

# SBE 16plus V2

SeaCAT CT(D)

## Overview

The SBE 16plus V2 SeaCAT is a high-accuracy conductivity and temperature (pressure optional) recorder designed for moorings or other long-duration, fixed-site deployments. It supports numerous auxiliary sensors (dissolved oxygen, pH, turbidity, fluorescence, oil, PAR, etc.) with six A/D channels and one RS-232 data channel. The 16plus V2 communicates via an RS-232 serial interface, and has internal batteries and memory.

It is well suited to networked sensor arrays where its operation can be triggered by satellite, radio, or hardwire telemetry equipment.

Data is recorded in memory and can also be output in realtime in engineering units or raw HEX. Battery endurance varies, depending on the sampling scheme; nine alkaline D-cells provide power for 355,000 samples of C and T.

## Components

Unique internal-field conductivity cell permits use of expendable anti-foulant devices, for long-term bio-fouling protection.

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

Optional pressure sensor with temperature compensation is available in eight strain-gauge ranges (to 7000 m) and eleven Digiquartz® ranges (to 10,500 m).

Optional pump runs for each sample, providing improved conductivity and plumb.



## Features

- Moored Conductivity, Temperature, Pressure (optional), and up to seven auxiliary sensors, at user-programmable intervals (10 seconds to 4 hours)
- RS-232 interface, internal memory, and internal alkaline batteries (can be powered externally)
- Expendable anti-foulant devices and optional pump for bio-fouling protection
- Depths to 600, 7000, or 10,500 m
- Seasoft® V2 Windows software package (setup, data upload, real-time data acquisition, and data processing)
- Next generation of the SeaCAT family, field-proven since 1987
- Five-year limited warranty

## Options

- Plastic (600 m) or titanium (7000 or 10,500 m) housing
- XSG/AG or wet-pluggable MCBH connectors
- Optional strain-gauge or Digiquartz® pressure sensor
- SBE 5M pump for pumped conductivity; or SBE 5P or 5T pump for pumped conductivity and auxiliary sensor(s)
- Sea-Bird Scientific auxiliary sensors — dissolved oxygen, pH, fluorescence, oil, radiance (PAR), light transmission, turbidity, etc.
- Auxiliary sensors from other manufacturers
- Battery pack kit for lithium batteries (batteries not supplied by Sea-Bird)

## 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	
Conductivity	0 to 9 S/m
Temperature	-5 to +35 °C
Optional Pressure	Strain-gauge 0 to 20/100/350/600/1000/2000/3500/7000 m; Quartz 20/60/130/200/270/680/1400/2000/4200/7000/10,500 m
Initial Accuracy	
Conductivity	± 0.0005 S/m
Temperature	± 0.005 °C
Optional Pressure	Strain-gauge ± 0.1% of full scale range; Quartz ± 0.02% of full scale range
Typical Stability	
Conductivity	0.0003 S/m per month
Temperature	0.0002 °C per month
Optional Pressure	Strain-gauge ± 0.1% of full scale range per year; Quartz ± 0.02% of full scale range per year
Resolution	
Conductivity	0.00005 S/m typical
Temperature	0.0001 °C
Optional Pressure	Strain-gauge 0.002% of full scale range; Quartz 0.0006% of full scale range for 1-sec integration

Memory & Data Storage	64 Mbyte non-volatile FLASH Bytes/sample: 6 T&C; 5 pressure; 2 each external voltage; 4 date & time (RS-232 sensor is sensor dependent)
Power Supply & Consumption	9 alkaline D-cell batteries provide 355,000 samples CT; 240,000 samples CTD; 140,000 samples CTD & SBE 5M pump (see manual)
Optional External Power	9 - 28 VDC; consult factory for required current
Auxiliary Sensors	Power out up to 500 mA at 10.5 - 11 VDC; Voltage sensor A/D resolution 14 bits and input range 0-5 VDC
Housing, Depth Rating, & Weight	Acetal Copolymer Plastic, 600 m, in air 7.3 kg, in water 2.3 kg 3AL-2.5V Titanium, 7000 m, in air 13.7 kg, in water 8.6 kg 6AL-4V Titanium, 10,500 m

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