



# Alpha **Mi**

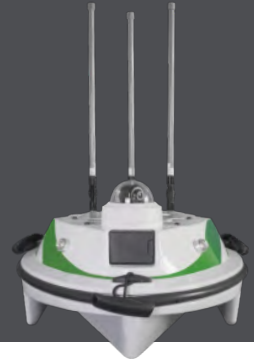
## Alpha Survey USV

One-person-handle | Fully integrated | Detachable Propeller



# Alpha Mi USV for surveying

Alpha Mi is exclusively designed for one-person measuring work. Trimaran design ensures stable sailing and is used in conjunction with dual pump jet thruster, RTK, single beam, and HD image. Intelligent ship control are integrated for more convenient and high precision underwater measurement.



## Easy Work For Even One Person

The size of Alpha Mi is only  $900 \times 500 \times 340\text{mm}$ , the whole set of which can be carried by one single person without difficulty. The hull can be easily put into a car trunk. A single worker is able to quickly conduct his hydrographic survey as soon as the battery and the antennas are installed.





## Quick Preparation

Configure or pack up in 1 minute.



## Long Working Time

Maximum working time 5h. 2 batteries enough for 1 day job.



## Detachable Propeller

Dual pump jet detachable propeller, easy to maintain. Maximum speed at 6 m/s, well perform on torrent.



## 4G For Remote Control

4G network brings unlimited control distance.



## Intelligent Obstacle Avoidance

40-meter heading radar sensing, decelerating within 10 meters to avoid potential dangers in real time.



## Single Beam Bathymetry

Built-in high-sensitivity depth echo sounder, sounding 0.2 meters the shallowest.



## Protection

Streamline slope design at the back of the boat with blade-like filter and pump protect the vehicle from being entangled by aquatic plants.

# Detachable Propeller

When the propeller is entangled with fishing line and other debris, it does not need to be returned to the factory for repair. The operator can use the supporting tools to quickly disassemble it on site, eliminate the problem, and then continue working.





# Multi-functional Controller



**System:** Android+Qualcomm 8-core



**Transmission:** Controller+Data+Image



**Screen:** 5.5 inches high resolution (1920\*1080)



**Battery:** 10000mAh



**Working time:** 10 hours



**weight:** 650g



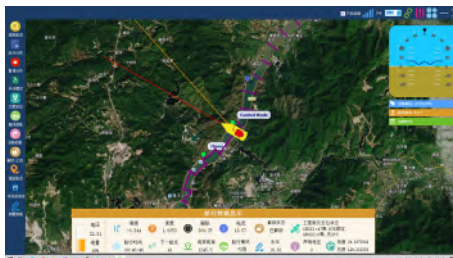
**Software:** All-in-one Software

## All-in-One USV Control Software

The alpha software system is a software solution used for route planning, parameter setting, hull control, data display, status display and data export, etc. Customized maps and satellite image maps can be imported or downloaded when the network is working. The software system is able to automatically generate routes, execute navigation tasks, continue navigation task after breakout and finally return to the place of departure.



Storage Capacity Measurement



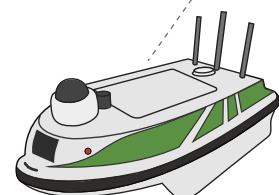
Section Measurement



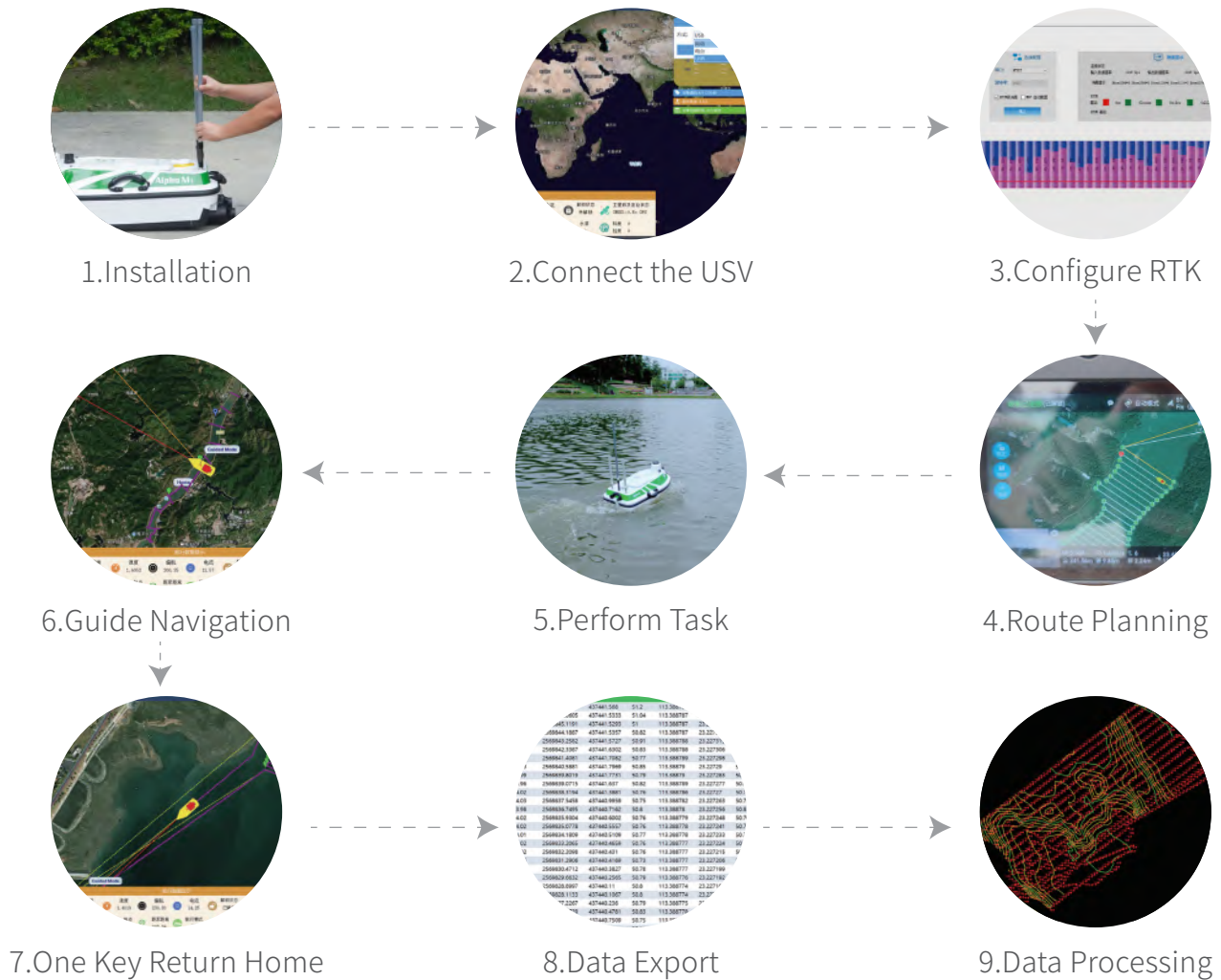
Dock Channel Survey



River Topography Survey



# Work Flow



# Measurement Cases (Working Environments)



Yellow River



Yangtze River



Pearl River



Songhua River



Lake



Fishpond



Inshore Waters



Dock

## Professional Set



|                               |    |
|-------------------------------|----|
| Alpha Mi                      | ×1 |
| Remote Controller             | ×1 |
| Remote Controller Charger     | ×1 |
| Remote Controller Data Cable  | ×1 |
| 2.4G Antenna                  | ×2 |
| 430-450MHz Antenna            | ×1 |
| Battery                       | ×1 |
| Battery Charger               | ×1 |
| Ethernet Port Debugging Cable | ×1 |
| 4G Remote Router              | ×1 |
| Data Cable                    | ×1 |
| Life Jacket                   | ×1 |
| Tool Bag                      | ×1 |
| USV User Manual               | ×1 |
| Configuration Checklist       | ×1 |
| Safety Instructions           | ×1 |
| Warranty Card                 | ×1 |
| Certificate of Compliance     | ×1 |

## Technical Specification

|                          |                       |                                                                                                                                         |
|--------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Physical                 | Dimension             | 900×500×340mm                                                                                                                           |
|                          | Material              | Polymer material                                                                                                                        |
|                          | Design                | M-type trimaran                                                                                                                         |
|                          | Weight                | 16kg                                                                                                                                    |
|                          | Max Payload           | 20kg                                                                                                                                    |
|                          | Wind/wave resistance  | Level 3 wind, Level 2 wave                                                                                                              |
| Echo Sounder             | Range                 | 0.2m-120m                                                                                                                               |
|                          | Accuracy              | 1cm±0.1%h(h is the meters of water depth)                                                                                               |
|                          | Resolution            | 1cm                                                                                                                                     |
|                          | Beam angle            | 7.5°±0.5°                                                                                                                               |
| Obstacle Avoidance       | Video                 | 1080HD                                                                                                                                  |
|                          | Millimeter Wave Radar | Optional                                                                                                                                |
| Power                    | Thruster              | DC pumpjet thruster                                                                                                                     |
|                          | Propeller             | 3-piece aviation aluminum alloy paddle                                                                                                  |
|                          | Protection            | Double protection from aquatic plants                                                                                                   |
|                          | Speed                 | Cruise 1.5m/s, maximum 6m/s                                                                                                             |
|                          | Battery               | 29.6V 888Wh                                                                                                                             |
|                          | Working time          | 4-5h(1.5m/s), customized 8-10h                                                                                                          |
|                          | Battery Type          | Detachable                                                                                                                              |
| Position And Orientation | Satellite             | GPS: L1C/A, L1C, L1P, L2C, L2P, L5, BDS: B1I, B2I, B3I, B1C, B2a, GLONASS: G1, G2, G3, Galileo: E1, E5a, E5b, QZSS: L1C/A, L1C, L2C, L5 |
|                          | RTK                   | Built-in GNSS receiver                                                                                                                  |
|                          | RTK Accuracy          | Horizontal: ± (8+1×10 <sup>-6</sup> D) mm, Vertical: ± (15+1×10 <sup>-6</sup> D) mm                                                     |
|                          | Channel               | 1408                                                                                                                                    |
|                          | Orientation           | Three-dimensional electronic compass<br>Dual GNSS antenna                                                                               |
|                          | RTK                   | Built-in radio and 4G network                                                                                                           |
|                          | Video                 | 5.8GHz                                                                                                                                  |
| Communication            | Remote                | 5.8GHz                                                                                                                                  |
|                          | Control Distance      | Unlimited by network, 2km by radio (Typical Environment)                                                                                |

\*The above technical parameters are for your reference. The company reserves the right to change the design and planning of the product based on the actual product.

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