

# 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.

# Ice Profiler™ Model IPS5 Specifications

<b>UPWARD LOOKING SONAR</b> 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 ± 0.05m	<b>TILT SENSOR</b> (for sonar beam angle) Range ± 20° Accuracy ± 0.1° Precision 0.01°
<b>REALTIME CLOCK</b> Accuracy ± 5 min/year	<b>TEMPERATURE SENSOR</b> Accuracy +/- 0.1°C
<b>DATA STORAGE</b> Standard 2 GB Compact Flash (up to 16 GB Compact Flash supported)	<b>PRESSURE SENSOR</b> Range 0 - 126dBar Resolution 0.003dBar (other ranges available)
<b>POWER</b> Standard Provides more than 52 weeks operation at 1Hz sampling and 100% duty cycle	
<b>SIZE</b> 0.17m diameter x 1.0m length	
<b>SHIPPING WEIGHT</b> 50kg (in ruggedized aluminum shipping/storage case)	
<b>SOFTWARE</b> The following Windows-based software is included in the Ice Profiler™ package:  <u>lps5Link</u> Communications software to enable setup and download functions. <u>lps5Convert</u> 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.

