

CCROV



4K Camera and
720P real-time
transmission



Six Thrusters &
5 degree of
freedom



WIFI Remote
Control &
Ready for Dive



Smart Battery
Management
System



Military Material
& 100 Meter
Diving

4K

CCROV is the first underwater robot with real 4K camera, with the smallest size on the market.

With six thrusters and five degree of freedom, quite suitable for narrow underwater space.

Description

The CCROV is a professional underwater robot. It's highly reliable, portable and easy to operate. It can complete a variety of photographic and video graphic tasks within 100m deep. CCROV can also be used as professional detection equipment for ship hull inspection, search and rescue works, aquaculture industry, infrastructure inspection and other underwater observation tasks.

CCROV can be deployed from many different areas or rigs and ships. The whole system can be deployed within minutes and Launching simply involves heaving the submersible by hand into the water. Moreover, no formal training is required to operate CCROV.

Features

Portable and Ready to Dive, No formal training required

6 Thrusters allow 5 Degrees freedom of motion

4K Camera & 720P Live Video Transmission to the monitor

100m depth rating

Embedded easy to swap batteries in the topside tether deployment system

Optional AC Power supply allows continuous working time

Specifications

Maximum Operating depth	up to 100 m
Dimensions	208 (L)×204 (W)×158 (H) mm
Weight in Air	5.5kg
Thrusters	4 horizontal, 2 vertical
Cruising Speed	up to 2 knots (1m/s)
Running time	with embedded batteries: 2-4 h with AC power module: unlimited
Battery	Lithium Ion battery pack 54.3 V - 154 Wh

AC Power module	Single Phase 100-240 VAC, 60-50 Hz
Material	Hull body: Aluminium alloy Float Material:synthetic composite foam
Tether Length	25m/50m/75m/95m
Cable	8mm (D) Ultra-thin flexible Kevlar Coax cable
Weight in Fresh Water	Neutrally Buoyant
Camera Model	Sony IMX 11
Image Sensor	1/2.3" CMOS
Pixels	12 million effective pixels
Memory Card	64 GB Micro SD (Class 10)
Video Resolution	4K/30fps, 3840x2160 2.7K/30fps, 2704x1520 FHD-HD-1080P/120fps, 1920x1080 720P/240fps, 1280x720
Light Source	4 White ultra-bright LEDs
Luminous Flux	4x 350 lumen (1400 lm)
Sensors	Compass and Depth
On-screen overlay	Yes
Auto-depth mode	Yes
Monitor	7inch ultra bright (1000nits) tablet

Kit contents

CCROV underwater vehicle

25m/50m/75m/95m Umbilical cable

Tether deployment system

Battery

Battery charger

Wireless remote controller

Waterproof suitcase

Ultra Bright Tablet

User's manual

Spare batteries on your demand

Applications

Ship & Propeller Inspection

Search & Rescue works

Potable Water Tank and Pipe Inspection

Hydro Power Stations

Nuclear Power Stations

Navy & Police Forces

Subsea Construction & Maintenance

Coast Guard

Aquaculture

Marine Life Observation

Science and Oceanographic Research

CCROV



A Standard Package Includes:

- CCROV Vehicle*1
- Tether Deploy System*1
- Remote Controller*1
- Battery Charger *1
- Battery*1
- Handle for TDS*1



Inspection

CCROV is used more and more in underwater inspection services. It can inspect ships, dams, power plants, underwater bridge piers, potable water tanks and fire water tanks and so on. Compared with sending a commercial diver underwater, it's a much safer and faster way. In the long run, it's very cost-effective. This small investment will bring you more profits and save your costs. It can

- dramatically shorten employee underwater work-hours
- reduce the risks involved with diver deployment
- be easily and fast deployed anytime and almost anywhere

CCROV can

- conduct visual inspections on their own
- serve as a pre-dive risk assessment and planning tool
- used along with divers on repair jobs – assisting divers and allowing dive supervisors to monitor and advise those doing underwater tasks.



Customer Case:

- [Boat maintenance by commercial diving company](https://www.youtube.com/watch?v=NDQaPWcjJhc)
<https://www.youtube.com/watch?v=NDQaPWcjJhc>
Our client used CCROV instead of human diver to do a routine inspection . CCROV soon found a screw is rusty. A diver was deployed to replace the screw, while CCROV enabled people on deck monitor how the maintenance job was done by its real time imagery transmission.
- [400m long cargo ship inspection](https://www.youtube.com/watch?v=J-e6WA08DqQ)
<https://www.youtube.com/watch?v=J-e6WA08DqQ>
Our commercial diving company client used CCROV to perform routine inspection for a 400m long international cargo ship. It takes around 2 hours to finish, including the hull, propellers and meter readings.
- [Hydropower CWP-system underwater inspection](https://www.youtube.com/watch?v=GZAuTIWibcQ)
<https://www.youtube.com/watch?v=GZAuTIWibcQ>
Our client used CCROV in a hydropower inspection. CCROV have 6 thruster, giving it a huge mobility advantage especially in confined space.

Salvage

CCROV's 720P real time image transmission and 4 camera tracking LEDs guarantees that it can work in dark deep underwater environment, even in muddy water. Its small size and unrivalled mobility makes it easy to reach almost everywhere, sometimes places even human divers cannot reach.



Customer Case:

Because of the special nature of some salvage work, customers' videos are confidential and cannot be exposed to public. As a volunteer, VxFly does some rescue and salvage work for the police.

- In midnight of this June 3rd, a young man left a note and committed suicide by jumping into a lake. Our colleague operated CCROV searching for the young man and within 1 hour his face showed up in the monitor. Unfortunately it was too late. Actually when they arrived at the scene, there was already no sign of hope...
- Our client which is a salvage team used CCROV to search for a sunken car. Within 1 hour, the car was found. Compared to deploying a commercial diver, CCROV is more efficient and economic.

Training

Swimming, diving, underwater welding, underwater cutting and underwater polishing, students need need training to be qualified. Traditional way of training, instructors cannot have a very good view unless they dive into water too. Now CCROV let them see students' movement underwater in real time.



Customer Case:

- [Dive Training](#)

<https://www.youtube.com/watch?v=VlkfxnBalgI>

Our dive club client used CCROV in dive training. CCROV is equipped with 4K camera. It can take pictures when people dive, and it can record videos as teaching material too.

- [Synchronized Swimming Training](#)

https://www.youtube.com/watch?v=9P_ru2xB_Ho

Our client used CCROV in synchronized swimming training. Now the coach can have a real time view of underwater posture.

Diving and Expedition

Diving is becoming people's favorite leisure time activity now. What can compare to the experience of immersing in the beautiful underwater world? Want a good helper when you dive? CCROV is right at your disposal!

You can

- ✧ send it to check the underwater situation (for example, water visibility, water temperature etc.) before you dive
- ✧ use it to record you diving
- ✧ use it to enable your friends on deck to enjoy the beautiful underwater view with you simultaneously



Customer Case:

- [Ship wreck exploration](https://www.youtube.com/watch?v=tp-1QEO6sfU)
<https://www.youtube.com/watch?v=tp-1QEO6sfU>
Our customer used CCROV in a ship wreck exploration. They used CCROV to check the wreck site situation (water visibility, water temperature etc.) in advance. After that, CCROV acts as a remotely controlled underwater camera to record them diving.

- [Cave Expedition](https://www.youtube.com/watch?v=TemeufHPJmw)
<https://www.youtube.com/watch?v=TemeufHPJmw>

Cave expedition can be exciting and dangerous at the same time. In order to guarantee safety, a diver is often deployed to check underwater situation before official diving. This time CCROV is deployed to check underwater situation. CCROV is portable and small, can be easily deployed from a small boat. Underwater situation is shown on screen by real time imagery transmission and divers can quickly decide whether to carry on the dive.

Photography

Are you an enthusiast of underwater photography? Or maybe an underwater film maker? I bet you have a good collection of underwater cameras. Have you heard of a remotely controlled deep depth camera?

Traditionally, you need to put on diving gear and dive into water by yourself to shoot underwater photos. But what if you're worried

- ✧ whether the water visibility is good enough
- ✧ whether the underwater scene is worth shooting
- ✧ there might be some hidden risks
- ✧ the place you need to go is too deep

CCROV offers a best solution!



Customer Case:

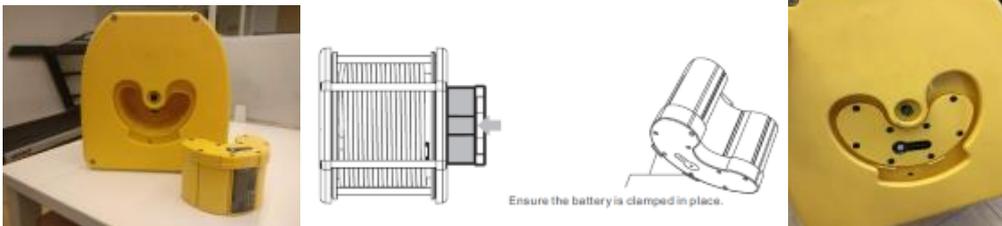
Our Malta customer shot these beautiful fish school and German customer shot these scallops using CCROV. CCROV is the first underwater drone equipped with 4K UHD camera. It has 4 high lumen LEDs, enabling it to shoot in darker deep water.

What makes CCROV different from other ROVs

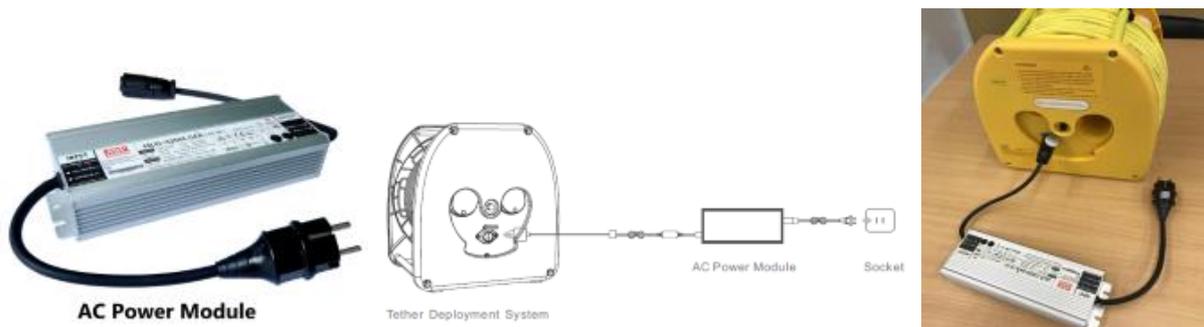
1. Power supply :

Most of the observation level ROVs have batteries embedded in the underwater vehicle, so you need to drag the underwater vehicle out of water to change battery everytime battery runs out.

CCROV's battery is installed in topside tether deployment system. You can change battery in less than 1 minute and instantly resume working.



Moreover, with AC power module CCROV can get access to external power supply and work unlimited time.



2. Size and mobility:

Even claimed to be small, most small ROVs are not that small. Some are indeed small, but at the cost of lost mobility. CCROV perfectly balances these 2 features.



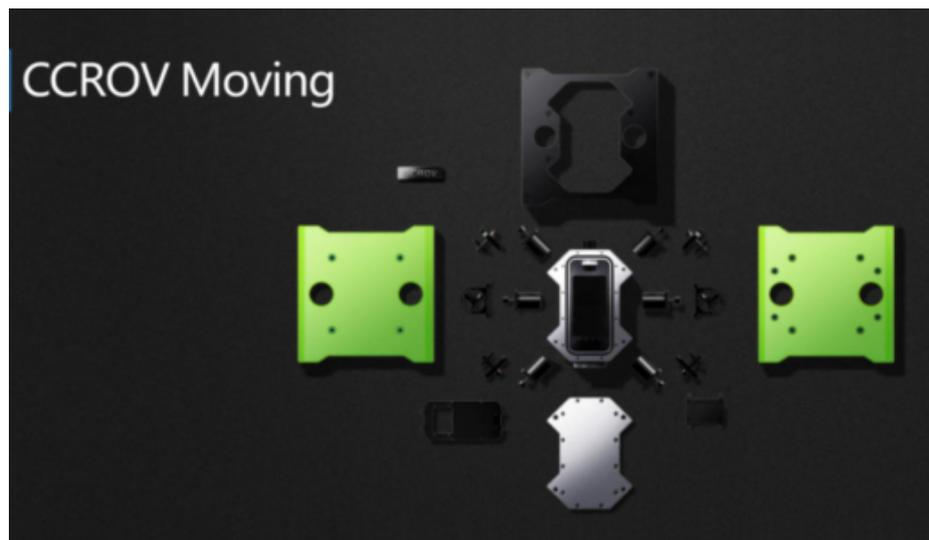
Sizing only 21*20*16 cm, CCROV is equipped with 6 powerful thrusters (4 horizontal

and 2 vertical) and can move in X,Y,Z,CW,CCW directions with a minimum turning radius less than 40cm. Its small size and unrivalled mobility makes it especially flexible in confined space.



3. Quality and spare part replacement

CCROV is made of military level materials. All of its parts are delicately designed to be easily dismantled and assembled back again.



Flyers:

<https://www.dropbox.com/s/zpsbidugdsevm/1.jpg?dl=0>
<https://www.dropbox.com/s/0cp4isiqztglyc3/2.jpg?dl=0>
<https://www.dropbox.com/s/06xh96508u583uq/3.jpg?dl=0>
https://www.dropbox.com/s/o97osfegilxx74w/CCROV_flyer_2017.pdf?dl=0
https://www.dropbox.com/s/rkcplzksyfo9csw/ccrov_print-english.jpg?dl=0
<https://www.dropbox.com/s/c65kns0lj019m3b/flyer%202.psd?dl=0>
<https://www.dropbox.com/s/jpaotv4yg0tyfkv/flyer%201.psd?dl=0>

Introduction:

<https://www.dropbox.com/s/oruv1zknofj7wh8/CCROV-Introduction.pdf?dl=0>

Photos:

<https://www.dropbox.com/sh/jrklygypne2y961/AAB-gub5jvua9BtSxbz7WD-Oa?dl=0>

Videos:

<https://www.dropbox.com/sh/vhzs6wqjkt6cw/2/AADXP-ErhvgPmXidPqsID3laa?dl=0>

Youtube links:

<https://www.youtube.com/watch?v=Eu7VR7ra2u0>
<https://www.youtube.com/watch?v=u0vwl9Ode7Y>
<https://www.youtube.com/watch?v=m4KjTFkNCAI>
<https://www.youtube.com/watch?v=TemeufHPJmw>
<https://www.youtube.com/watch?v=J-e6WA08DqQ>
https://www.youtube.com/watch?v=9P_ru2xB_Ho
<https://www.youtube.com/watch?v=VlkfxnBalgl>
<https://www.youtube.com/watch?v=tp-1QEO6sfU>