

New Digital Board
With 16 Bit A/D

Ice Profiler™



An upward-looking sonar device, mounted on the ocean floor to accurately measure ice draft.



Applications

In order to estimate ice forces, production rates, and mass balances, accurate measurements of ice thickness are essential. The Ice Profiler™ now makes those measurements much easier to obtain for applications such as:

- ~ Offshore Oil Platforms
- ~ Bridges and Causeways
- ~ Research Oceanography
- ~ Design of Coastal Structures
- ~ Global Warming Studies
- ~ Pipe Line Studies

Features

- ~ Excellent horizontal resolution using a high frequency (420 kHz) transducer with narrow (1.8°) beam width.
- ~ Large data capacity and integrity capability provided by on-board 2 Gbyte Compact Flash memory (up to 16 GB supported).
- ~ Enhanced sampling options (up to 2 Hz continuous sampling).
- ~ Multiple sampling options within a single deployment to accommodate seasonal changes in ice conditions (up to 12 phases).
- ~ Ocean wave monitoring capability.
- ~ Versatile PC-based software for deployment planning and initialization instrument testing and downloading of stored data.
- ~ Low power consumption permits long-term operation at high sampling rates.



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Ice Profiler™ Model IPS5 Specifications

UPWARD LOOKING SONAR

Operating Frequency 420Khz
 Beam Width 1.8
 Sampling Rate up to 2Hz
 Duty Cycle up to 100%
 Range 175m(ice), up to 225m(water)
 Precision $\pm 0.05\text{m}$

TILT SENSOR

(for sonar beam angle)

Range $\pm 20^\circ$
 Accuracy $\pm 0.1^\circ$
 Precision 0.01°

REALTIME CLOCK

Accuracy $\pm 5 \text{ min/year}$

TEMPERATURE SENSOR

Accuracy $\pm 0.1^\circ\text{C}$

DATA STORAGE

Standard 2 GB Compact Flash
 (up to 16 GB Compact Flash supported)

PRESSURE SENSOR

Range 0 - 126dBar
 Resolution 0.003dBar
 (other ranges available)

POWER

Standard Provides more than 52 weeks operation at 1Hz sampling and 100% duty cycle

SIZE

0.17m diameter x 1.0m length

SHIPPING WEIGHT

50kg (in ruggedized aluminum shipping/storage case)

SOFTWARE

The following Windows-based software is included in the Ice Profiler package:

Ips5Link

Communications software to enable setup and download functions.

Ips5Convert

Utility package for data plotting and conversion.

OPTIONAL FEATURES

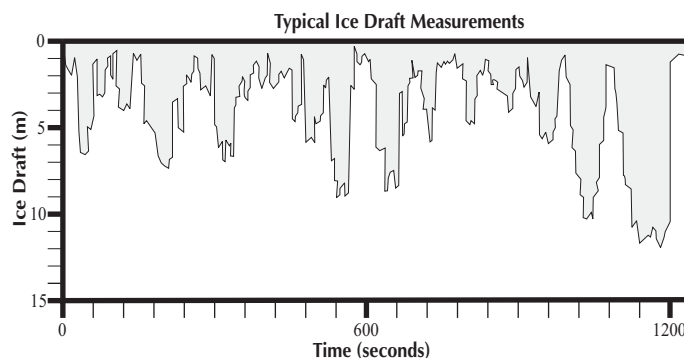
Delrin endcap
 Titanium housing
 Lithium battery pack
 Cost effective pressure sensor for shallow water

ASL offers a suite of nearly 200 Matlab-based programs for data processing and analysis of Ice Profiler and ADCP ice velocity data sets.

The Ice Profiler is also available in a version designed for river applications which includes an RS 422 serial connection for real time data and remote power.

Custom versions of the Ice Profiler are also available for mounting in Autonomous Underwater Vehicles (AUV).

Both taut line and gimballed bottom mount moorings available.



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