

MOD2 Glider



The Exocetus MOD2 Glider is the next step forward in long duration subsea monitoring. The MOD2 Glider is an autonomous underwater vehicle (AUV) that utilizes a patented buoyancy engine to efficiently move through the water. This glider can carry large payloads through a range of water conditions without manual ballasting or user intervention.



The MOD 2 Glider builds on a design for the Office of Naval Research. That design was the result of extensive hydrodynamic and maneuvering modeling. We have invested 18 months updating electronics to the state of the art, implementing three processors for selective power savings, and undergoing ground-up software implementation. The result is the next generation of underwater gliders.

Modifiable System - The MOD 2 Glider is designed to be configured by users to meet their needs. The large, watertight electronics bay provides space, power and communications for user's electronics, including the option for a third-party user selected science computer. Direct access to the glider's communications and navigation data is available to cross-reference for later scientific analysis.

Modular Sensors – The glider accommodates a wide variety of user-installable sensors. Field-changeable sensor heads are available for standard oceanographic parameters using the AML X-Change and Smart-X compatible sensors. Five external connections are available for sensors, with mounting points either on the bulkhead or remotely at multiple locations in the nose and tail.

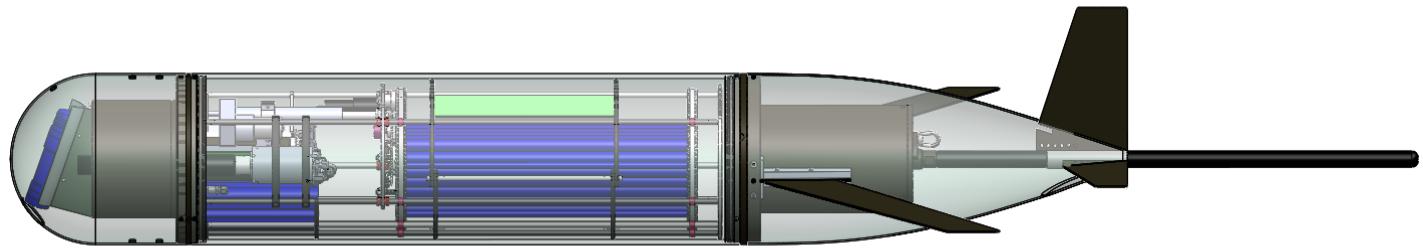
Wide Operating Envelope – The glider's powerful buoyancy engine enables it to overcome a diverse set of operating conditions. Five times larger than typical glider engines, it automatically compensates for additions of weight, and powers through variations in water density. Density variations can be caused by salinity changes from fresh water rivers, runoff and tides, or by changes in ocean temperatures. The large buoyancy engine also enables obtains speeds up to 2 kts. Both features are unique for a glider AUV.

Emergency Recovery – A robust, redundant and independent emergency processor powers a system designed to help the glider survive emergencies. Multiple parameters such as user-defined maximum mission length, maximum depth, and control processor performance are continuously monitored. Emergency surface actions are taken with both the buoyancy engine and an emergency lift bag, should conditions be met. Our emergency system provides peace of mind and security for your glider, payload and data.

Open Software – The MOD 2 Glider operates on an open, Linux-based system which allows for easy control of the vehicle as well as easy modifications. As with all things, we aim to keep our software as open as possible to allow maximum flexibility for our customers. Users can generate specific glider behaviors for their application.

FEATURES	<ul style="list-style-type: none">Modifiable for the user, by the userDedicated Science ProcessorTransits between salt and fresh water without re-ballastingLarge, Modular Electronics BayUser-controlled variable speeds, up to 2 ktsRobust Emergency Recovery System
SENSORS	<ul style="list-style-type: none">Five external sensor connections (one forward and four aft)Supports numerous sensors, including up to 11 field-exchangeable sensors at onceRegulated & unregulated power supplies for user electronicsOnboard data storage

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Technical Specifications

Size and Weight

- Weight: 109 kg (250 lbs)
- Length: 184 cm (72 in) w/o antenna
- Diameter: 32.4 cm (12.75 in)
- Wingspan: 106.2 cm (41.8 in)

Speed

- Max Speed Over Ground: 2 kts (1 m/s)
- Max Endurance Speed: 1 kt (0.5 m/s)
- Speed is user selectable between 0.7 and 2 kts

Operating Depth

- Min: 10 m
- Max: 200 m

Salinity Range

- 10- 37 ppt
- Operates continuously between ranges; no re-ballasting required

Environmental Conditions

- Air Temperature: -2.2° to 51.7° C (28° to 125° F)
- Sea Temperature: -2.2° to 37.8° C (28° to 100° F)
- Sea State (launch): 0 - 3
- Sea State (operating): Unrestricted

Navigation

- Greensea GS3 Inertial Navigation System
- 3-axis electronic compass
- Global Navigation Satellite System (GPS, Galileo, GLONASS)

Communications

- Iridium Satellite (SBD and RUDICS)
- RF (900 MHz, 460 MHz, other options available)
- 802.11 N (WiFi)

Battery Duration*

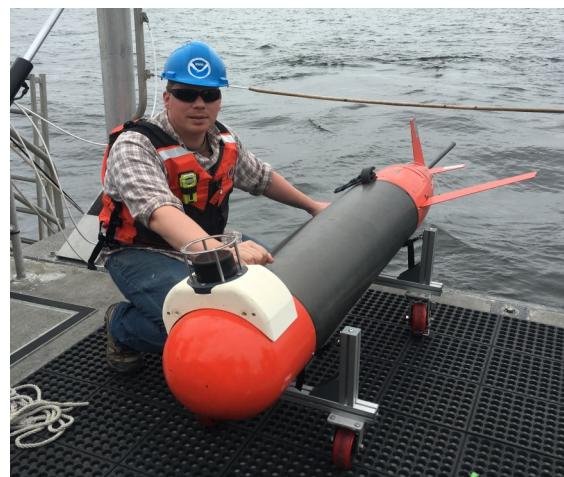
- Alkaline Batteries: 10 days
 - 3,850 W-hrs (14 MJ)
- Lithium Batteries: 30 days
 - 11,000 W-hrs (67 MJ)
- Rechargeable battery packs available

Electronics Bay

- Volume: 8.6 L (525 in³)
- Dimensions (ID x length): 19.1 cm x 30.5 cm (7.5 in x 12 in)
- Power Available: 12 VDC, 5 VDC, 3.5 VDC, 18-33 VDC unregulated
- Nominal payload: 4 kg (9 lbs)

Sensors

- 6 sensor mounting points
- Acoustic Altimeter (standard)
- Easily integrate off-the-shelf or custom sensors



All specifications subject to change

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