SEA-BIRD SCIENTIFIC

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SBE 16plus V2
SeaCAT CT(D)

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 real-time 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.

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.

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 plumbed auxiliary sensor response, bio-fouling protection, and correlation of CTD and auxiliary sensor measurements.

Options

- Plastic (600 m) or titanium (7000 or 10,500 m) housing.
- XSG/AG or wet-pluggable MCBH connectors.
- No pressure, or 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).

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

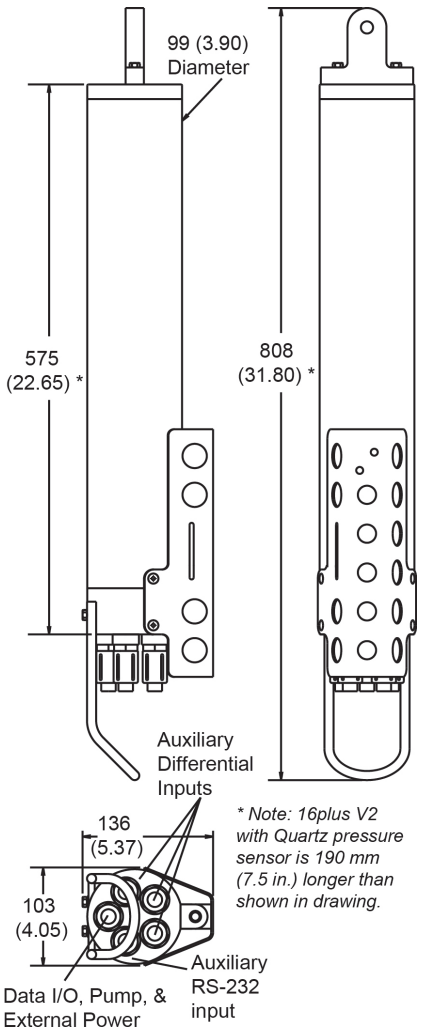
Conductivity	0.0003 S/m per month
Temperature	0.0002 °C per month
Optional Pressure	Strain-gauge ± 0.1% of full scale range per year; Quartz ± 0.02% of full scale range per year

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

Dimensions in millimeters (inches)



** Note: 16plus V2 with Quartz pressure sensor is 190 mm (7.5 in.) longer than shown in drawing.*

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