

SBE 41/41CP

Argo CTD

The Sea-Bird SBE 41 CTD was developed in 1997 to meet the scientific need for highly stable and accurate salinity measurements for profiling float deployments. Today, over 15,000 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 meter pressure sensor with 4-point temperature compensation
- Pumped sample flow path and anti-fouling cartridges ensure long-term stability
- Aluminum housing deployable to 2000 meters 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 Dissolved Oxygen Sensor**
- Add-on Surface Temperature and Salinity (STS) sensor measures through air-sea interface

Measurement Range

| | |
|--------------------|----------------------------|
| Practical Salinity | 0 to 42 PSU* |
| Conductivity | 0 to 7 S/m (0 to 70 mS/cm) |
| Temperature | -5 to 45 °C |
| Pressure | 0 to 2000 meters |

Initial Accuracy

| | |
|--------------------|-----------------------------|
| Practical Salinity | ± 0.0035 PSU |
| Conductivity | ± 0.0003 S/m (±0.003 mS/cm) |
| Temperature | ± 0.002 °C |
| Pressure | ± 2 dbar‡ |

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) |

External Power

8 - 14 VDC

Housing & Depth Rating

Aluminum, 2000 m

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