



SPARUS II AUV



GIRONA UNDERWATER
VISION AND ROBOTICS

SPARUS II

AUV

Features

SPARUS II AUV is a lightweight hovering vehicle with mission-specific payload area and efficient hydrodynamics for long autonomy in shallow water (200 meters). It combines torpedo-shape performance with hovering capability. It is easy to deploy and to operate.

The payload area can be customized by the end user and it uses an open software architecture, based on ROS, for mission programming. Its flexibility, easy operation and openness makes the SPARUS II AUV a multipurpose platform that can adapt to industrial, scientific and academic applications.

Key points:

Torpedo-shape movement: efficient hydrodynamics and long autonomy

Hovering: high maneuverability

Lightweight: glider like size and weight

Easy operation: by 2 people from any boat

Mission specific payload: open hardware for equipment integration

Software architecture based on ROS: open software available for download

Low cost: contact for info

Specifications & components *in development

- Length: 1.6 m
- Hull diameter: 230 mm
- Max width: 460 mm
- Weight in air: 52 Kg
- Maximum depth: 200 meters (certified on a pressure chamber).
- Energy: 1.4 kWh Li-Ion battery controlled by BMS
- Power control: magnetic switch
- Endurance: 8-12 hours
- Max surge velocity: 4 knots
- Propulsion system: 3 thrusters (magnetic coupling) + 2 fins*
- DoFs: surge, heave, roll*, pitch* and yaw
- Structure: modular aluminium and acetal hull
- Computer: PCIe/104, Intel Core i7
- LAN: Ethernet switch with wireless access point
- Software: Linux Ubuntu and ROS
- Sensors: IMU, digital pressure sensor and GPS
- DVL: prepared for RDI Explorer DVL and LinkQuest NavQuest 600 Micro
- Antenna: Wifi, GPS and flasher light
- Payload area: 8 liters – 7 kg in air
- Payload interface: Ethernet, RS-232 / regulated 12V and 24V / Subconn connectors.
- Communications: WiFi, umbilical cable
- Deployment: 3 hooks for crane / towing; trolley for deployment, recovery and assembly.
- Software for simulation using UWSim and ROS
- Software for basic AUV operation: navigation, guidance and control.

cirs.udg.edu/sparus

