

CTD Profiling Instruments



SBE 911plus CTD

World's most accurate — used by most leading oceanographic institutions, and known for superior performance, reliability, and ease-of-use. Modular C and T sensors with interface for redundant pair, Digiquartz pressure sensor, pump-controlled *TC-Ducted Flow*, 24 Hz sampling, 8 A/D channels for auxiliary sensors, and water sampler control. Real-time operation with 11plus Deck Unit, or autonomous operation with SBE 17plus V2 Searam (provides power and memory). **Accuracy** 0.0003S/m, 0.001°C, 0.015% full scale pressure; **Resolution** 0.00004S/m, 0.0002°C, 0.001% full scale pressure.



SBE 25plus Sealogger CTD

Battery-powered, internally recording CTD for high accuracy and resolution. Utilizes same modular C and T sensors used on 9plus, integral strain gauge pressure sensor, 16 Hz sampling, memory, pump-controlled *TC-Ducted Flow*, and 8 A/D and 2 RS-232 channels for auxiliary sensors. Simultaneous with data recording, real-time data can be transmitted when interfaced with SBE deck unit. **Accuracy** 0.0003S/m, 0.001°C, 0.1% full scale pressure; **Resolution** 0.00004S/m, 0.0003°C, 0.002% full scale pressure.



SBE 19plus V2 SeaCAT Profiler CTD

Economical, battery-powered, internally recording mini-CTD ideal for basic hydrography, fisheries research, environmental monitoring, and sound velocity profiling. 4 Hz sampling, 6A/D and 1 RS-232 channel for auxiliary sensors, memory, and pump-controlled *TC-Ducted Flow*. Simultaneous with data recording, real-time data can be transmitted when interfaced with SBE deck unit. **Accuracy** 0.0005S/m, 0.005°C, 0.1% or 0.02% full scale pressure; **Resolution** 0.00005S/m, 0.0001°C, 0.002% or greater full scale pressure.

SBE 49 FastCAT CTD Sensor

For towed vehicle, ROV, AUV, autonomous profiling applications. 16 Hz sampling, and pump-controlled *TC-Ducted Flow*. Real-time RS-232 data. No memory, batteries, or auxiliary sensor support. **Accuracy** 0.0003S/m, 0.002°C, 0.1% full scale pressure; **Resolution** 0.00005S/m, 0.0001°C, 0.002% full scale pressure.



SBE 52-MP Moored Profiler CTD (optional DO) Sensor

For moored vertical profile measurements. 1 Hz sampling, and pump-controlled *TC-Ducted Flow*. Real-time data via RS-232 or logic level serial. No memory or batteries; supports additional dissolved oxygen sensor only. **Accuracy** 0.0003S/m, 0.002°C, 0.1% full scale pressure; **Resolution** 0.00005S/m, 0.0001°C, 0.002% full scale pressure.



Glider Payload CTD (optional DO)

Modular, low-power, high-accuracy CTD for autonomous gliders. 1 Hz sampling, memory, and pump-controlled *TC-Ducted Flow*. No batteries or auxiliary sensor support (except dissolved oxygen). **Accuracy** 0.0003S/m, 0.002°C, 0.1% full scale pressure; **Resolution** 0.00001S/m, 0.001°C, 0.002% full scale pressure.



Moored Time Series Instruments



SBE 16plus V2 SeaCAT C-T (optional P) Recorder

600m or 7000m housing. Internal batteries, memory. sampling intervals from 10 sec to 4 hours, 6A/D channels and 1 RS-232 channel for auxiliary sensors, bio-fouling protection. Real-time data via RS-232 or inductive modem (IM) interface along with recording. **Accuracy** 0.0005S/m, 0.005°C, 0.1% or 0.02% full scale pressure; **Resolution** 0.00005S/m, 0.0001°C, 0.002% or greater full scale pressure.

SBE 37 MicroCAT C-T (optional P, DO) Recorder

250m or 7000m housing, memory, bio-fouling protection.

IM — inductive modem interface, batteries. **SM** — serial interface, batteries. **SI** — serial interface, externally powered. Integral pump for improved anti-foul protection and conductivity response (**IMP**, **SMP**, **SIP**). Pumped versions with *membrane-type* Dissolved Oxygen (**IMP-IDO**, **SMP-IDO**, **SIP-IDO**) or *Optical* Dissolved Oxygen (**IMP-ODO**, **SMP-ODO**, **SIP-ODO**). Some RS-232 versions available with SDI-12 interface. **Accuracy** 0.0003S/m, 0.002°C, 0.1% full scale pressure, 2% of oxygen saturation; **Resolution** 0.00001S/m, 0.0001°C, 0.002% full scale pressure, 0.035% of oxygen saturation.



SBE 39 Temperature (optional P) Recorder

600m or 10500m housing. Internal battery, memory, RS-232 or inductive modem (IM) interface. Two thermistor options: internal (25 sec time constant) or external (0.5 sec time constant). **Accuracy** 0.002°C, 0.1% full scale pressure; **Resolution** 0.0001°C, 0.002% full scale pressure.

SBE 56 Temperature Logger

1500m housing. Internal battery, memory, USB interface. External thermistor (0.5 sec time constant). **Accuracy** 0.002°C; **Resolution** 0.0001°C.



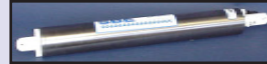
SBE 26plus Seagauge Wave and Tide Recorder

High-accuracy water level; 4 Hz wave burst sampling. Digiquartz pressure sensor, accurate clock, precision thermometer, optional conductivity sensor. Recording in memory; real-time tide data, and wave data and statistics. **Accuracy** 0.01% of full scale pressure; **Resolution** (with 45 psia sensor) Tide 0.2mm (1-minute integration) to 0.01mm (15-minute integration), Wave 0.4mm (0.25-sec integration) to 0.1mm (1-sec integration).



SBE 53 BPR Bottom Pressure Recorder

Full ocean depth water level with extremely high resolution, accuracy, and stability. Precise and stable time base, low power frequency acquisition circuitry, Digiquartz pressure, precision thermometer. Recording in memory and real-time data. **Accuracy** 0.01% of full scale pressure; **Resolution** 0.045 ppm (0.3mm for 10,000 psia sensor, 1-minute integration).



Shipboard Thermosalinographs

Accurate, externally powered instruments for shipboard determination of sea surface (pumped) C and T.

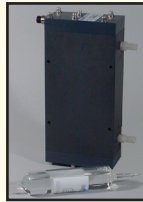


SBE 21 SeaCAT

Simultaneously stores data in memory and provides real-time data over RS-232 link. C and T, auxiliary sensor data from 4 A/D channels, remote temperature, and GPS data. **Specifications:** Accuracy 0.001S/m, 0.01°C primary, 0.001°C remote; Resolution 0.0001S/m, 0.001°C primary, 0.0003°C remote.

SBE 45 MicroTSG

Compact instrument, no memory. Provides real-time data over RS-232 link. Accessory interface can append GPS and remote temperature data. **Specifications:** Accuracy 0.0003S/m, 0.002°C primary, 0.001°C remote; Resolution 0.00001S/m, 0.0001°C primary, 0.0003°C remote.



Water Samplers

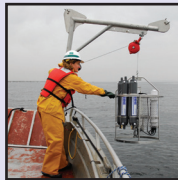
SBE 32 Carousel



Industry standard carousel/rosette, in various sizes and configurations (12-36 bottles, 1.7-30 liters), to 10,500m. Compatible with 9plus, 19, 19plus, 19plus V2, 25, and 25plus CTDs. Real-time operation via SBE deck unit or self-contained autonomous operation via SBE instrument that triggers bottle closures at pre-programmed depths.

SBE 55 ECO

Small-boat sampler (3 -6 bottles, 4 liters), to 600m. Compatible with 19, 19plus, 19plus V2, 25, and 25plus CTDs. Closes bottles at pre-programmed depths, or real-time operation via SBE deck unit.



Autonomous Profiling Floats and Sensors

Profiling floats provide unprecedented sampling of the global oceans through the international Argo program and others. Sea-Bird offers several products for autonomous profiling.

SBE 41/41CP CTD

With carefully engineered anti-foul protection, anti-foulant devices, U-shaped flow path, and pump, CTD produces salinity data accurate to within 0.005 [PSU] for more than 3 years. SBE supplies more than 90% of annual Argo program CTD requirement.



Photo by Christoph Gerigk © Sea-Bird Electronics

Navis Profiling Float

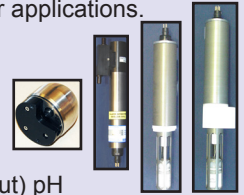
Float for Argo and other programs, with more mission profiles and longer life, low cost, lightweight, easy to deploy, Iridium communication, self-ballasting, easy-to-use interface. Field-tested by SBE for 3 years, and sold to science community since 2011. Available with Biogeochemical (BGC) sensors, such as SBE 63 DO sensor and WET Labs ECO Triplet.

Auxiliary Sensors

Sea-Bird provides CTDs integrated with a variety of auxiliary sensors. These complete packages simplify deployment, as components work together seamlessly. We also manufacture an assortment of modular sensors for other applications.

Dissolved Oxygen Sensors

SBE 43 DO
SBE 63 Optical DO



pH Sensors

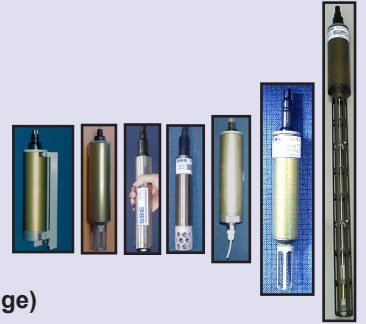
SBE 18 (voltage output) & 18S (serial output) pH
SBE 27 pH/ORP

Conductivity Sensors

SBE 4

Temperature Sensors

SBE 3 series
SBE 35 Deep Ocean Standard
SBE 35RT Digital Reversing
SBE 38 Digital Recorder



Pressure Sensors (strain gauge)

SBE 29
SBE 50 Digital

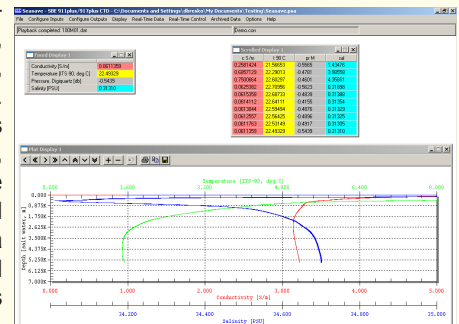


Third Party Sensors

Transmissometers, fluorometers, turbidity sensors, altimeters, etc., produced by leading manufacturers, integrated with our CTDs.

Seasoft® Software

Communication, real-time data acquisition, upload, processing, display, and plotting. Support for dozens of auxiliary sensors, calculation of an extensive list of parameters, and printing/export of a variety of plots. Provided at no charge; updates available on our website.



www.seabird.com

A powerful resource: download software and technical documentation, request a quote, or compare products and technologies on-line.

SBE Sea-Bird Electronics, Inc.
Advancing the Science of Ocean Measurement

- Conductivity/Temperature/Depth (CTD) profilers
- Multi-bottle water samplers
- Moored CT(D) recorders & Wave/tide recorders
- Dissolved oxygen & other modular sensors
- Thermosalinographs
- Or see a list of products by model number

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- SBE 25plus Sealogger CTD
- SBE 63 Optical Dissolved Oxygen Sensor

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