Sealogger CTD

SBE 25*plus*

SUMMARY

- Conductivity, Temperature, Pressure
- 8 auxiliary voltage sensors and 2 auxiliary RS-232 sensors
- Profiling at 16 Hz
- Pump-controlled, T-C ducted flow to minimize salinity spiking
- RS-232 serial interface, internal memory, internal batteries (can be powered externally)
- Fast upload of large data sets via internal USB connector
- Housing depths to 600 or 6800 meters
- Newest version of our Sealogger, field-proven since 1989

DESCRIPTION

The SBE 25*plus* Sealogger is the ideal research-quality CTD profiling system for coastal, estuarine, and budget-minded deep-water deployments. The battery-powered 25*plus* records data in memory, eliminating the need for a large vessel, electro-mechanical sea cable, and on-board computer. The 25*plus* can also transmit data in real-time.

Compared to the previous SBE 25, the 25*plus* incorporates an electronics upgrade, mechanical redesign, and additional features, with 16 Hz sampling, 8 differentially amplified A/D input channels, 16-bit A/D resolution for auxiliary sensor channels, more power for auxiliary sensors such as nitrate (e.g., Satlantic SUNA) and CO_2 sensors, 2 RS-232 data input channels, and 2 GB memory. Data in memory is uploaded via the external bulkhead connector or the internal USB connector (for fast upload of large data sets). Firmware upgrades can be downloaded through the communications port, without opening the CTD. The unique end cap design provides easy access to bulkhead connectors, simplifying the addition and removal of sensors from the package.

SENSORS

Temperature and conductivity are measured by the modular Sea-Bird SBE 3F and SBE 4C sensors. The SBE 5 Pump and TC Duct provide pump-controlled, TC-ducted flow, to ensure coordinated measurement of the same parcel of water. This significantly reduces salinity spiking caused by ship heave, and in calm waters allows slower descent for improved resolution of water column features. The integrated, temperature-compensated strain-gauge pressure sensor is available in 8 depth ranges to suit the operating depth requirement. The 25*plus* includes interface electronics for up to 8 voltage-output sensors (dissolved oxygen, pH, fluorescence, PAR, light transmission, optical backscatter, etc.) and 2 serial output (RS-232) sensors.

OPERATION

The 16 Hz scan rate provides very high spatial resolution of oceanographic structures and gradients, and recording endurance of up to 55 hours (without auxiliary sensors) with alkaline batteries. Simultaneous with recording, real-time data can be transmitted directly to a PC serial port (transmission distance dependent on number of auxiliary sensors, baud rate, and cable properties; serial output sensor data cannot be transmitted). Recorded data are transferred via RS-232 or USB to a PC for processing. External power and two-way real-time communication over 10,000 meters of single-core, armored cable can be provided with the SBE 36 CTD Deck Unit and the Power/Data Interface Module (PDIM).

The SBE 25*plus* is easily integrated with an SBE 32 Carousel Water Sampler or SBE 55 ECO Water Sampler. Both real-time and autonomous *auto-fire* operations are possible with any Sea-Bird CTD / Water Sampler system.

CONFIGURATION, OPTIONS, AND ACCESSORIES

A standard SBE 25*plus* is supplied with plastic housing and SBE 5P pump for depths to 600 m, SBE 3F temperature sensor, SBE 4C conductivity sensor, strain-gauge pressure sensor (8 ranges), T-C Duct, 2 GByte FLASH memory, 12 D-size alkaline batteries (Duracell MN 1300, LR20) in a battery pack, glass-reinforced epoxy bulkhead connectors, and stainless steel cage.

Options and accessories include:

- Aluminum housing (6800 m), and SBE 5T titanium pump (7000 m) in place of SBE 5P plastic pump
- Wet-pluggable MCBH series connectors
- Auxiliary sensors for dissolved oxygen, pH, fluorescence, radiance (PAR), light transmission, optical backscatter (turbidity), etc.
- Plastic shipping case instead of standard wood crate
- Load-bearing underwater cables for hand-hauled, real-time profiling
- SBE 36 Deck Unit and PDIM or SBE 33 Deck Unit and Sea-Bird water sampler for real-time operation on single-core armored cable (cable length to 10,000 m)

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SOFTWARE

Seasoft© V2, our Windows 2000/XP software package, is included at no extra charge. Its modular programs include:

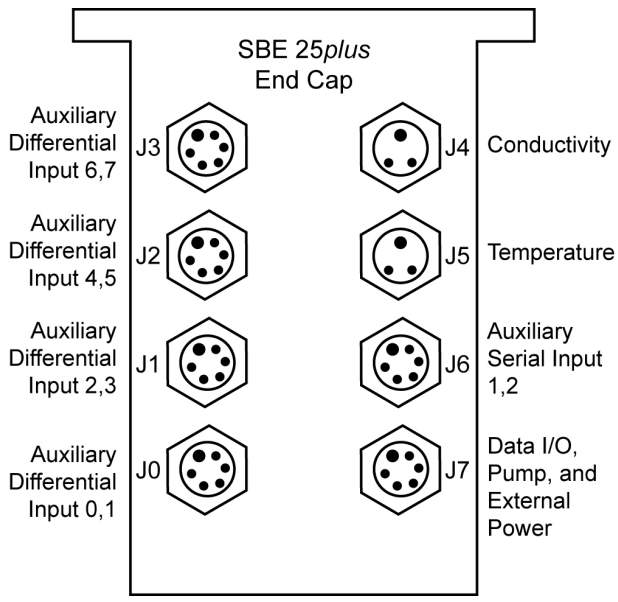
- SeatermV2© — communication and data retrieval
- Seasave© — real-time data acquisition and display
- SBE Data Processing© — filtering, aligning, averaging, and plotting of CTD and auxiliary sensor data and derived variables

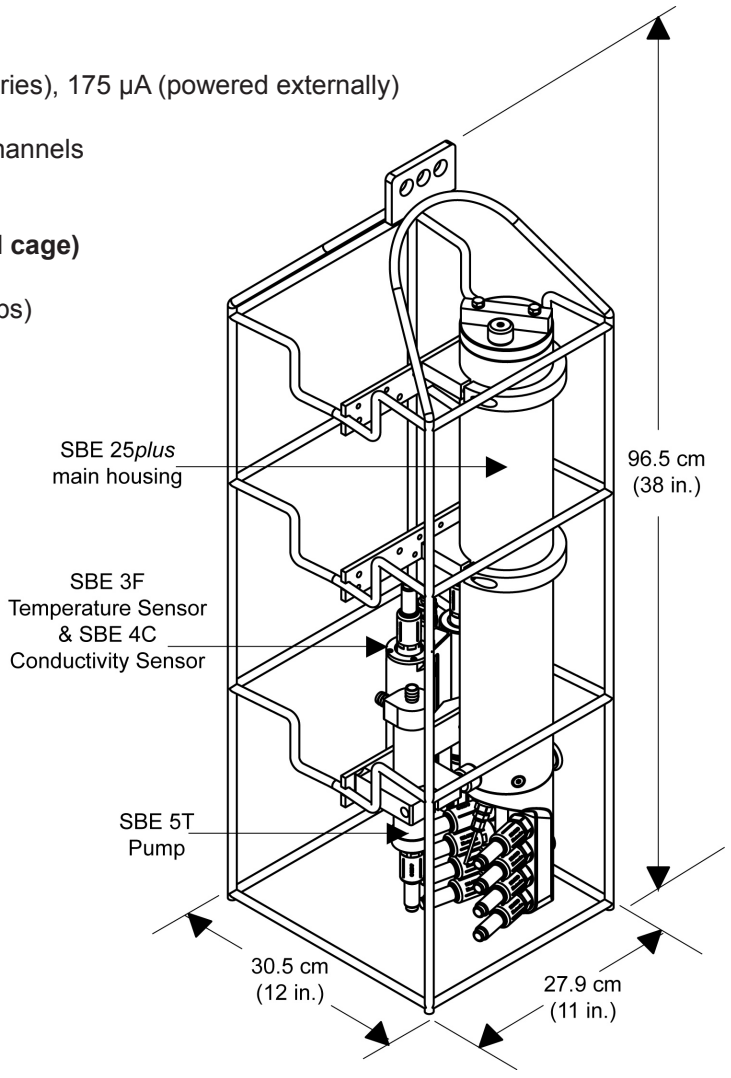
SPECIFICATIONS

	Measurement Range	Initial Accuracy	Resolution
Conductivity	0 to 7 S/m	±0.0003 S/m	0.00004 S/m
Temperature	-5 to +35 °C	±0.001 °C	0.0003 °C
Pressure [1]	0 to 20/100/350/600/1000/2000/3500/7000 m	±0.1% of full scale range	0.002% of full scale range

[1] *Expressed in meters of deployment depth capability.*

Memory	2 GByte non-volatile FLASH memory (~ 20 hours of data from T, C, P, and 8 auxiliary voltage sensors; does not include auxiliary serial sensor data)
Data Storage	T, C, & P — 10 bytes/sample, each external voltage sensor — 2 bytes/sample, auxiliary RS-232 sensor — sensor dependent
Internal Batteries	12 alkaline D-cells (Duracell MN1300, LR20) — 55 hours profiling (no auxiliary sensors)
External Power Supply	14-20 VDC; consult factory for required current
Power Requirements	
Sampling	95 mA
Pump (SBE 5T or 5P)	150 mA
Communications	70 mA
Quiescent	70 µA (powered by internal batteries), 175 µA (powered externally)
Auxiliary Sensors	
Auxiliary power out	12 VDC, up to 1.2 A across all channels (1 A maximum per channel)
Voltage sensor	0 - 5 VDC, 16-bit resolution
Housing Materials, Depth Rating, Weight (with pump and cage)	
Acetal Copolymer Plastic	600 m (1950 ft), weight TBD
7075 aluminum	6800 m (22,300 ft), 22.5 kg (50 lbs)





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