



HydroFrog 25

Multi-purpose Unmanned Surface Vehicle

Description

HydroFrog 25 is a multi-purpose unmanned vessel system developed and produced by OPT. 2.5 metres in length, HydroFrog 25 utilises a catamaran structure with stable rolling, and an open truss structure in the centre, which allows it to carry single-beam and multi-beam echosounder, sub-bottom profilers, ADCPs, multi-sensor instruments and other equipment to carry out different scenarios and tasks.

The HydroFrog 25 features replaceable and expandable IP68 rated battery packs, electric propulsion and a self-developed power management system for long operating time, safe and stable charging, and environmental friendliness. The main connections can be quickly setup and dismantled, allowing the vessel to be assembled, mission equipment installed and deployed by one or two people in minutes. It could be folded up in a small SUV for transport.

HydroFrog 25 is equipped with a self-developed sound velocity profiler winch, which can collect the sound velocity profile data of the target area via surface control software of the USV. We can also provide a full set of mobile USV LARS system, which is suitable for most challenging project areas. Survey project can never be so convenient.

Application

- ▶ Geological and Geophysical Surveys
- ▶ Hydrographic Surveys of Ultra-Shallow Water, Harbours and Reservoirs
- ▶ Underwater Rescue and Disaster Warning
- ▶ Underwater Structural and Offshore surveys
- ▶ Environmental monitoring

Features

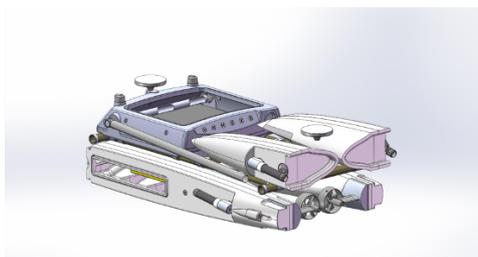
- ▶ IP68 rated battery pack with overcharge, overdischarge, overheat protection
- ▶ Robust and flame-retardant hull material
- ▶ Open truss, high flexibility in carrying
- ▶ Modular design, can be quickly setup and dismantled by single person, and transported by small SUVs.
- ▶ Active-cooling of equipment compartment
- ▶ Electric propellers, easily replaceable.

HydroFrog 25 USV Datasheet

Technical Specifications			
Dimension(Operation)	2.5 m (L) x 1.25 m (W) x 0.7 m (H)		
Dimension(Transportation)	1.6 m (L) x 0.9 m (W) x 0.5 m(H)		
Weight	45 kg (incl. standard battery pack)		
Draft under full load	0.22 m		
Payload	45 kg		
Maximum Speed	8 - 10 kn		
Survey Speed	4 - 5 kn		
Duration	Standard	Optional battery	
	Survey Speed	5 h	10 h
	Max. Speed	1 h	2 h
Propulsion	2 x 1.2 kW electrical thrusters		
Hull Material	Flame retardant and environmentally friendly special polymer materials		
Battery	2 x 44.52Ah , 28.8V Lithium Cell (Replaceable and expandable)		
Ground Station	Siyi MK32		
Profile Winch(Optional)	Max. cable length: 120m, Error: 0.5%, Resolution: 5cm, Payload: 7.5kg, Dimension: 14 x 13 x 15 cm, Weight: 1.35 kg		



HydroFrog 25 under operation



HydroFrog 25 under transportation

Instrumentation Options

- ▶ SBES/MBES
- ▶ Sub-bottom Profiler
- ▶ Sidescan Sonar
- ▶ 2D/3D Imaging Sonar
- ▶ ADCP
- ▶ Multi-sensor
- ▶ LiDAR
- ▶ GNSS Receiver
- ▶ AIS
- ▶ Camera
- ▶ SVP Winch
- ▶ Towing Winch
- ▶ Water Sampler



FT120 Profile Winch