

SBE 41/41CP

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. Today, over 20,000 SBE 41/41CPs have been built, supporting over 95% of the international Argo program's CTD needs.

As the global distribution of profiling floats expands, Sea-Bird has built upon the capabilities of the 41/41CP, allowing float CTDs to support biogeochemical sensors with flexible integration options for various float platforms.

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

2000 m pressure sensor with 3-point temperature compensation

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

Aluminum housing deployable to 2000 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**

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 2000 m
Initial Accuracy	
Practical Salinity	± 0.0035 PSU
Conductivity	± 0.0003 S/m (±0.003 mS/cm)
Temperature	± 0.002 °C
Pressure	± 2 dbar†
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	1 dbar / year‡
Resolution	
Conductivity	0.00001 S/m (0.0001 mS/cm)
Temperature	0.0001 °C
Pressure	0.04 dbar‡

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

† at 2 °C and 2000 m depth

‡ specs for a 2000 m pressure sensor

Power Consumption (12 V)	Idle: 3.3 mA Sleep: 15 µA Profiling: 21 mA (41CP only)
Memory Capacity	8 - 14 VDC
System Depth Rating	Aluminum, 2000 m

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