DEEP OCEAN ENGINEERING

PHANTOM® I-1650 USV

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POWERFUL • EXPANDABLE • RUGGED

The Phantom® I-1650 USV is a powerful, 1.65m, remotely controlled, battery-powered unmanned surface vessel (USV) designed and manufactured by Deep Ocean Engineering to conduct measurements of currents, bathymetry and discharge with ADCPs.

The advanced technology of the Phantom® I-1650 USV can be equipped with GPS, depth sounder, sonar and a variety of sensors, and is hand-built with a rugged, lightweight hull constructed of carbon fiber.

The standard Phantom® I-1650 USV utilizes two Torqueedo thrusters and is capable of achieving speeds up to 1.8m/s (3.5 knots). The electronics compartment is spacious and hatch accessible, and the vessel is portable and easily deployable.

The Phantom® I-1650 USV includes a one-year manufacturer's warranty.

*Phantom® I-1650 shown with standard features

APPLICATIONS OF THE PHANTOM® I-1650 USV

The Phantom® I-1650 USV is designed for use in numerous applications on the surface of waterways, including water quality, bathymetry, discharge monitoring, port security, river and shallow water surveys.

THE DEEP OCEAN ENGINEERING ADVANTAGE

Deep Ocean Engineering, Inc. is a USA based manufacturer of powerful, expandable, rugged underwater and surface drone vehicles, headquartered in the technology capital of the world, Silicon Valley, California. Its legendary Phantom ® lines of ROVs and USVs, many of which have been in use around the world for decades, are integrated with the latest digital technology and the highest quality components available in the market today, including thrusters, sonar, cameras, lighting, navigation software (GPS) and power.

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VEHICLE SPECIFICATIONS*	
Length	1650mm (5.41ft)
Width	695mm (2.28ft)
Weight	approx. 36kg (80lbs)
Chassis	Carbon Fiber or Non-Corroding Aluminum Alloy
Payload	20kg (44lbs)
Top Speed	1.8m/s (4mph)
Survey Speed	1.3m/s (2.9mph)

STANDARD FEATURES
IP HD Camera
Ethernet and Serial Channels
Dual Torqueedo Thrusters
Integrated Moon Pool for Sensor Integrations
Modular Design

APPLICATIONS
Port Security
Harbor Inspections
Lake and River Surveys
Bathymetry
Scientific Research
Water Quality Surveys in Contaminated Waters
Discharge Monitoring

ELECTRICAL SPECIFICATIONS*	
Range (in proper conditions)	Up to 2km (1.24mi.) with remote control, extended with mission planning software and GPS
Battery Life @ Top Speed	1.5 hrs +
Battery Life @ Survey Speed	4 hrs +
Antenna	Omni-directional
Radio Frequency	2.4 GHz
Remote Control Command & Data Link	WiFi with Serial Server (2km Range)
Instrument Power	24V LiFePO4 9.6 Ah Battery

INTEGRATION OPTIONS
Side Scan Sonar
LIDAR
ADCP
Sub-bottom Profiler
Multibeam Echosounder with Motion Sensor and Dual GPS Heading
Automated Multibeam Sonar Deployment with Remote Control
Multi-Constellation GPS with RTK
Scaled up Models

* Specifications subject to change 07032019

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