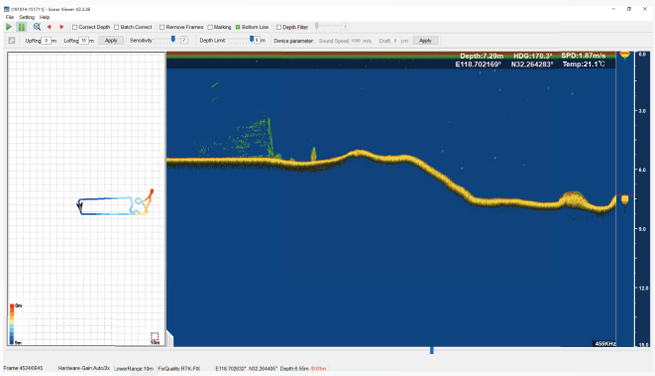
TERSUS GNSS

TERSUS
TheDuck™

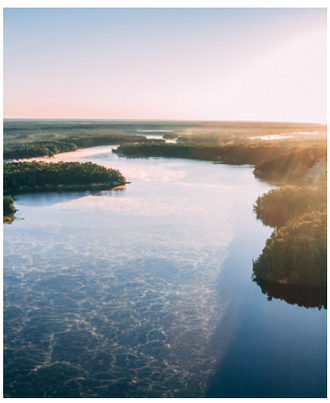
TheDuck™ floats, and the Depth fixes.

TheDuck™

TheDuck™ represents a smart, efficient, and productive unmanned surface vessel equipped with a single-beam echo sounder. It provides a fast, dependable, and portable solution to perform bathymetric surveys in various environments, such as rivers, lakes, reservoirs, and coastal areas. With its advanced capabilities and user-friendly design, TheDuck™ is a powerful tool for professionals in bathymetry, offering unparalleled accuracy and precision in the collection of positioning and depth data. TheDuck™ is sure to meet your needs and exceed your expectations.

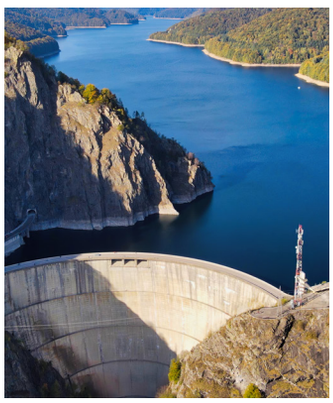


Application Scenario

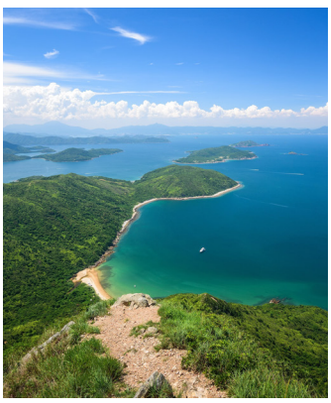


Rivers

lakes



reservoirs



coastal areas

Features

Versatile Small USV for Bathymetric Surveys

Experience exceptional versatility with TheDuck™, a small USV designed for precise bathymetric surveys of lakes, inland rivers, and coastal areas.

Enhanced Safety

Equipped with two plug-in mental ducted propeller , TheDuck™ effectively reduces the risk of entanglement with fishing nets, water plants, and surface debris, enhancing operational safety.

Effortless Operation

Simplify your project with one-man operation throughout the entire process. From on-site transport to installation, operation, and data collection, TheDuck™ offers convenience and efficiency.

Optional Echo Sounder

TheDuck™ is equipped with a built-in single-beam echo sounder (100 meters@455 kHz or 300 meters@200 kHz) .

Unmatched Performance

TheDuck™ boasts a lightweight, strong, and stable M-shaped design with a hull made of polymer PP alloy, ensuring optimal performance in various environments.

Expanded Capabilities

Maximize TheDuck™'s potential by equipping it with Oscar/Oscar-TAP/Luka, unlocking a wider range of applications.

Seamless Data Transmission

Enjoy enhanced data transmission capabilities with TheDuck™'s two omnidirectional dual 2.4GHz RF antennas. Transmit data over longer and more stable distances (up to 2km), with auto-return functionality in case of signal loss.

Real-time Data Management

Powered by Android-based software, TheDuck™ provides real-time data display and automatic data recording, ensuring seamless job execution and efficient data management.

Technical Specifications

TheDuck™

Physical	
Hull Dimension:	1000*530*340mm
Weight:	7KG(w/o instrument and battery)
	18KG(Maximum Load)
	22KG(Normal Weight)
Material:	High Strength PP Alloy
Hull Design:	M-Shaped
Anti-Wave & Wind:	3rd Wind Level and 2nd Wave Level
Water Proof:	IP67
Power	
Rechargeable Lithium Battery:	8S 29.6V 31.5Ah x2
Battery Weight:	4.5kg X2
Battery Endurance:	6 Hours x2(run at 2m/s)
Maximum Speed:	7m/s
Propeller type:	2 plug-in mental ducted propeller
Type:	Electric

Direction Control:	
Differential veering and reverse without steering engine	
Positioning	
Satellite System	BDS, GPS, GLONASS, GALILEO, QZSS
Real Time Kinematic Positioning Accuracy(RMS)	
- Horizontal:	±(8mm+1ppm)
- Vertical:	±(15mm+1ppm)
Remote Control	
Communication Method	
Real time RF peer-to-peer transmission	
Range	2KM
Screen Size	7'' high-definition display screen
Waterproof	IP67
Function	Real-time displays USV control data, water depth, positioning status, video data, and power
Camera Parameters	
FOV120°, resolution 1080P, video format H264	

ES200 Single Beam Echo Sounder	
Sounding Range	
0.15m to 100m, 0.15m to 300m (Optional)	
Frequency	455KHz, 200KHz(Optional)
Beam Angle:	5°(455KHz/200KHz)
Sound velocity Setting:	
Automatic or Manual 1350 – 1750m/s	
Draft:	0~10m
Sounding Accuracy:	
1cm±0.1%*D (D is the depth of water)	
Resolution:	1cm
Data Storage:	Automatic Storage, 16GB Memory
Data Format:	tsl2, csv, txt
Operating Temperature:	-5°C – 50°C

Tersus GNSS Inc.

Right to the point.

Tersus GNSS is a leading Global Navigation Satellite System (GNSS) solution provider. Our offerings and services aim to make centimeter-precision positioning affordable for large-scale deployment.
Founded in 2014, we have been pioneers in design and development GNSS RTK products to better cater to the industry’ s needs. Our portfolios cover GNSS RTK & PPK OEM boards, David GNSS Receiver, Oscar GNSS Receiver and inertial navigation systems.
Designed for ease of use, our solutions support multi-GNSS and provide flexible interfaces for a variety of applications, such as UAVs, surveying, mapping, precision agriculture, lane-level navigation, construction engineering, and deformation monitoring.

Descriptions, specifications and related materials are subject to change.

To learn more, please visit: www.tersus-gnss.com
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