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SBE 41/41CP Deep

ARGO CTD

Overview

The Sea-Bird Scientific SBE 41 was developed in 1997 to meet the scientific need for highly stable and accurate salinity measurements for profiling float deployments.

As the global distribution of profiling floats expands, Sea-Bird Scientific has built upon the capabilities of the 41/41CP, allowing float CTDs to support biogeochemical sensors and reach deeper depths than ever before.

Features

Field-proven Temperature, Conductivity, and Pressure sensors with high stability electronics for multi-year deployments

Pump-controlled TC-Ducted flow over the temperature and conductivity sensors minimizes salinity spiking

U-shaped flow path prevents ingestion of surface contaminants

Industry best factory calibrations ensure highest accuracy with minimal drift

Components

Internal-field conductivity cell enables use of TC Duct, minimizing noise and improving dynamic accuracy

Aged and pressure-protected thermistor has a long history of exceptional accuracy and stability

7000 m pressure sensor with 2-point temperature compensation

Pumped sample flow path and anti-fouling cartridges ensure long-term stability

Aluminum housing deployable to 4000 m depth

Options

- **SBE 41**: Spot-samples on command and sends data to the float controller. No internal memory
- **SBE 41CP**: Capable of spot-sampling and continuous profiles at 1 Hz during float ascent. Saves data in 41CP memory
- Optional **SBE 63** or **SBS 83 Dissolved Oxygen Sensor**

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Field Specifications

The specifications below represent the expected performance of the instrument when deployed in the field. Under controlled circumstances in a lab, we would expect the instrument to outperform these specifications.

We have chosen to display field specifications to give our users a true measure of how Sea-Bird Scientific instruments perform in harsh environments and applications. It is critical to keep this in mind when comparing specifications with instruments from other manufacturers.

Measurement Range	
Practical Salinity	0 to 42 PSU*
Conductivity	0 to 7 S/m (0 to 70 mS/cm)
Temperature	-5 to 35 °C
Pressure	0 to 7000 m
Initial Accuracy	
Practical Salinity	± 0.0035 PSU
Conductivity	± 0.0003 S/m (±0.003 mS/cm)
Temperature	± 0.002 °C
Pressure	± 7 dbar from 0-7000m
Sample Rate	4 scans/sec., nominal
Typical Stability	
Practical Salinity	0.0011 PSU per year[†]
Conductivity	0.0003 S/m/month (0.003 mS/cm/month)
Temperature	0.0002 °C per year
Pressure	0.8 dbar / year
Resolution	
Conductivity	0.00001 S/m (0.0001 mS/cm)
Temperature	0.0001 °C
Pressure	0.002% of full scale range

* TEOS-10 practical salinity scale with low-salinity extension

Power Consumption (12 V)	Idle: 3.3 mA Sleep: 15 µA Profiling: 21 mA (41CP only)
System Depth Rating	Aluminum, 4000 m

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