



# LIGHTFISH BASE MODEL

Practical, reliable, and affordable  
platforms for diverse maritime missions.



## Persistent

- Multi-month unsupported operations powered by efficient, reliable solar electric system with supplemental generator.

## Ocean-Proven

- Ruggedized and self-righting, with operations demonstrated to Sea State 6+. Redundant comms for global reliability.

## Portable

- Man-portable platform can be launched directly from beach, ramp, or pier. No ITAR export restrictions.

## Modular

- Modular open system architecture for rapid hardware/software integrations. Interoperable with various C2 systems.



# TECHNICAL SPECIFICATIONS

*Additional Options Available*

## Size and Weight

Length and Width	11.4 ft x 3.4 ft (3.5 m x 1 m)
Draft	2.6 ft (0.79 m)
Weight	291 lbs (132 kg) base; 399 lb (181 kg) maximum. Lifting hardpoint at CG.
Hull	Composite hull with retractable keel for transportation/storage.
Speed	4.5 kts sprint; 2 kts cruise
Range	Up to 6 months; 6000+ nm
Sea State	Operational to Beaufort 6+ (12 ft waves); survivable to Beaufort 10 (30 ft waves). Fully self-righting

## Energy

Solar & Battery	415 W nominal panel capacity; 4.0 kWh Li-Ion battery
Fuel Cell	Methanol fuel cell with 10 L fuel cartridges provides 100W boost on demand

## Propulsion

Electric Drive	Torqeedo motor with weedless prop. Comparable to 3HP outboard
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## Communications

Standard	LTE, Iridium SBD, Iridium Certus
Additional Options	Starlink, MANET radios

## Navigation and Sensing

Standard	5x onboard HD cameras, GNSS/GPS, IMU, 2D LiDAR, compass, AIS send/receive, tricolor navigation light
Additional Options	GPS-denied navigation systems

## Software

Seasats Operating System	Browser-based, MOSA-compliant control suite. Annual and perpetual licenses available; customer-hosted instance of control suite also available.
Collision Avoidance	Automated AIS sense and avoid for long range; 2D-LiDAR for close range
Software Developer Kit / ICD	Documentation for operating payloads via the Lightfish's systems. APIs for backseat drivers and 3rd-party command and control.

## Payload Placement Options

Payload Connections	Four (4) physical connection ports supporting RS232, RS485, and ethernet. Additional virtual ports and daisy chain options.
Payload Power	5-28V configurable; 20-30W steady state; bursts to 300+ W
Standard Mounting Points	Internal bay (4,700 in <sup>3</sup> , up to 66 lb), forward masts, rear mast
Additional Mounting Points	Through-hull, keel, moonpool, or external mount (for echosounders, hydrophones, ADCPs, etc)
Optional Hardware Developer Kit / ICD	Payload cables, connectors, associated tools, and and Seasats payload breakout board.

## Onboard Computing

Vehicle Compute Stack	Seasats compute unit governs compute unit governs mission navigation, image processing, and collision avoidance. Linux OS.
Optional Auxillary Compute Units	NVIDIA Jetson or Intel NUC provide Windows OS and/or additional computing power

## Auxiliary Gear

Tablet	Dell Latitude 7230, ruggedized for field use.
Remote Control	Intuitive joystick controller for ease of launch and recovery
Lightfish Dolly	Suitable for transporting Lightfish and launching from boat ramps. Legs adjustable for easy payload access and removeable for transport in pickup truck, van, or crate.
Spare Parts Kit	Includes vehicle key, forward mast lower tube, motor pod, spare propeller, bilge pump, rudder servo, fiberglass repair supplies, solar deck fasteners.
Generator Fuel	Two (2) 10-liter generator cartridges



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