

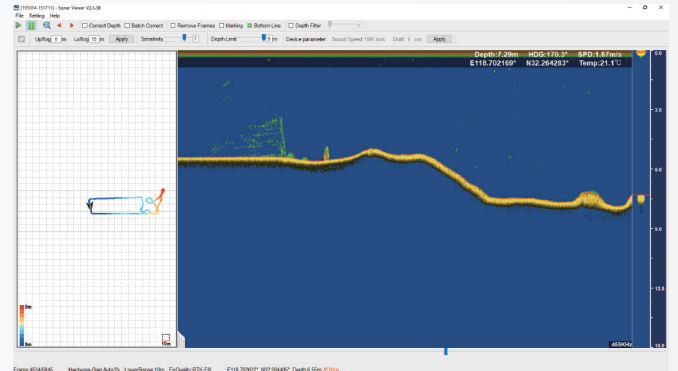
TERSUS TheDuck™

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



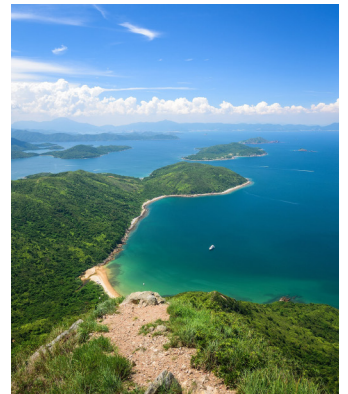
Rivers



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 metal 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.



Autonomous Obstacle System

Intelligently perceives and autonomously evades hazards, ensuring safely and efficiently completes missions.

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: $\pm(8\text{mm}+1\text{ppm})$

- Vertical: $\pm(15\text{mm}+1\text{ppm})$

Remote Control

Communication Method

Real time RF peer-to-peer transmission

Range 2KM

Screen Size 7" high-definition display screen

Waterproof IP54

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:

$1\text{cm} \pm 0.1\% \cdot D$ (D is the depth of water)

Resolution: 1cm

Data Storage: Automatic Storage, 16GB Memory

Data Format: ts13, 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.

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