DAISY – Drifting Acoustic Instrumentation SYstem

MarineSitu

Product Description

Drifting Acoustic Instrumentation SYstems (DAISYs) are hydrophone systems designed to minimize relative motion between hydrophones and the surrounding water. Each DAISY consists of a surface expression, hydrophone package, and a coupling between the two. DAISYs are instrumented to provide a rich stream of metadata accompanying the primary acoustic measurements.

Hydrophone Package Data

- Sound (HTI 99-UHF - up to 512 kHz sample rate)
- PPS synchronization at surface (GPS)
- Orientation (Inertial Measurement Unit)
- Depth (20 m rating)

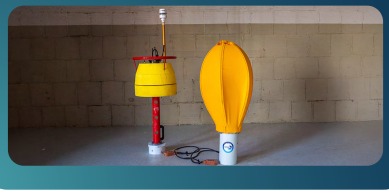
Surface Expression Data

- Position (GPS)
- Orientation (Inertial Measurement Unit)
- Wind speed and direction (Compact weather station)

These data streams are recorded by microcomputers in the surface expression and hydrophone package. The current systems have sufficient battery power and storage to operate for up to 12 hours between charges. When deployed in groups around a marine energy converter, DAISYs can also localize sources of radiated noise. DAISYs are relatively lightweight (12 kg in air for surface expression, 6 kg in air for hydrophone package) and can be easily deployed and recovered by a crew of two.

C-DAISY

Configuration:
Surface expression connected to hydrophone package by rubber tether (1+ m length). Hydrophone surrounded by fabric flow shield to suppress flow noise.

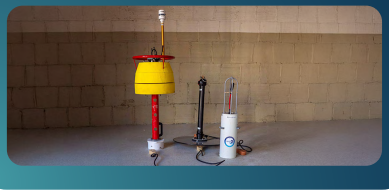


Shallow DAISY

Configuration:
Surface expression rigidly connected to hydrophone package. This rigid connection can increase self noise.

W-DAISY

Configuration:
Surface expression connected to hydrophone package by rubber tethers (2+ m length) with intermediate heave plate for motion dampening.



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Technical Specifications

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Variant	Use Cases	Minimum Clearance	Maximum Depth	Maximum Operating Currents or Sea State	Reserve Buoyancy
C-DAISY	Tidal & river currents	3.5m (1m tether)	20m	> 3.5m/s	~ 10kg
Shallow DAISY	Tidal & river currents (limited clearance)	1m	N/A	> 3.5m/s	~ 10kg
W-DAISY	Waves	~ 6m (2m tethers)	20m	H_s ~ 3m	~ 20kg

MarineSitu is here to help with your next mission.

Please contact us for more information about our products and services.

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