Alpha Surveying

AlphaHe

Catamaran USV

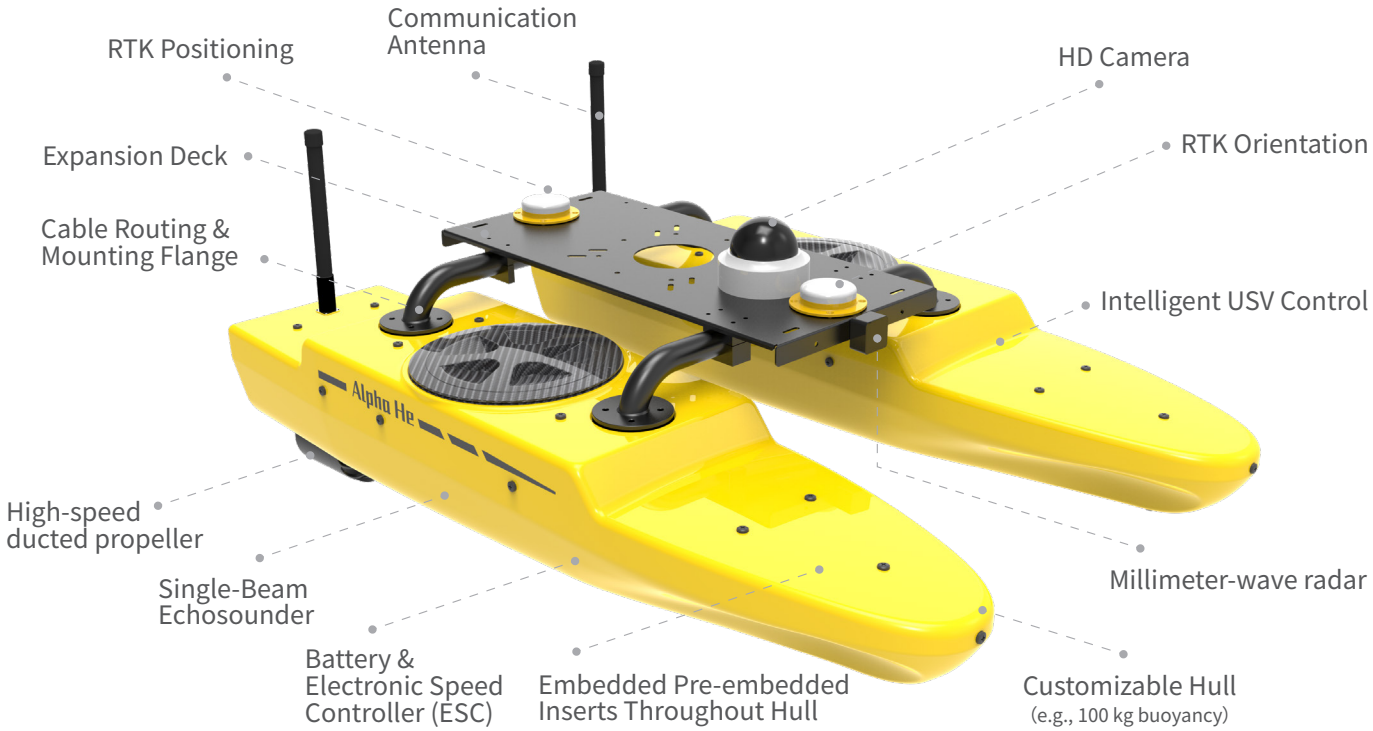
115×80cm | Functional expansion | Custom Hull Design



ISO ISO9001 CE

Alpha He

Alpha He Catamaran USV



The Alpha He catamaran USV is designed for education, research, and payload transport, with comprehensive freshwater and offshore operation capabilities, and supports secondary development. The standard hull measures 115×80cm (length×width), with a maximum speed of 4m/s and an endurance of 8 hours at economical speed. Equipped with RTK positioning & orientation, a standard single-beam echosounder, and an intelligent vessel control system for autonomous mission planning. The deck can accommodate multi-beam echosounders, ADCP, water quality multi-parameter sensors, sampling bottles, and other types of sonars or sensors.

RTK

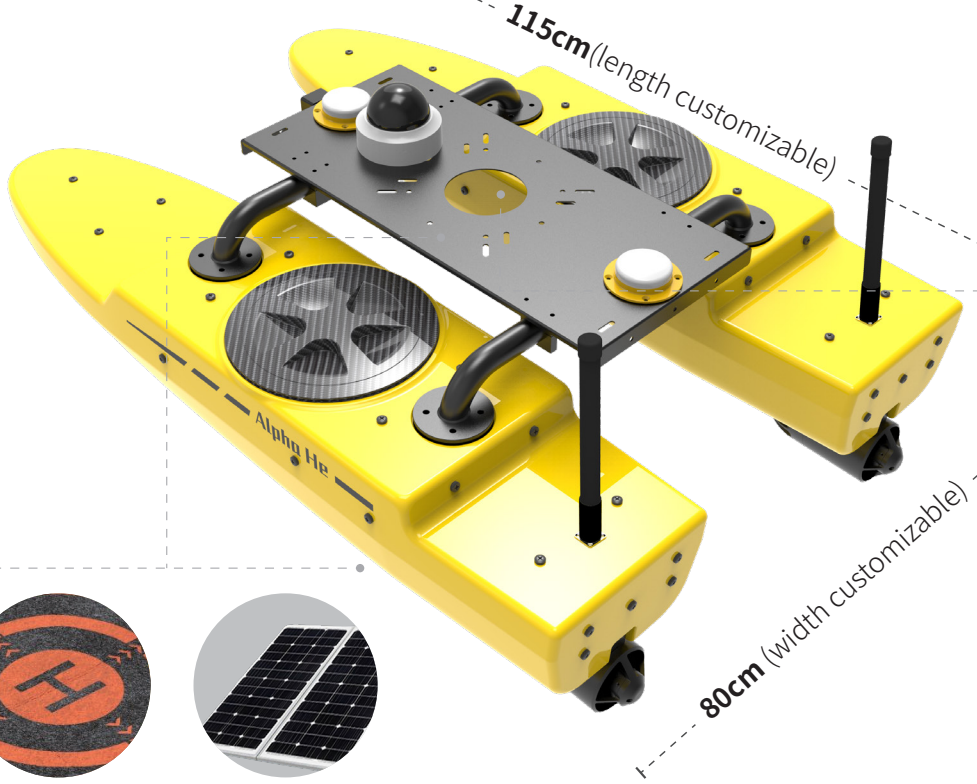
Single beam

Millimeter-wave radar

12 hours

Functional expansion
Custom Hull Design

Route planning,
Autonomous operation





ADCP



Multi-beam



Sampling bottle



Water quality multi-parameter sensor

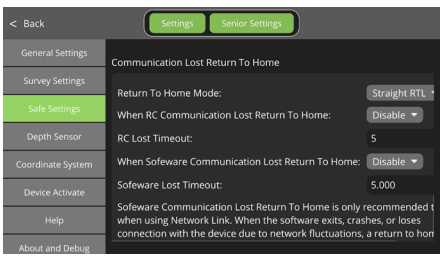
Expansion deck customized for drone landing pad

Expansion deck customized for solar panel

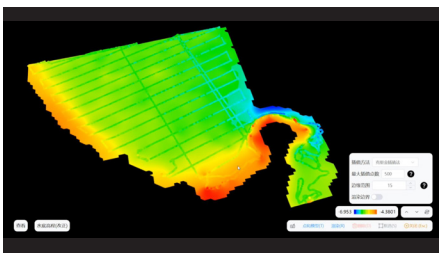
All-in-One Android Remote Controller Software

Multi-function remote controller with screen, featuring a 5.5-inch high-brightness touch screen, controller range of 3km, radio link range of 2km, and a 10000mAh battery. The all-in-one vessel control software enables functions such as route planning, parameter setting, and vessel control. It supports importing user-de-fined maps and can load satellite remote sensing image basemaps when connected to the internet. It automatically generates routes, executes navigation missions, supports mission resumption after interruption, auto-return, auto-cruise, and data visualization.









Professional Set

Hull	×2
Propeller	×2
Intelligent Vessel Control System	×1
Built-in RTK	×1
Built-in HD Camera	×1
Built-in Single-beam Echo Sounder	×1
Dual-joystick Android LCD Remote Controller	×1
Ground Station Portable Radio	×1
Millimeter-wave Radar	×1
Battery Charger	×1
Communication Antenna	×2
GNSS Antenna	×2
Network Antenna	×1
Radio Antenna	×1
Battery	×2
Transport Case	×1
Life Vest	×1
Tool Kit	×1
Manual	×1

Technical Specification

Hull	Dimensions	115×80×52cm
	Material	High-strength composite
	Hull Type	Catamaran
	Weight	25kg（Customizable）
	Max payload	15kg（Extensible）
	Wind/wave resistance	Level 3 wind, Level 2 wave
Echosounder System	Depth Range	0.2m-120m
	Accuracy	1cm±0.1%h (h the water depth)
	Resolution	1cm
Obstacle Avoidance	Video	1080p HD camera
	Millimeter-Wave Radar	Support
Power	Propeller	High-speed ducted propeller*2
	Power indicators	10kg thrust per motor, 2motors as standard
	Protection	Front & rear dual protection against weeds & fishing nets, quick-release maintenance
	Speed	Economical: 1.3m/s, Maximum: 4m/s
	Power	24v，1776wh lithium battery*2
	Endurance	8h (Economical speed, 12h optional)
	Battery installation method	Removable
Position and Orientation System	RTK	Built-in GNSS Receiver
	RTK Accuracy	H: $\pm(8+1\times10^{-6}D)$mm
		V: $\pm(15+1\times10^{-6}D)$mm
	Channels	1408
	Orientation	Electronic compass
		Dual GNSS antenna orientation
Communication	RTK communication	built-in radio, 4G network
	Video	2.4GHz
	Telecontrol	2.4GHz
	Range	Network: unlimited, Radio: 2 km, Remote controller: 3 km (typical environment)
	Data security	Data is stored in dual backups, and the data will be effectively preserved even in the event of a link interruption

*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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