



USV Inception MK1
payload options and
customisation available.

Twin hull to allow
maximum stability.

Overview

The Unmanned Survey Solutions (USS) Inception Class MK 1 Unmanned

Surface Vessel (USV) has been developed to address a gap in the shallow water sector. This hydrographic survey vessel is composed of tough aluminium hulls, weed cutting propellers and equipment to provide bathymetric surveys. It operates in areas where traditional manned survey vessels are restricted.

Applications

Quarry lakes, lagoons, mining ponds, reservoirs and rivers.

TECHNICAL SPECIFICATION

Length	1.40 metres
Width	1.32 metres
Height	0.53 metres (bottom of hull to top of bridge)
Weight	Each hull 15kg, Combined weight with bridge 37kg (+ batteries)
Hull Type	Twin hull
Hull Composition	Aluminium
Propulsion	(x2) DC brushed thrusters
Propellers	Weed resistant power props
Power	Optional 12V DC lead acid or lithium batteries
Speed	Survey speed ~2.5 knots
Endurance	Up to 4 hours from a full battery charge
Range	In excess of 750m
Payload	Various options include Single-Beam, Side Scan Sonar or customer bespoke.
Draft	Dependant on payload, ~0.2 metres
Launch / Recovery	Transport via car or van. (x1) person launch from slipway or launching cradle, (x2) person launch from pontoon or river edge.



MK 1 Unmanned Surface Vessel (USV)

Manually controlled boat with camera offers a display screen on the remote-control transmitter. It does not include any preparation for sensor integration.

- **Hulls (x2), open bridge, fixings, hatches, flashing amber beacon and outboard thrusters (x2)**
- **Power management system including drive batteries (x3) with chargers**
- **Remote Control system with camera screen and antennas**



We've created a range of additional components for the USV. For more information contact us or visit our website.

USV Payload Options



Option 1 - Basic (Sensor Ready) c/w:

Designed to allow integration of customers own sensor package.

- **Power management system for payload batteries (x2) with chargers and hot-swappable connectors and connection for up to (x3) DC powered sensors (12-36V DC)**
- **Long range WiFi system with boat and shore-based antennas**



Option 2 - Advanced (Sensor Ready) c/w:

Designed for to incorporate a CEE HydroSystems CEE Pulse Single Frequency Single-Beam Echo-Sounder (SBES) and Hemisphere Atlas Link GNSS system with the USS Sensor Integration Unit (SIU). Or to allow integration with customers own sensor package with the SIU.

- **Power management system for payload batteries (x2) with chargers and hot-swappable connectors and connection for up to (x3) DC powered sensors (12-36V DC)**
- **USS Sensor Integration Unit (SIU). The SIU is designed to join 2-4 RS232 serial strings together and transmit through ethernet radios to shore where the data can be acquired on a shore based laptop**
- **Long range WiFi system with boat and shore-based antennas**



Autonomy Module c/w:

- **Based on drone technology, this autonomy module allows operators to set waypoints and run lines. When interfaced with Hypack mission plans (line plans) can be created, changed and run, all from the Hypack online software, making for a symbiotic and effective solution. Other features include: return to home, hold position and click and drive.**

For more information on specification, integration of different sensors or payload options please contact us.