

VE115

A MULTI-PURPOSE USV PROVIDING MULTI-MISSION CAPABILITIES

The eSurvey VE115 is a full-integrated innovative solution for 3D bathymetric surveys and is widely used for different types of research including hydrology, leakage, water-quality studies, the contour of streams and reservoirs, storage and fill-in reservoirs and ponds, etc. The VE115 carries up to 15 kg of payload and is completely autonomous, it is safely operated from the shore. The VE115 offers an unmanned operation solution with a shallow draft, high navigational accuracy, and stable hovering for hydrologists.



USV

Exceptional Hull Design

Experience a trapezoidal-shaped trimaran with better load and better ability against wind and waves, no longer need to worry about bumping and stranding for the installation position of the propeller levels. The hull makes placing the USV on the shallow shore possible.

Expand Your Unmanned Survey Capability

Freely choose the most suitable GNSS system from all eSurvey GNSS receivers and the needed sensors from single-beam echo sounder, dual single-beam echo sounder, ADCP, and online water quality monitoring system and water sampling system.

Modular Design and Ease of Maintenance

Easily assemble and disassemble all parts for maintenance, and experience remote assistance if there is a hardware problem. That is, we can remotely guide you to detect which part is wrong and send you the parts to replace it, which greatly simplifies the repair process and avoids delays in sending the whole USV back.

Compatible with ADCP, Long Endurance

The VE115 supports a wide variety of Acoustic Doppler Current Profiler (ADCP) systems available on the market. The VE115 weighs 25 kg, it's easy for two men to operate and transport. Powerful battery and low consumption supports 6 hours of endurance.

Powerful technology: 700W Power for Each Thruster

The VE115 can reach 6 m/s by 1400w total strong power, which can perform well against water current. It is better for use in the ADCP survey.

Multiple Safety Protection Mechanisms

Monitor the operational status of the USV in real-time, supported by the 360° full view camera, no longer need to worry about obstacles encountered during navigation for the ultrasonic obstacles avoidance module can help timely and effectively avoid obstacles, and no longer need to worry about communication loss due to the multiple low-voltage and safe return mechanisms to ensure navigation safety.



Website



Social media

Product Specification

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Physical

Hull dimension (L × W × H)	1150 mm x 600 mm x 340 mm
Hull material	Kevlar + Carbon fibre material
Hull weight	15 kg
Payload	- Standard: 10 kg - Maximum: 15 kg
Anti-wave & wind	5th wind level and 3rd wave level
Boat shape	M-type trimaran
Anti-sinking design	Closed-cell foam filling and fully enclosed compartment anti-sink design
Camera	360° full view camera
Navigation lights	A pair of navigation lights

Electrical

Battery life	6 hours (1.5 - 2 m/s)
Battery capacity	40,000 mAh, 33.6 V
Cruising speed	1.5 - 2 m/s
Maximum speed	6 m/s
Motor	Brushless DC motor (BLDCM)
Propeller	Ducted propeller

Navigation and Commander System

Navigation model	- Manual mode - Automatic mode - Cruise mode
Positioning system (Optional)	- Positioning mode: - Autonomous - DGPS - RTK - Positioning accuracy: - Horizontal: 8 mm ± 1 ppm - Vertical: 15 mm ± 1 ppm
Obstacle avoidance	Ultrasonic radar
Direction control	Differential steering
Communication loss protection	- Automatically return to base when the communication is lost - GPS anti-theft system (Optional)

Communication

Communication mode and distance	2.4G Wi-Fi: 2 km 4G network: unlimited
Software platform	Windows 10 or above
Software function	Support: - USV management - Route management - Status display - Data management - Log function ...
Remote control unit	- Waterproof, dustproof and dropproof - Digital high-definition image transmission - Ultra-long link - Impressive battery endurance

Available Instrumentation

Sensor (Only choose one)	- Single-beam echo sounder - Side scan sonar - ADCP - Online water quality monitoring system - Water sampling System
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Single-beam Echo Sounder

Frequency	200 kHz
Beam angle	5°
Sounding range	0.3 -100 m
Sounding accuracy	±1 cm ±0.1% D (D:depth of water)
Resolution	0.01 m
Data output	RS-232 (Depth data format can be customized)

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