



Unmanned Surface Vehicle: Catamaran

This Catamaran is a prototype developed by the EdgeLab R&D team to perform a wide range of survey missions in remote-controlled mode or autonomous navigation. It is designed to perform surveillance operations in restricted areas and in low water, where it can be programmed to follow a predetermined path at regular intervals to monitor, like a harbour or a bay. It can be equipped with sensors and not-offensive actuators to prevent and discourage intrusions.

Sensors can easily be installed or uninstalled to use the vehicle for normal underwater activities, seafloor surveys, bathymetric mapping etc.

A detachable waterproof suitcase lays on top of the rigid stainless-steel chassis and carries the whole control unit. Once the vehicle's operation has been accomplished, the control unit can be retrieved and carried out making it easy to inspect, configure and to recharge batteries. The Catamaran can be controlled remotely or programmed with a Ground Control Station, which runs the GUI (Graphic User Interface) displaying GPS tracking, IP Camera stream, echo sounder altimeter, and battery status. GUI is user-friendly and can be configured to display a wide variety of information to adapt and meet the requirements of custom missions.

Dimensions:

- Length: 1.800 mm.
- Width: 1.450 mm.
- Height: 2.400 mm.
- Weight: 120 kg.

Key features:

- Collapsible stainless-steel rollbar.
- Electrically propelled by T200 Blue Robotics thrusters.
- Differential drive.
- GPS/GLONASS satellite positioning system.
- Dual battery independent powering system with remote management.
- Detachable control unit for effortless access and short Wi-Fi remote configuration.
- Battery life: 12 hours at survey speed (2 Knot).
- Maximum Speed: 4 Knots.
- Operations: shallow/deep waters patrolling, harbour monitoring, sea bottom mapping.

Mode of operation:

- Remote controlled mode.
- Autonomous mode.

Payloads

- Rollbar front-view wide-angle camera.
- Underwater camera.
- StarFish Sonar.
- BlueRobotics ping altimeter.
- SSS (Side Scan Sonar).
- MBES (Multi-Beam Echo Sounder).
- Geophysics & oceanography sensors.
- Acoustic sensors.
- Full HD camera – FT/IR turret.

Command, control & communication

- Long Range Wi-Fi.
- LTE.
- Satellite modem.

Navigation and positioning

- IMU-INS.
- GPS.
- Ping sonar altimeter.

Safety features

- Emergency shut-off switch.
- Timed safety stop.

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