



Valeport's latest CTD,
combining advanced sensor
technology with robust design
and simple operation.

FEATURES

- Direct computation of Speed of Sound using a choice of industry standard formulae
- Direct computation of Salinity & Density
- Self Recording and/or Direct Reading
- Ideal for profiling and fixed mooring installation
- Titanium body
- Pressure balanced inductive conductivity sensor
- Fast Response PRT Temperature Sensor
- Time and down/up depth triggering
- Valeport DataLog 400™ Windows based user software
- Programmable sampling regime
- Data direct to PC
- 8 Mbyte memory (upgradeable to 32 Mbyte)
- Sealed electronics module not exposed during battery changes
- True synchronised sampling at up to 8Hz
- Rated to 5000m
- Can be used with up to 6km cable
- 3 Year Warranty

APPLICATIONS

- Oceanographic studies
- Hydrographic surveys
- Seismic operations
- Coastal and Estuary surveys
- Education
- Marine and Environmental studies

INTRODUCTION

The Model 606 CTD utilises Valeport's new modular sensor technology to allow absolutely synchronous sampling of the conductivity, temperature and pressure sensors. Other CTDs use cyclic sampling techniques - taking data from one sensor, then the next, and so on. By sampling all sensors at exactly the same time, the Model 606 ensures that all data comes from exactly the same position. In combination with a sampling rate of up to 8Hz, this makes the Model 606 particularly suitable for rapid profiling work. Low power drain and large memory also make it ideal for use in fixed mooring applications.

DESCRIPTION

Sensors

Conductivity: The conductivity cell fitted to the Model 606 is pressure balanced to eliminate the effect of cell volume changes at depth.

Pressure: The Model 606 uses a strain gauge transducer, accurate to 0.1%FS. A range of 5000dBar is fitted as standard, with 100, 500 and 3000dBar ranges available for shallower work.

Temperature: The Model 606 benefits from a very fast response Platinum Resistance Thermometer (PRT) temperature sensor, making it particularly suitable for profiling use, but maintaining a high level of accuracy.

Data Acquisition

Scan Rate: 1, 2, 4 or 8 Hz synchronous sampling.

Sample Modes

Continuous Sampling: Sampling at a fixed rate until interrupted.

Trip Sampling: Typically used for profiling, where data is sampled at regular pressure increments.

Burst Sampling: Ideal for long term deployments. Instrument takes a series of samples, then sleeps for a set length of time before waking up and repeating the process. Power is conserved during sleep mode. Standard Deviation and data averaging are available in this mode.

Conditional Sampling: Output from a selected sensor is monitored at regular intervals. When it reaches a trigger level, full sampling occurs until data from the selected sensor falls (or rises) back past the trigger level.

Switch On

By insertion of switch plug in self-recording mode, or via power or software control in real time mode.

Data Recording

The Model 606 is fitted with 8 Mbyte memory as standard. This is upgradeable in 8 Mbyte steps to a maximum of 32 Mbyte.

Each fitted parameter uses 2 bytes of memory per record in continuous or burst mode (i.e. a total of 6 bytes). 8 Mbyte memory will therefore hold nearly 1.4 million complete records. Note that in Trip sampling mode, each record also has a 6 byte time stamp, reducing capacity to approximately 700,000 records.

Power

The unit uses the following currents at 12v:

Running: 55mA
Sleep: 0.4mA

The Model 606 is fitted with 8 x 1.5v alkaline C cells, which have a nominal capacity of 5.5Ah, Battery life would therefore be approximately 100 hours in continuous use. Using a burst regime of 10 seconds every 10 minutes, this could be extended to about 130 days.

The Model 606 will also accept 8 x 3.6v Lithium C cells, which will further extend life by a factor of approximately 2.5 times. An external supply of 9 to 30vDC may also be used.

Communications

RS232, RS485 and RS422 communications are all fitted as standard, chosen by pin selection on the connector. Maximum baud rate is 115,200 for RS232, or 57,600 for RS485 & RS422.

RS232 communications may be used directly with a standard PC comm port, over cable lengths up to 200m. RS485 and RS422 communications may be used with up to 1500m cable lengths, but will require a surface adaptor set to interface to PC.

As an option, an FSK modem adaptor can be fitted to the instrument, allowing two wire communications over 6000m cable.

Software

All Valeport's 400 series instruments, including the Model 606 are supplied with DataLog 400 Windows based PC software. The software allows full sampling setup, and extraction of recorded data. In addition it features several display modes for both real time and recorded data, including tabular and graphical formats.

ORDERING

0606001 Model 606 CTD Profiler, fitted with 8Mbyte memory. Supplied with deployment frame, 3m communications lead, DataLog 400 software, manual and transit case.

0400002 8 Mbyte memory upgrade (max 32 Mbyte)

0400005 FSK modem adaptor (and instrument pcb)

0400029 RS485 communications adaptor

0400030 RS422 communications adaptor

SPECIFICATION

Parameter	Type	Range	Accuracy	Resolution	Response time
Conductivity	Pressure balanced inductive coils	0.1 to 60 mS/cm	± 0.01 mS/cm	0.003 mS/cm	100 ms
Temperature	Fast PRT	-5 to +35 degC	± 0.005 degC	0.002 degC	100 ms (60 ms without guard)
Pressure	Strain Gauge	5000 dBar	± 0.1% FS	0.005% FS	20 ms
Salinity	Derived [SAL78]		± 0.02 PSU	0.003 PSU	
Speed of Sound	Derived [user selectable formula]		± 0.25 m/s (limited by accuracy of formulae)	0.02 m/s	
Density Anomaly Gamma	Derived [EOS80]		± 0.06 kg/m ³	0.01 kg/m ³	

PHYSICAL SPECIFICATIONS

Body Dimensions: 88mm Ø x 660mm long
Cage Dimensions: 750mm x 140mm x 120mm

Weight in air (in cage): 11.5 kg
Weight in water (in cage): 8.5 kg
Material: Titanium [Stainless Steel 316 Cage]

Depth Rating: 5000 m
Shipping Case Size: 160mm x 460mm x 1020mm
Shipping Weight: 26 kg

Valeport manufactures a wide range of oceanographic and hydrometric instruments including self-recording and direct reading multi-parameter current meters, sound velocity probes, CTD probes, wave recorders, tide gauges, open channel flow meters, water and plankton samplers, winches, sinker weights, connectors and accessories.



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