to achieve unlimited battery life. Not only compatible with sophisticated attachments such as Grabber Claw, Floodlight and laser scaler etc, but also compatible with Control Console (High-brightness Screen), Docking station, USBL underwater positioning, 700Wh battery, Multibeam sonar, Auxiliary Camera and other M2 PRO Exclusive Enhanced Accessories. CHASING M2 PRO offers a built in 4K/ 1080p and 12 megapixel EIS image stabilization camera, 4000 lumen LED lights, removable battery and removable micro SD memory card. The aluminum alloy compact body (weighs less than 6KG / 13lbs) allows single person operation and Quick-Deployment in 3 minutes. The CHASING M2 PRO is your portable, easy use and reliable light industrial underwater ROV.
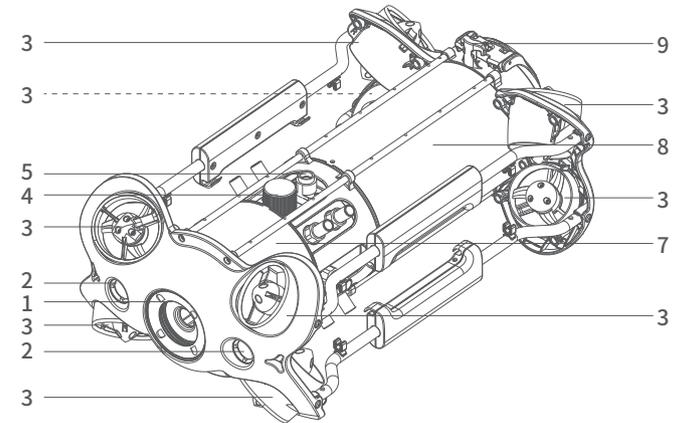
1.Camera
2.LED lights
3.Thruster/ Propeller
4.micro SD slot
5.Tether socket / Charging socket
6.Sensor
7.Main Cabin
8.Battery Cabin
9.Buckle bracket
10.Peripheral interface
11.Battery pull ring
    (For battery disassembling)
12.Battery fastener
13.Battery twistlock knob
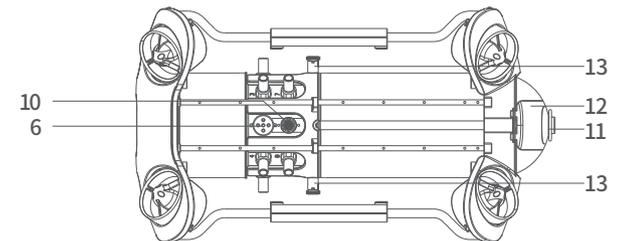
Remote controller

The Chasing M2 PRO remote controller had integrated communication and control. It connects directly to the drone via the included tether and connects wirelessly to your mobile phone/tablet via Wi-Fi. And your mobile phone/tablet also can be directly connected to the remote control through the Type-C cable. It allows the drone to display a live video feed on your phone/tablet, which enables users to control the drone in real-time. The remote controller 's HDMI output can also be used to display a live video feed to a larger screen.

1. Power switch: Turns controller on/off
2. Power Indicator:
   Green (High power)
   Blue (Medium power)
   Red (Low power)
3. Wi-Fi switch button：Short press to switch 5Ghz/2.4 Ghz Wi-Fi
4. Signal Indicator：
   2.4G：2.4Ghz Wi-Fi indicator，always on when working
   5G：5Ghz Wi-Fi indicator，always on when working.
   ROV(drone)：Indicates the communication status between the controller and the drone (Steady light indicates successful connection; Blinking light indicates disconnection.)
5. One-key reset：Short press to reposition the ROV return to a horizontal state/ Long press to switch control mode
6. Unlock：Unlock/Lock，current state of the Thruster will show on the App
7. Led Control：On / off led light (0%50%100%)
8. Safety Buckle：Can be used with a safety rope to prevent the remote control from falling
9. Control Sticks：Used to control the navigation of the ROV
10. Robotic Arm Control：Short press to close and stop, long press for one second to open Underwater LED Video Light control: press short to switch the light gear(0%50%100%)
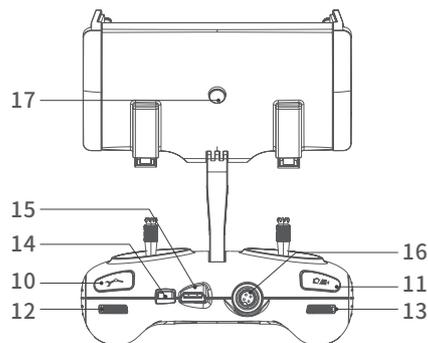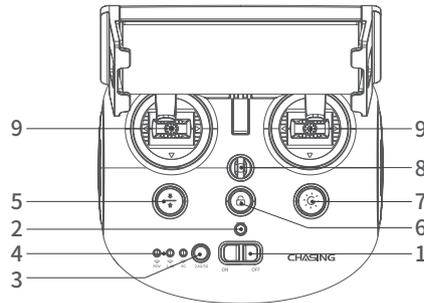
11. Photo / Video：Short press to take photos, long press to start / end recording video
12. Right Angel Adjustment：Adjust the rollover angle
13. Left Angel Adjustment：Adjust the pitch angle
14. Type-c Port: Direct connection with mobile phone/tablet device
15. HDMI Socket：1080P HD image real-time output
16. Tether Connection Socket/Charging socket
17. Phone/Tablet Clamp：Used to attach phone/tablet mount to mounting bracket
18. Clamp Button：Pull apart the two ends and put in the phone/tablet, then press this button to tighten

* Note: Do not put the controller in the water to avoid damaging the device, damages caused by water ingress are not covered by the warranty.

Handle indicators introduction

Battery：
Red：10%↓ Red light flashes quickly；10-29% Red light always on.
Blue：30-69% Blue light always on.
Green：70-100% Green light always on.

Signal Indicator:
2.4G：2.4Ghz Wi-Fi indicator，always on when working.
5G：5Ghz Wi-Fi indicator，always on when working.
ROV：Indicates the communication status between the controller and the ROV
        (Steady light indicates successful connection, Blinking light indicates disconnection.)

Gesture back Button：
The blue light is always on when the ROV is in a non-horizontal position.

Unlock Button：
Locking: No lights；Unlocking: Blue light on.

Led Control Button：
Bright light：Blue light always on; Low light： Blue light flash；No light: Blue light off.

200 meters Tether & Winder

The tether is used to connect the drone and the remote controller.
The winder is used to store the tether.

1. Tether connectors
2. Winder
3. Tether
4. Fastener
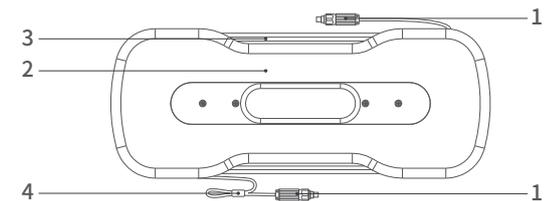
* Warning：•Do not put exposed (unconnected) tether into the water or plashing liquid to the tether.
           •Check whether the O-ring on the tether connector pre-dive, make a replacement when it is missed or damaged.

Installation & Connection

❶ Download CHASING GO1 App

CHASING GO1 App：
Scan the following QR code or visit the IOS App Store/
Google Play/Chasing website for downloading.
(For IOS 9.0 or later/Android version 4.4 or later)

❷ Connect ROV with Remote Controller

a. Insert one end of the tether connector into the remote controller connector socket.
b. Reserve a suitable length and hang the Buckle on the Buckle Bracket, and make it tension.
c. Insert the other end of the tether connector to the ROV.
d. Securely hand-tighten both connectors.
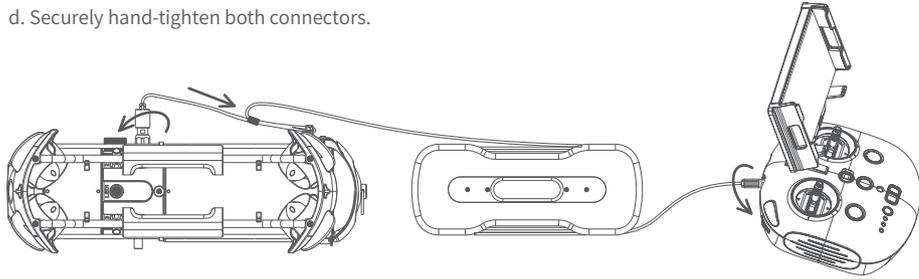
❸ Start (turn on) the ROV

a. Turn on the remote controller power button.

b. A few seconds later, the remote controller's
   indicator lights up, 5G or 2.4G light will be always on.
   The drone LED lights will flash shortly,
   accompanied by two self-tests sounds.

c. Check all the connectors and lights pre-dive, and
   unlock the ROV when everything is ready underwater.
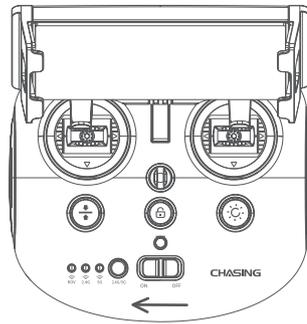
❹ Connect remote controller to your phone/tablet

Method 1：USB Direct Cable Connection
Choose an appropriate remote controller cable based
on the type of mobile device. A Lightning connector cable,
micro USB cable, and TYPE-C cable are included in the
packaging. Connect the end of the cable with the mobile
phone logo to the mobile device.
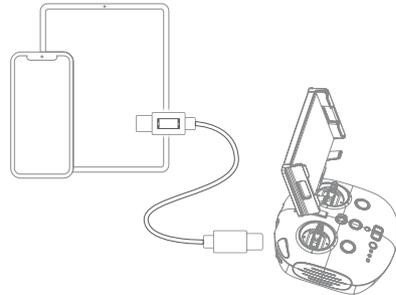
Note: * It is recommended to use this kind of way to
connect mobile phone/tablet and remote controller.
* If the connection fails, please try to turn off your phone's
 Wi-Fi and mobile network. If still fails, it may be a phone/
tablet compatibility problem. Please select method 2
Wi-Fi connection. * The remote controller type-c port and
attached remote controller cables do not support charging.

* ❷ Warning: Check whether the O-ring on the tether connector pre-dive. If it is missed or damaged, please
   replace it in time.

Method 2：Wi-Fi Connection

a. On the Phone/Tablet, go to Wi-Fi settings.
b. Wait for 5-10 seconds and the Chasing_xxxx network will appear as an option.
c. Click to connect and enter the Wi-Fi password: 12345678

Chasing_xxxxx
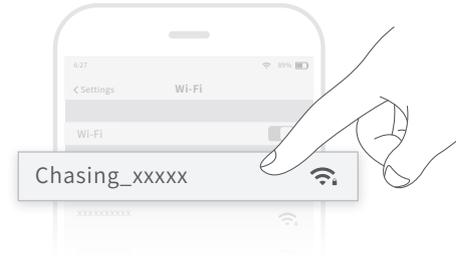
❺ App interface Introduction

Open the App and enter the camera, you will see the real-time scene transmission.

General Settings · Compass · Signal Strength · Return · Battery · VR · Live Stream · White Balance Lock · Shrink Video · Slow Motion · Picture · Side Menu · Temperature · Video Recording · Depth · Camera Settings · 3D Gesture · Light · Angle · Unlock/lock · ROV Mode

110 115 120 125 130 SE 140 145 150 155 160 165

80%

0.0m 20.2℃ OFF 0℃

Lock Depth Lock
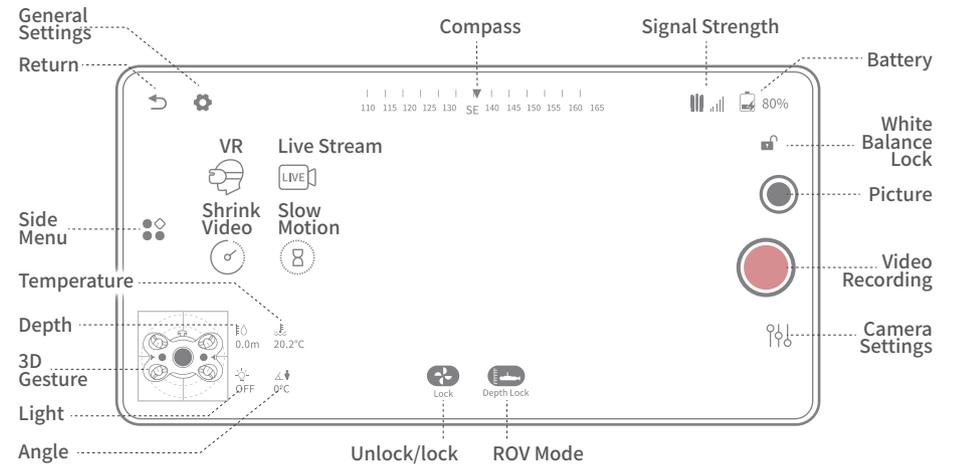
❻ Drop the ROV into Water

a. Grasp the grips on both sides of the ROV with both hands and gently throw the ROV into the water.
b. Unlock the Thruster(motors) to dive.
c. For a better experience, it is recommended to ensure that the water depth exceeds 1 meter.

* ❺ Note：You could check more guidance videos on the website page https://www.chasing.com/,or you
          could contact the global support team with any questions：support@chasing-innovation.com

Video and Photo Download

Download to Phone/Tablet

1) Refer to Step 4 to connect the remote controller to your phone/tablet.
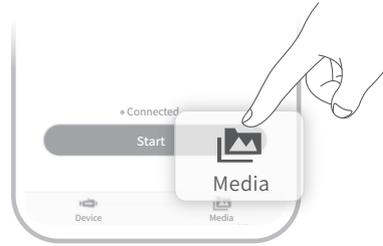
2) Open CHASING GO1 App, click the Media button in the lower right corner.

3) Find the video/photo that you want to download. Click the download button and the image will be saved directly to the phone/tablet's photo album (Download folder).
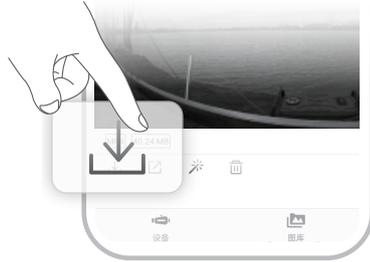
Download to Computer
(laptop or the computer which could use Wi-Fi)

1) Open the web browser and type IP address:192.168.1.88
2) Find the video/photo that you want to download. Click the download icon and save, then the images will generally save in the Download folder.
3) It is recommended to use Firefox or Google Chrome browser for better experience.
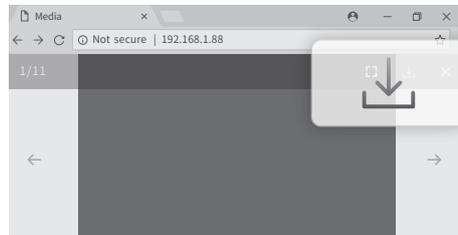
Micro SD card copy

1) Remove the cover on the micro SD card socket counter clockwise, then open the waterproof rubber plug, and gently press the micro SD card. It will pop up automatically, then remove the micro SD card.
2) Read the micro SD card in a Card reader, and copy the images with computer.
3) Insert the micro SD card back to the micro SD card socket after copying the images, press gently to ensure the micro SD card and waterproof rubber plug are locked, and tighten the cover clockwise downward.
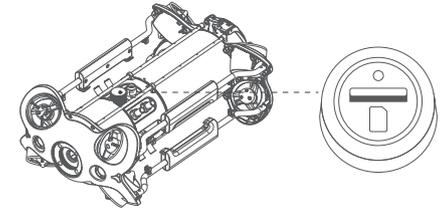
# Disassemble and Install the Battery compartment

ⓐ Disassemble:
1) Turn the knobs on both sides of the fuselage 90° to the shallow card slot；
2) Turn the switch ① on the slider to the left, and pull the lock assembly upwards while holding the chute ②；
3) Pull the lower sides of the pressure plat③, by hand, pull down to deform the pressure plate ③, and make the buckle come off the rear bracket.
4) Pull the Battery compartment slowly to pull it out.
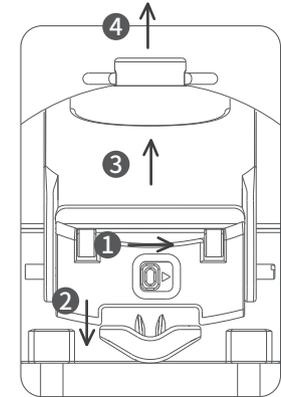
ⓑ Install:
1) Rotate the knobs on the both sides of the fuselage 90 ° to the deep card slot；
2) Slowly install the Battery compartment along the chute under the fuselage. Press down hard until you hear a "click" sound, and the knobs close in place.
3) Pull the lower sides of the Pressure Plate by hand, pull down to deform the Pressure Plate ③, make the buckle fasten on the rear bracket；
4) Press down firmly on the chute of the locking assembly. When you hear a "click" sound, the buckle is snapped into place properly, then the installation is complete.
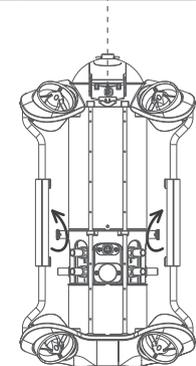
* Warning：1. Before removing or installing the micro SD card, please switch remote controller power button to off, and wipe off the water on the ROV；
2. Check the O-ring on the tether connector, please be sure the O-ring cannot be squeezed out when tightening the cover. If it is missed or damaged, please replace it in time.

Navigation

M2 PRO has 8 Vectored Thrusters layout which allows OMNI movement (up, down, left and right, back and forth, pitch, roll, and pan) in all directions.The default is basic control mode, suitable for beginners. Navigation attitude and remote control are as follows:

Remote Controller	Rov (Flight Direction)	Remote Controller	Rov (Flight Direction)
Left Joystick	Forward/backward	Left Joystick	Turn Left / Right
Right Rocker	Pan Left and Right	Right Rocker	Up / Down
Scroll the Left Wheel	Turn the Dial To Adjust the Pitch Attitude	Scroll the Right Wheel	Turn the Dial to Adjust The Roll Attitude, Release to Fix Status
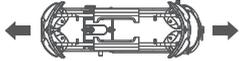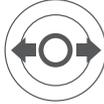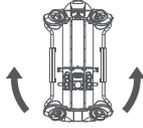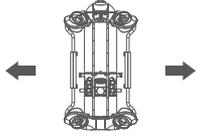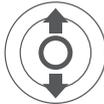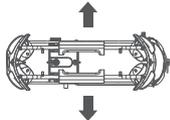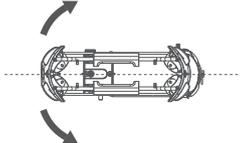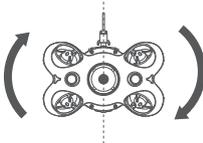
If necessary, users can switch modes by long pressing the "One-key reset " button of the remote controller.
When switching to the advanced mode, the ROV can achieve all-round full-freedom movement.
The advanced mode is based on the first-person perspective.

Charging Guidance

ROV & Remote Controller

Adapter (25.2V 2.9A) : It is a 3 in 1 charger that could charge the ROV, Remote Controller, Battery Cabin & E-reel，
Red light indicates Charging, green light indicates fully charged.

* Note: in the basic mode, the maximum Angle of pitch and roll is about 80 degrees.

Specifications

ROV

Size	480*267*165mm
Weight	5.7kg
Battery	302.4Wh
Maximum Depth	490 ft
Maximum Speed	2.0m/s (3 Knots))
Battery Life	Up to 4H
Operating Temperature	14°F~113°F

Camera

CMOS	1/2.3
Aperture	F1.8
Focal Length	1m
ISO Range	100-6400
Field of View	152°
Maximum Image Resolution	12M
Image File Types	JPEG/DNG
Normal video	4K UHD:3840*2160 30fps
	FHD:1920*1080 25/30/50/60 /100/120fps
Slow motion video	720P：8x (240fps)
	1080P：4x (120fps)
Time-lapse video	4K/1080P
Video Maximum Stream	60M
Video Type	MP4
micro SD Card Memory	Standard 128G (maximum support 512G)

Dimmable LED Lights

Brightness	2 x 2000lm
Color Temperature	5000K~5500K
CRI	85
Dimming	Three adjustable

Remote Controller

Size	160*155*125mm
Weight	0.685kg
Battery capacity	2500mAh
Battery life	≥6H (Depend on working condition)
Wireless	Wi-Fi
HDMI	1080P
TYPE-C	USB communication

Tether & Winder

656ft Version(200M)	2.5kg

Adapter

|	
Adapter	2.9A/25.2V （Fast charger：8A/25.2V)
ROV Charging time	4.5h (Fast charger：2.5H)
Remote controller charging time	2H

Sensor

IMU	Three-axis gyroscope
	acceleration
	compass
Depth Sensor	＜±0.25m
Temperature Sensor	＜±2℃

Maintenance and Precautions

❶ Navigation Safety

Open sea navigation	Relatively clear water quality, no dense seaweed	No dense radio or radar signals	492 ft ↓ Do not dive more than 492 ft

❷ Battery Protection

Do not run out of battery power	Charge when power is less than 25%	When not in use, keep battery power at 50% - 70%	Working temperature -10 ℃ ~ 45 ℃ (-18°F-113°F)
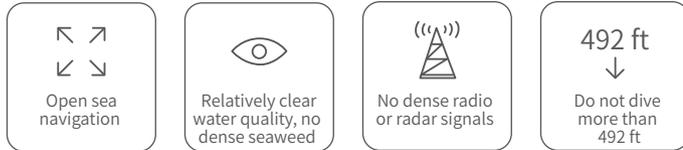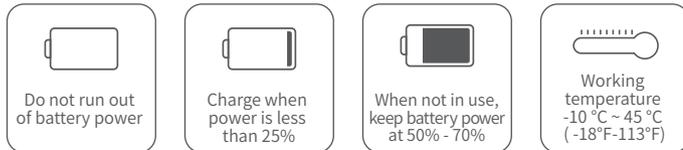
❸ Charging Protection

・Only use the Chasing standard adapter.
・Red light means charging.
・Green light means fully charged.

❹ Thruster/ Propeller

a. Do not touch the propellers of the Thruster
b. Do not unlock the Thruster for more than 30 seconds in the air to avoid overheating
c . After using the ROV in the salt water, please put it in fresh water for about 1 hour and turn it on, let the drone run for10 minutes to discharge the salt, and try out the water after cleaning with a towel.

❺ Connector Sockets /Tether Connectors

・Check the Connector socket and tether pre-dive, keep dry and clean.
Salt and moisture may cause corrosion of the connector. Be sure to wash the socket with fresh water if the interface has water stains, and make the connectors dry after cleaning.

❻ O-ring

・ Check whether the O-ring on the tether connector/Battery socket/micro SD card socket pre-dive, and make a replacement when it is missed or damaged.
・ It is recommended to grease the o-ring at the interface seal for maintenance each time when the battery cabin and micro SD card are removed and installed

Other

1. Do not turn on the LED lights before entering the water to avoid damages.
2. Check if the Thrusters/propellers are getting stuck by seaweed or external matters, rinse the ROV with fresh water and then dry and put it back in the packing box.
3. Remote control cannot be washed with water, please clean it with towel.
4. The pull ring at the end of the battery can only be used to remove the battery, not to lift the ROV, otherwise it may damage the ROV.
5. Do not place heavy objects on drone or accessories to avoid possible damage.
6. People under the age of 16 should only use this drone under adult supervision.
7. When not in use, please do not expose the drone and accessories under sunlight. Store it in a cool place or in a special box.
8. Chloride or other chemicals can erode Chasing M2 PRO. Do not use if the pool is under high chlorine level.

Support

1. Any questions about our products please contact by support@chasing-innovation.com or leave a message on the Chasing Website (https://www.chasing.com) chatting window.
2. You can also join the OFFICAL CHASING OWNERS GROUP on Facebook for latest news, app update and other shared stories with Chasing Products worldwide.

you could have the latest user manual by the
https://www.chasing.com

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