

## SBE 49 FastCAT CTD Sensor

The SBE 49 FastCAT is an integrated CTD sensor intended for use as a modular component in towed vehicles, ROVs, AUVs, or other autonomous platforms that can supply DC power and acquire serial data. It is an easy-to-use, light, and compact instrument, well suited to even the smallest vehicle. FastCAT must be externally powered, and its RS-232C data logged or telemetered by the vehicle to which it is mounted. FastCAT does not support auxiliary sensors; if such sensors are required, the user's vehicle must be equipped to acquire their signals independently.

FastCAT's pump-controlled / TC-ducted flow feature minimizes salinity spiking, and its 16 Hz sampling provides very high spatial resolution of oceanographic structures and gradients. Measured data and derived variables (salinity and sound velocity) are output in real-time in engineering units or raw HEX.



## Features

- Conductivity, Temperature, and Pressure at 16 Hz (16 samples/second) or polled sample acquisition.
- Integral pump.
- RS-232 interface, no memory or batteries — intended for use on vehicles that can supply power and acquire data.
- Unique flow path, pumping regimen, and (optional) expendable anti-foulant devices, for maximum bio-fouling protection
- Pump-controlled, T-C ducted flow to minimize salinity spiking.
- Programmable real-time processing (aligning, filtering, and correcting for conductivity cell thermal mass effects) provides high-quality data for applications where post-processing is not feasible.
- Depths to 350, 7000, or 10,500 m.
- Seasoft® V2 Windows software package (setup, real-time data acquisition, and data processing).
- Five-year limited warranty.

## Components

- Unique internal-field conductivity cell permits use of T-C Duct, minimizing salinity spiking.
- Aged and pressure-protected thermistor has a long history of exceptional accuracy and stability.
- Pressure sensor with temperature compensation is available in nine strain-gauge ranges (to 10,500 m).
- Pump runs continuously for 16 Hz sampling, providing correlation of CTD measurements.

## Options

- Plastic (350 m) or titanium (7000 or 10,500 m) housing.
- XSG/AG or wet-pluggable MCBH connectors.
- Expendable anti-foulant devices.
- SBE 36 CTD Deck Unit & PDIM or SBE 33 Deck Unit & Sea-Bird water sampler (real-time operation on single-core armored cable to 10,000 m).

## Measurement Range

Conductivity	0 to 9 S/m
Temperature	-5 to 35 °C
Pressure	0 to 20 / 100 / 350 / 600 / 1000 / 2000 / 3500 / 7000 / 10,500 m

## Initial Accuracy

Conductivity	± 0.0003 S/m
Temperature	± 0.002 °C
Pressure	± 0.1% of full scale range

## Typical Stability

Conductivity	0.0003 S/m per month
Temperature	0.0002 °C per month
Pressure	± 0.05% of full scale range per year

## Resolution

Conductivity	0.00005 S/m (most oceanic waters; 0.4 ppm in salinity)
Temperature	0.0001 °C
Pressure	0.002% of full scale range

## Sampling Speed

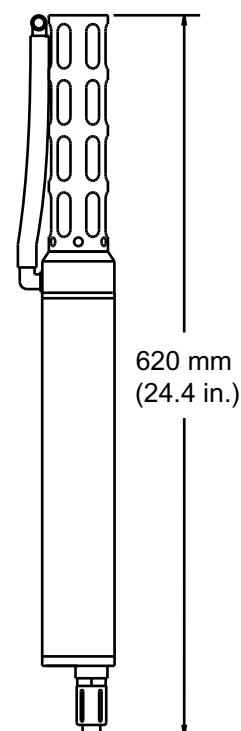
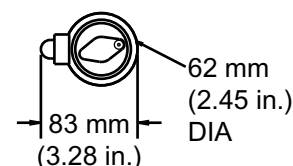
16 Hz (16 samples/sec)

## External Power Requirements

Input power: 0.75 Amps at 9-24 VDC  
 Turn-on transient: 750 mA  
 Sampling and transmitting (includes pump): 350 mA at 9 V;  
 285 mA at 12 V; 180 mA at 19 V

## Housing, Depth Rating, & Weight

Plastic, 350 m, in air 1.8 kg, in water 0.5 kg  
 Titanium, 7000 or 10,500 m, in air 2.7 kg, in water 1.4 kg



FastCAT on Hydroid

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