

CTD Profiling Instruments



SBE 911plus CTD

World's most accurate — used by most leading oceanographic institutions, & known for superior performance, reliability, & ease-of-use. Modular C & T sensors with built-in interface for dual sensors, Digiquartz pressure sensor, *TC-Ducted Flow* & pump-controlled time response, 24 Hz sampling, 8 A/D channels & power for auxiliary sensors, optional channel for real-time water sampler control. SBE 9plus can be used autonomously when integrated with SBE 17plus V2 SEARAM, which provides power & 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 25 SEALOGGER CTD

Ideal for vessels not equipped for real-time operation, or by groups requiring configuration flexibility & good accuracy & resolution on a smaller budget. Battery-powered, internally-recording CTD featuring modular C & T sensors used on 9plus, modular strain gauge pressure sensor, 8 Hz sampling, 8 MB memory, *TC-Ducted Flow* & pump-controlled time response, & 7 A/D channels & power for auxiliary sensors. Real-time data can be transmitted simultaneous with data recording when integrated with SBE deck unit.



Accuracy 0.0003S/m, 0.002°C, 0.1% full scale pressure; **Resolution** 0.00004S/m, 0.0003°C, 0.015% full scale pressure.



SBE 19plus V2 SEACAT Profiler CTD

Economical, battery-powered, internally recording mini-CTD ideal for basic hydrography, fisheries research, environmental monitoring, & sound velocity profiling. 4 Hz sampling, 6 A/D & 1 RS-232 channel & power for auxiliary sensors, 64 MB memory, & *TC-Ducted Flow* & pump-controlled time response. Real-time data can be transmitted simultaneous with recording when integrated 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

High accuracy for towed vehicle, ROV, AUV, or other autonomous profiling applications. 16 Hz sampling, & *TC-Ducted Flow* & pump-controlled time response. Real-time data via RS-232. No memory, internal 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

High accuracy for moored profiling applications (profile measurements on devices that travel vertically on a moored line). 1 Hz sampling, & *TC-Ducted Flow* & pump-controlled time response. Optional Dissolved Oxygen sensor. Real-time data via RS-232 or logic level interface. No memory or internal batteries. **Accuracy** 0.0003S/m, 0.002°C, 0.1% full scale pressure; **Resolution** 0.00005S/m, 0.0001°C, 0.002% full scale pressure.

Moored Time Series Instruments



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

To 7000m. Self-powered & self-contained. Sampling intervals from 10 sec to 4 hours, 6 A/D channels & 1 RS-232 channel & power for auxiliary sensors. Real-time data via RS-232 (*optional RS-485*) or inductive modem (**IM**) interface along with recording in 64 MB memory. **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) Recorder

8 MB memory, to 7000m.

IM — inductive modem interface, internal batteries. **SM** — serial interface, internal batteries. **SI** — serial interface, externally powered. All available with integral pump for improved anti-foul protection (**IMP**, **SMP**, **SIP**). **Accuracy** 0.0003S/m, 0.002°C, 0.1% full scale pressure; **Resolution** 0.00001S/m, 0.0001°C, 0.002% full scale pressure.



SBE 39 Temperature (optional P) Recorder



To 10500m. Internal battery, 32 MB usable memory, serial interface (**IM** with inductive modem interface). Internal thermistor embedded in cap (time constant 25 sec); optional external thermistor in pressure-protected sheath (time constant 0.5 sec). **Accuracy** 0.002°C, 0.1% full scale pressure; **Resolution** 0.0001°C, 0.002% full scale pressure.

SBE 26plus SEAGAUGE Wave & Tide Recorder

High-accuracy water level; 4 Hz wave burst sampling. Quartz pressure sensor, accurate clock, precision thermometer, optional conductivity sensor. Recording in 32 MB memory; real-time tide data, & wave data & 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, & stability. Uniquely precise & stable time base, low power frequency acquisition circuitry, Digiquartz pressure sensor, precision thermometer, optional conductivity sensor. Recording in 32 MB memory plus real-time data. **Accuracy** 0.01% of full scale pressure; **Resolution** 0.045 ppm (0.3mm for 10,000 psia sensor, 1-minute integration).



Sea-Bird Products Quick Guide



Shipboard Thermosalinographs

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



SBE 21 SEACAT

Simultaneously stores data in memory & provides real-time data over optically isolated RS-232 link. C & T, auxiliary sensor data from 4 A/D channels, remote temperature, & 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 & 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

Today's standard, in various sizes & configurations for depths to 10,500m. Magnetically activated lanyard release & modem control channel provide reliability & ease-of-use. Compatible with our 9plus, 25, 19, & 19plus, & 19plus V2

CTDs, the 32 allows real-time operation via an SBE deck unit or self-contained autonomous operation via an SBE instrument that triggers bottle closures at pre-programmed depths. **Specifications:** 12-36 bottles, 1.7-30 liters.

SBE 55 ECO

Ideal small-boat sampler for depths to 600 m, compatible with our 19, 19plus, 19plus V2, & 25 CTDs. The 55 closes bottles at pre-programmed depths, or provides real-time operation via an SBE deck unit. **Specifications:** 3 or 6 bottles, 4 liters.

Sea-Bird Website

www.seabird.com is a powerful resource, offering product specifications, technical documentation, scientific references, and user support. Download software and technical documentation, request a quote, or compare products and technologies on-line.

SBE Sea-Bird Electronics, Inc.
Precision Oceanographic Instruments

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

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Announcements / What's New

Introducing SBE 55 ECO Water Sampler
The ECO Sampler is the ideal small-boat water sampler. It can be integrated with an SBE 19, 19plus, or 25 CTD, and is available in a 3- or 6-bottle configuration, for depths to 600 m. The ECO operates autonomously (closing bottles at pre-programmed depths), or provides real-time operation with an SBE 33 Carousel Deck Unit.

Introducing Version 2 (V2) SEACATplus
SBE 16plus V2, 16plus-IM V2, and 19plus V2 can acquire data from 6 auxiliary voltage sensors (vs 4) as well as an RS-232 sensor, have a larger memory (64 Mb vs 8), and can provide XML output (in addition to previous formats). All 3 CTDs are now available with an optional Digiquartz pressure sensor.

Sea-Bird and WET Labs Co-Develop New Water Quality Monitor, and More...

Field Service Bulletins

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

SBE 43 DO Sensor

Conductivity

SBE 4 Conductivity Sensor

Temperature

SBE 3 series Oceanographic Temperature Sensors

SBE 35 Deep Ocean Standards Thermometer

SBE 35RT Digital Reversing Thermometer

SBE 38 Digital Oceanographic Thermometer

SBE 39 Temperature (optional pressure) Recorder



Pressure

SBE 29 Strain Gauge Pressure Sensor

SBE 50 Digital Oceanographic Pressure Sensor

Miscellaneous

SBE 18 pH Sensor

SBE 27 pH/ORP Sensor

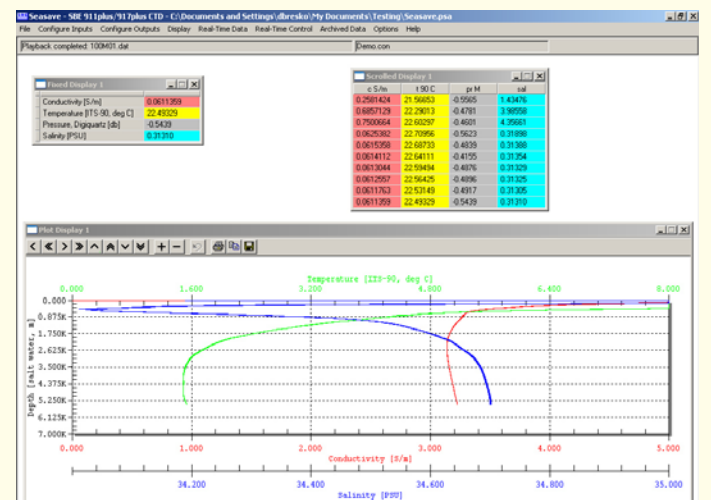
Third Party Sensors

Transmissometers, fluorometers, PAR sensors, altimeters, etc., produced by leading manufacturers of those products, integrated with our CTDs.



SEASOFT® Software

SEASOFT-Win32 is a powerful modular program for instrument communication, real-time data acquisition, and data retrieval, processing, display, and plotting. An extensive list of seawater parameters can be calculated (using UNESCO equations), dozens of auxiliary sensors are supported, and a variety of color plots can be graphed, printed, and exported in several common graphic file formats.



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