

REMUS 100B

Unmanned Underwater Vehicle

BATHYMETRIC VARIANT

The REMUS 100B bathymetric variant is a small-class, two-man portable unmanned underwater vehicle (UUV) designed to provide high-resolution side scan sonar and 3D bathymetric survey data.

The open architecture and modularity of the REMUS Technology Platform facilitates increased capabilities, interoperability and applications while decreasing risk and cost.



Bathymetric Survey

The REMUS 100B is ideally suited for collecting side scan sonar and bathymetric data for seabed investigation and route surveys. Paired with a navigation system, the high-resolution sonar imagery documents ocean floor terrain characteristics and obstructions.

Rapid Environmental Assessment (REA)

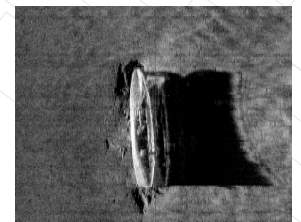
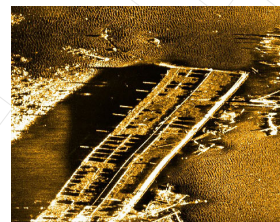
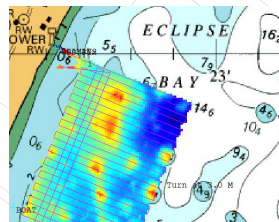
REMUS 100 UUVs can be deployed for REA, helping with post-storm surveys, disaster recovery efforts and amphibious landing operations. Using high-resolution side scan sonar and bathymetric data, the REMUS 100B helps mitigate environmental risks and identifies obstacles in waterways that may prevent disaster relief efforts.

Search and Recovery (SAR)

REMUS 100 UUVs provide large area coverage on a single mission, making them ideal for SAR operations, including target location and archeological site surveys. The side scan sonar with bathymetric capability, paired with navigation, provides highly accurate data to locate and create mosaics of targets such as downed aircraft and sunken vessels.

Key Features

- Two-man portable, small-class UUV
- 100-meter depth rated
- Up to 8-hour mission duration
- Speeds up to 4.5 knots
- Open architecture
- High performance sonar with 3D bathymetric capability



Other Applications

Given the stability and versatility of the REMUS 100B, there are numerous applications possible. Other common applications include:

- Offshore oil and gas
- Marine geology
- Port and harbor security
- Mine countermeasures (MCM)
- Renewables



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Specifications

Standard Specifications, Sensors and Payloads	
Depth Rating	100m (328 ft.)
Diameter	19cm (7.5 in.)
Length	2.12m (83 in.)
Weight	50kg (110 lb.)
Speed	0-4.5 knots (0-2.3 m/s)
Estimated Endurance*	8 hours
Energy Storage	1.5 kWh rechargeable lithium-ion battery
Recharge Time in Vehicle	6 hours
Maximum Range*	50km (27nm)
Propulsion and Control	Direct drive DC brushless motor, open 3-blade propeller; Cruciform fin control (yaw and pitch)
Communications	WHOI micromodem 2.0 high frequency (20-30 kHz) acoustic communications; 2.4 GHz WiFi; Iridium (optional)
Antenna	GPS, WiFi, Iridium, LED status lights, visible and infrared (IR) recovery locating strobe
Navigation	iXblue Phins C3 Inertial Navigation System (INS); Garmin commercial GPS; Long Baseline (LBL); Doppler-assisted dead reckoning
Doppler Velocity Log (DVL)	Teledyne 300 kHz phased array DVL with 200m bottom lock
Side Scan Sonar	Klein 3500 455/900 kHz dual frequency with bathymetry; Resolution up to 2.4cm; Swath up to 250m
Other Sensors	YSI conductivity and temperature (CT) sensor; TE Connectivity depth sensor
Hard Drive	1 TB solid state hard drive
Warranty	Standard 1 year warranty; Warranty options available
Software	Vehicle Interface Program (VIP) for mission programming and post-mission analysis
External Connections	100 Megabit ethernet; Vehicle power/charging (110/220V)
Tracking	Ranger & VIP software via towfish communications; Mission monitoring; Re-direct, loiter and abort commands
Safety Features	Ground fault detection; Leak detection; Health status
Operations	Capable of operating multiple REMUS vehicles simultaneously
Auxiliary Equipment	Ranger and towfish; Ruggedized laptop; Pelican transit case; Vehicle maintenance cradle; Operations and maintenance spares
Optional Payloads, Equipment and Software	
Camera	Voyis Robotics 4K HD stills camera module with high intensity LED lightbar
Iridium Communications	Iridium capable with encrypted Iridium dial-up and SMS modem; Customer must provide SIM card
Environmental Sensors	Kongsberg EK80; Aanderaa oxygen optode; Seabird Scientific Eco Puck Triplet
Safety Features	RJE International emergency locator beacon
Software	SeeByte SeeTrack and Neptune; Reflection Post-Mission Analysis
Auxiliary Equipment	LBL transponders; Surface communications station

*At 3.0 knots (1.5 m/s) with standard sensors active

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