

Datasheet

Fetch – wireless autonomous sensor logging node



Fetch is a long-life subsea sensor logging node with an integrated acoustic modem for high speed wireless data extraction. To reduce deployment time and costs, it can be free-fall deployed to the seabed and will land in an upright position.

Fetch can be configured with an array of different sensors dependent on the monitoring application. Standard sensors include high accuracy pressure, temperature and sound velocity as well as inclination. Other sensors can be integrated internally or externally as required.

The sampling regime can be configured serially before deployment and whilst in-situ via the acoustic modem which is also used to recover data to the surface.

The 9,000 bps modem transfer rate enables data extraction in minimal vessel time - reducing operational costs.

The ultra-low power platform powers up sensors only when required, logging and timestamping the data to an internal SD memory card.

High-capacity primary lithium battery packs enable multi-year deployments, dependent on sensor selection and sampling rate.

Fetch is compatible with Sonardyne's Ultra-Short BaseLine (USBL) positioning systems for precise positioning during deployment/recovery.

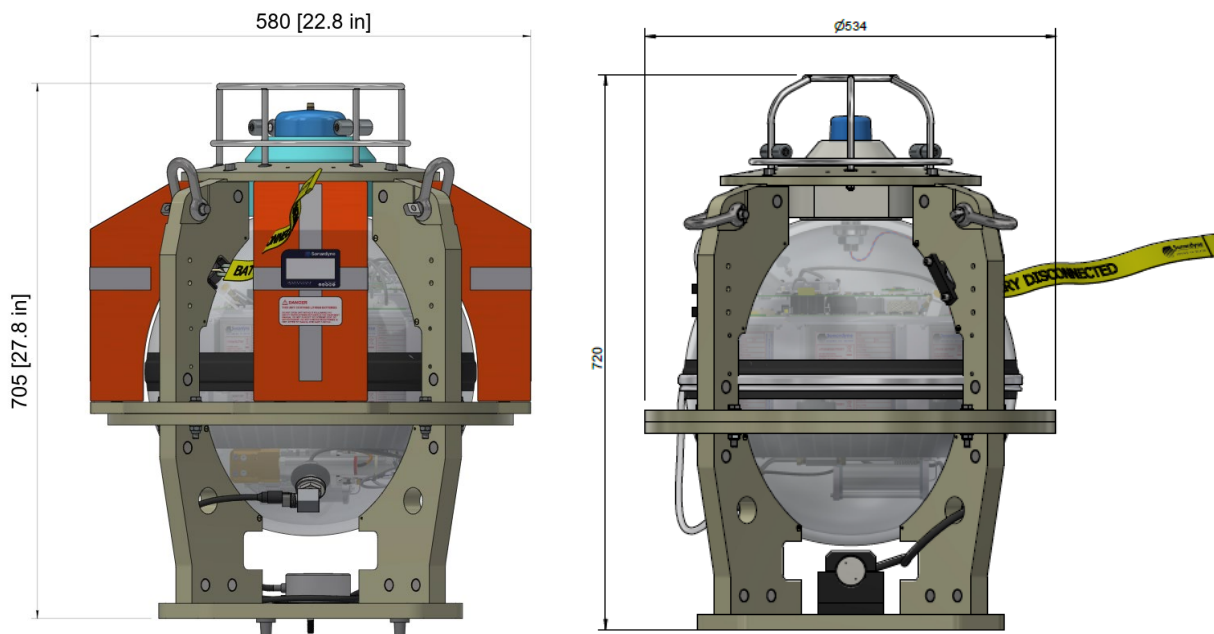
When the mission is complete, Fetch can be acoustically commanded to release from its stand and return to the surface under its own buoyancy ready for collection.

Key features

- Autonomous sensor logging capability with acoustic telemetry of data
- Low data recovery costs
- Ultra-long-life - Up to 10 years with excellent corrosion resistance
- Integrated modem with data rates ranging from 100 to 9,000 bps in multiple frequency bands
- Easy to set-up with configuration and sampling period programmable via telemetry link
- Sonardyne Wideband® 2, Wideband 2+ and HPR 400 USBL mode compatible
- Integrated acoustic release
- Low-cost free-fall deployment

Specifications

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Feature		Type 8306-Fetch
Depth rating		3,000 or 6,000 m
Operating frequency		MF (20–34 kHz) LMF (14–19KHz)
Transducer beam shape		Directional Omni-directional
Transmit source level (dB re 1 μ Pa @ 1 m)		190–202 dB Directional 187–196 dB Omni-directional
Battery life (capacity) ¹		2.61 kWh - up to 5 Years typical (single layer battery) 7.31 kWh - up to 10 years typical, (dual layer high-capacity version)
Mechanical construction		Glass sphere with titanium fittings
Operating temperature		-5 to +35°C
Storage temperature		-20 to +55°C
Weight in air/water ²	Fetch	40 / 10 kg (upthrust buoyancy, single battery pack variant)
	Stand	60 / 52 kg
Sensors and options		
Tilt switch (± 30 – 45°)		Standard
Temperature ($\pm 0.1^\circ\text{C}$)		Optional
Paroscientific DigiQuartz pressure sensor ($\pm 0.01\%$) 1,350 m, 2,000 m, 4,130 m, 6,800 m		Optional
Sound velocity sensor ± 0.02 m/s accuracy under calibration conditions		Optional
High accuracy inclinometer. Range: $\pm 90^\circ$, Accuracy: $\pm 0.05^\circ$ over $0 - \pm 15^\circ$; $\pm 0.2^\circ$ over $0 - \pm 45^\circ$		Optional
Acoustic baseline ranging		Optional
Release mechanism (screw-off)		Optional

¹ Dependent on sensors and sampling interval

² Estimated weights.