



## Ice Tethered Profiler

### Application:

The Ice Tethered Profiler (ITP) is an autonomous time-series instrument that vertically profiles the water column under the ice and collects *in situ* measurements of salinity and CTD temperature data. Data is automatically transmitted near real-time via inductive modem.

### Features:

Robust, field-proven drive train, electronics and inductive modem technology. Anodized aluminum housing is similar to the ARGO float. When used with a surface controller, returns daily (near real-time) high-vertical resolution measurements of ocean temperature and salinity.

### 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, 240Ah or 360Ah 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.
- Near real-time data telemetry with non-volatile flashcard data storage backup.
- Deployed as a stand-alone profiler or used as an integral subcomponent of the WHOI Ice Tethered Profiling system combined with a surface electronics package.
- For more information about this sampler, see the Ice Tethered Profiler pages at [mclanelabs.com](http://mclanelabs.com).

# Iced Tethered Profiler Specifications

---

**DIMENSIONS:** Length: 171 cm (67 in) (max diameter)  
Width: 26 cm (10 in) (max diameter)  
Fits through 27.9 cm (11 in) hole in the ice

---

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

---

**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)

---

**OPERATIONS:** Maximum depth: 1000 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

---

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