



## Ice Tethered Profiler

### Application:

The Ice Tethered Profiler (ITP) is an autonomous time-series instrument that vertically profiles the water column and collects *in situ* measurements of conductivity, temperature and depth data. Data is automatically transmitted near real-time via inductive modem when connected to a surface controller.

### Features:

Drive train, electronics and inductive modem technology are robust and field-proven. Anodized aluminum housing is similar to the ARGO float. When used with a surface controller, returns near real-time high resolution measurements of ocean temperature and conductivity.

### Sample schedule options:

Data collection is directed by user-defined profiles and scheduled sampling. Deployment Planner option provides a PC-based application for creating reusable deployment schedules with profiles and patterns.

### Deployment:

Drive motor provides smooth, steady ascent/descent at 25cm/sec. Streamlined shape delivers efficient profiling and long battery life. Depending on installed sensors and profile settings, 240 Ah or 360 Ah battery makes multi-year deployments possible.

### Supported sensors:

CTD sensor is required. All currently integrated sensors\* are listed below.

SBE41CP CTD	Biospherical PAR
SBE 41CPIDO (integrated dissolved oxygen)	Wetlabs Triplet
	RDI DVS

\*Other sensors can be integrated depending on sensor size and battery drain.

- 240 Ah or 360 Ah lithium battery pack.
- Time-series vertical profiles at known locations.
- Continuous data collection while profiling.
- Depth-rating of 850 m is ideal for shallow deployments in lakes, coastal oceans or under the ice.
- Near real-time data telemetry with non-volatile flashcard data storage.
- Deployed as a stand-alone profiler or combined with an electronics package and used as part of the WHOI Ice Tethered Profiling system.
- For more information about this profiler, see the Ice Tethered Profiler pages at [mclanelabs.com](http://mclanelabs.com).

# Iced Tethered Profiler Specifications

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**DIMENSIONS:**

Length: 171 cm (67 in)  
Width: 26 cm (10 in) (max diameter)  
Fits through 28 cm (11 in) hole in the ice

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**WEIGHT (APPROX):**

In air (with sensors): 28 kg (61 lbs)  
In water: neutrally buoyant

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**CONTROLLER:**

Power supply: 8.5 - 12.5 VDC  
Power consumption: 120 mA (profiling), 300  $\mu$ A (sleep)  
Data telemetry: SBE 44 UIM or IMM at 1200 bps  
CTD data acquisition: ~ 2 Hz (SBE 41CP)

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**OPERATIONS:**

Maximum depth: 850 m  
Battery endurance: 240 Ah or 360 Ah lithium battery pack  
Minimum temperature: -35 °C  
Profiling speed: 25cm/sec  
Data storage: Compact flash backup data storage

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**MATERIALS:**

Guide wheels: Ertalyte  
Drive wheel: Urethane-coated titanium  
Pressure housing: Anodized aluminum