

# Tersus GNSS

## The Duck™

### Overview

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The Duck™ is a perfect solution, especially for underwater surveying applications developed by Tersus GNSS, equipped with the latest Android control system and LCD remote control.

The Duck™ is made of PP alloy with high strength, wear, and corrosion resistance. The smaller hull size is ideal for individual operation mode. The maximum speed is 7m/s, and the maximum operation time is 6 hours, significantly improving work efficiency.

### Key Features

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- ✓ Android/Windows operating system
- ✓ Manual or Auto-Pilot navigation
- ✓ Portable echo sounder
  - Automatically record data without PC
  - Retain original analog signal
- ✓ Integrated communication system
- ✓ RTK centimeter level positioning
- ✓ Remote control
  - Real-time display
  - Control distance up to 2KM



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### Technical Specifications

#### Physical

Hull Dimension:	1000*530*340mm
Weight:	7KG (Empty Ship) 18KG (Maximum Load) 22KG (Normal Weight)
Material:	High Strength PP Alloy Material
Hull Design:	M-Type Triple-Hull Vessel
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 a boat with two batteries
Battery Endurance:	6 Hours x2 (ship speed 2m/s)
Maximum Speed:	7m/s
Power Motor:	2, Flush with the bottom of the USV
Type:	Electric
Direction Control:	Differential veering and reverse function 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)
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
GPS Input:	NMEA 0183
Data Output:	NMEA 0183, ODOM, DESO
Dimension:	15.5*8.8*3.4cm
Display:	LCD, Resolution 128*64
Weight:	480g
Connector:	LEMO 0B&1B
Power Consumption:	0.85W
Voltage:	12.6V
Built-in lithium battery:	DC 4.2V 10h
Operating Temperature:	-5°C – 50°C
Relative Humidity:	95% not condensed
Water Proof:	IP67

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