

APPLICATIONS

- Hydrographic Surveys
- Marine Research
- Mine Countermeasure Operations
- Environmental Monitoring
- Debris Field Mapping
- Search & Salvage Operations
- Fisheries Research



Features

Littoral to Deep Operations

The REMUS 600 has been designed to operate to depths of 600 meters. This highly versatile system can also be ordered and configured for 1500 meter operation.

Go Further

The REMUS 600 delivers unprecedented endurance, with mission duration capability of typically >20 hours. Upon mission completion, simply recharge the internal battery or replace the optional exchangeable battery. (Endurance is subject to speed, sensor and battery configuration).

Fully Modular

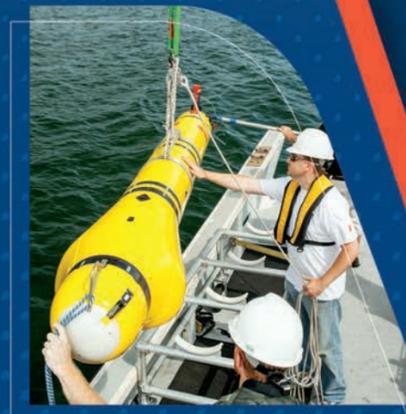
The REMUS 600 has been designed with modularity in mind. The vehicle can be reconfigured for a wide variety of customer payloads. The vehicle is comprised of a series of hull sections that are quickly separated for vehicle reconfiguration, maintenance and/or shipping.

Increased Payload

Designed to carry a range of payload options—standard and custom, wet and dry—depending on your mission requirements. It has the flexibility to exchange payloads or upgrade at a later date.

Ease of Operation

The REMUS 600 incorporates the same proven vehicle autonomy used in the complete family of REMUS vehicles. The stable and proven software makes vehicle maintenance, checkout, mission planning, and data analysis fast and easy. Windows® operation, quick-look indicators, quality control checks and a sophisticated data export capability all add to the flexible nature of this software package.



HYDROID
A KONGSBERG COMPANY

Intelligent
Marine Robots
You Can
Rely On

REMUS 600

.....
AUTONOMOUS UNDERWATER VEHICLE

HYDROID
A KONGSBERG COMPANY

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REMUS 600

Full Capability in
a Cost-Effective,
Transportable System



Hydroid is a technology leader in advanced marine robotics specifically, autonomous underwater vehicles (AUVs). We design and manufacture state-of-the-art solutions for use in a number of applications including marine research, commercial and defense.

Located in the U.S., Hydroid is a subsidiary of Kongsberg Maritime, the world's most trusted manufacturer of AUVs. We provide innovative and reliable full-picture solutions. Together, they represent the most advanced, diversified and field-proven family of AUVs and vehicle support systems in the world.

Developed by a veteran team of engineers, our products and solutions provide a safe and reliable answer to the challenges that have traditionally hampered ocean exploration.

Customer Service Support 24

Operating REMUS AUVs daily, Hydroid field technicians offer excellent support and training. Whether through email, phone support or training, their goal is to make your mission a success.

Support 24 provides 24/7 assistance from experienced and trained field technicians. We are able to track issues in a global database so that, whenever you contact us, we have the latest information related to your order and support history. While being an excellent solution for our customers, Support 24 also allows Hydroid to learn from field issues so that we are better able to serve and support our customers.

24-Hour Customer Service: +1 508-563-6565
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POWERFUL & VERSATILE

Standard System Configurations

- Doppler Velocity Log (DVL)
- Compass or Inertial Navigation System as Standard Depending on Configuration
- Acoustic Modem (Low & High Frequency Options Available)
- Pressure Depth Sensor
- Conductivity & Temperature Sensor
- GPS/Wi-Fi/Iridium
- Emergency Recovery Equipment
- Terrain Avoidance Sonar

Optional Equipment

- Up to (2) Battery Trays
- Responder for Surface Ultra Short Baseline (USBL)
- Navigation Aiding
- NavP/HG 9900 INS with Payload Processor
- Obstacle Avoidance Sonar

Optional Sensors

- Dual Frequency Sidescan Sonar
- HISAS 2040 Synthetic Aperture Sonar
- Dynamically Focused Sidescan Sonar
- Optical Environmental Characterization Sensors
- Video Camera
- Multi-Beam Echo Sounder (MBES)
- Electronic Still Camera (ESC)
- Sub-Bottom Profiler (SBP)
- Fish Finding Echo Sounders
- Oxygen Sensors
- Photosynthetically Active Radiation (PAR) Sensor
- LED Based Lights & Strokes for Cameras
- High Precision, Dual-Band GPS Receiver
- Terrain Avoidance Sonar (Obstacle Avoidance Sonar optional)
- Other Custom Sensor Options Available

Shipboard Devices

- Shipboard Communications Mast
- Power Box with Battery Charger/Conditioner
- Shipboard Communications System (GPS, Iridium, Wi-Fi and Optional Freewave)
- Acoustic Communications Bottle
- Ranger Deck Box
- Acoustic Transducer Towfish
- Releasable Acoustic Transponders
- Portable Surface Communications Station

Vehicle Interface Program (VIP)

The REMUS 600 utilizes the same Vehicle Interface Program (VIP) as our family of vehicles. This VIP simplifies vehicle maintenance, mission planning, vehicle checkout and data analysis. Communication between the vehicle and the host is conducted via a 100 Base-T Ethernet connection or Wi-Fi. Among other features, the VIP includes:

- An integrated text editor for construction of the mission file.
- A map view that illustrates the planned mission for review.
- Automatic error checking performed on all aspects of the planned mission, with warning messages that appear if any mission parameters are incorrect.
- A set of quick-look indicators that display system status, where green indicates OK and red indicates a fault.

Deployment Options

- Launch & Recovery System (LARS): The HYDROID LARS is designed to function off the stern or midship of a vessel and is field proven with the REMUS 600 and REMUS 6000 AUVs. The self-contained LARS can extend the operational weather window of the AUV by allowing launch and recovery in sea states up to Sea State 5 while retaining the flexibility to operate from any vessel of opportunity. When mounted on the stern of a ship, the LARS has a 5.5 ft. x 10 ft. footprint, and requires less than 15 Hp when operational.
- Line Capture Line Recovery (LCLR): A self-contained module that is initially offered on Hydroid's REMUS 600 autonomous underwater vehicle for the purpose of autonomous launch and recovery. It will enable easier vehicle recovery and increase operational flexibility.
- Deployment & Retrieval System: Autonomous launch, recovery and storage of an AUV.

SPECIFICATIONS

Vehicle Diameter	32.4 cm (12.75 in); diameter varies depending upon module (for 600 m depth configuration)
Vehicle Length	Min length ~2.7 m (~9 ft) Max length ~5.5 m (~18 ft); length varies depending upon module configuration
Weight in Air	Min weight ~220 Kg (~500 lbs) Max weight ~385 Kg (~850 lbs); weight varies depending upon module configuration
Maximum Operating Depth	600 meters (1500 meter configuration available)
Energy	5.4 kWh rechargeable Li-ion battery; (Second 5.4 kWh battery tray is optional), exchangeable battery option available
Endurance	Typical mission endurance is up to 24 hours in standard configuration; subject to speed, battery and sensor configurations
Propulsion	Direct drive DC brushless motor to an open two bladed propeller
Velocity Range	Up to 2.3 m/s (>4 knots) variable over range
Control	3 independent control fins providing yaw, pitch and roll control; altitude, depth, yo-yo and track-line following provided; optional forward fins available for heading control during bottom tracking with a cross current
External Hook-up	Two connectors, one for shore power and one for shore data; alternatively, 802.11G wireless network (Wi-Fi) provided via dorsal fin antenna
Casualty Circuits	Ground fault, housing leak detection and all sensors and systems have operational go/no-go fault indicators
Navigation Methods	Inertial, Long Baseline (LBL) Acoustic, SBAS enabled GPS, Ultra Short Baseline Acoustic and Acoustic Transponder
Communication	Acoustic modem, Iridium modem, Wi-Fi 2.4 GHz, 100 Base-T Ethernet (standard), 1000 Base-T Ethernet (optional)
Software	REMUS Vehicle Interface Program (VIP), GUI-based laptop interface for programming, training, documentation, maintenance and troubleshooting

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REMUS 600

