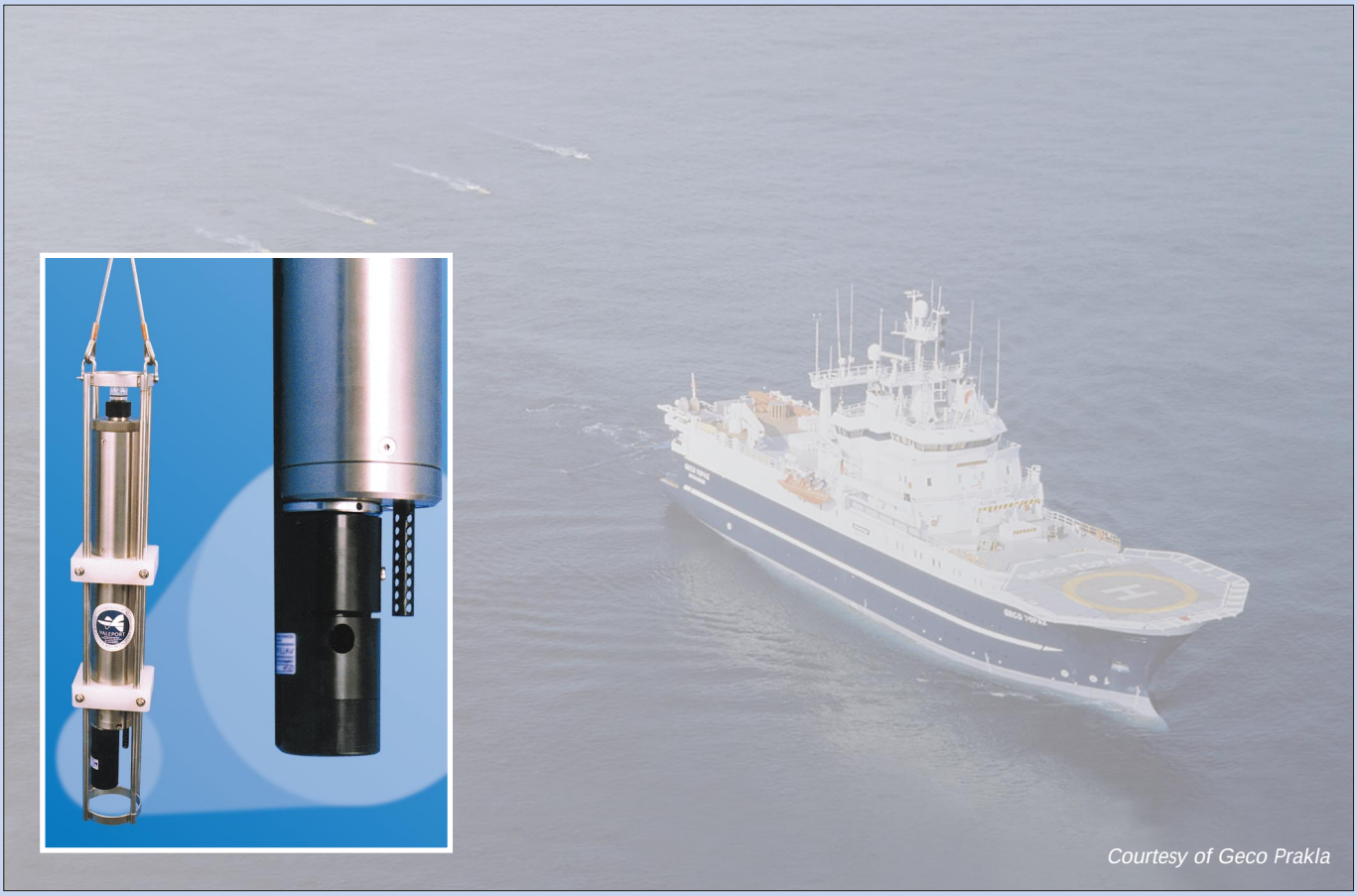
Deep Water CTD

Model 604



FEATURES

- 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™ Windows based user software
- Programmable sampling regime
- Direct computation of Salinity, Speed of Sound and Density
- Data direct to PC
- Large memory, 1 Mbyte option
- Sealed electronics module not exposed during battery changes
- Rated to 3000m
- Long cable lengths
- 3 Year Warranty

APPLICATIONS

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

INTRODUCTION

The Model 604 is the latest instrument in the industry standard range of Valeport 600 Series CTDs. Rated for use at up to 3000m depths, and using technologically advanced sensors, the Model 604 meets the needs of oceanographers, hydrographers and surveyors who require an accurate, easy to use CTD with both Direct Reading and Self Recording capabilities. The Model 604 is compatible with our DataLog™ PC control software, or can be used with a dedicated control unit in Direct Reading mode.

VALEPORT

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Model 604

TECHNICAL DETAILS

Sensors
Conductivity: The conductivity cell fitted to the Model 604 is pressure balanced to eliminate the effect of cell volume changes at depth.

Pressure: The Model 604 uses a strain gauge transducer, accurate to 0.1%FS. The sensor is rated for use to 3000m as standard, with 1000m or 2000m options available for shallower work.

Temperature: The Model 604 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. A slower response sensor can be fitted if required, for example in fixed mooring applications.

Data Acquisition
Scan Rate: 1Hz
Switch On: By flashing LED connector cap in self recording mode, or by power and software control in direct reading mode. Conductivity trip mechanism means unit will only operate when in water.
Sample Modes: Time (continuous sampling), Burst (configurable length and frequency), Depth (configurable trigger and increment values).

Data Recording
128kbyte standard memory, giving 20,000 CTD records. A separate file is created for each deployment, each containing header information including setup, calibration, and user defined site information. A 1Mbyte memory option is also available.

Power
The unit uses approximately 45mA at 12v when running, so the 7 x 1.5v "C" cells fitted, giving approximately 7.5Ah, will last for about 200 hours in continuous use. This can be extended by using Burst Mode (e.g. 20 second burst every 10 minutes gives over 200 days life). Alternatively, external power (11.5 to 25vDC) can be used.

Communications
RS232: Setup and data extraction, and for direct reading to PC over up to 100m cable.
RS485: Direct reading to PC over cable lengths up to 1500m (requires additional adaptor).
Digital Current Loop: Direct reading to PC over cable lengths up to 3000m (requires additional adaptor).
Control Display Unit: For setup, and direct reading use over cable lengths up to 3000m.

Control Display Unit
IP67 moulded ABS control box, with backlit LCD display of all parameters (including calculated parameters), and membrane keys to permit full setup. Powered by 8 x 1.5v "C" cells. RS232 output to PC, and optional internal logging of real time data.

Software
Valeport's DataLog™ Windows™ based software allows full sampling set up, and extraction of recorded data. In addition, it features several display modes for both recorded and real time data, including tabular and graphical formats. As well as the fitted parameters of Conductivity, Temperature and Pressure, the software also displays the calculated parameters of Salinity, Speed of Sound and Density Anomaly.

ORDERING

0600021: Model 604 CTD with 128Kbyte RAM memory, pressure balanced conductivity sensor, 3000dBar pressure transducer and fast PRT temperature sensor. Supplied with 3m Y lead, DataLog™ software, operating manual and transit case.

0300022: Memory upgrade to 1 Mbyte

0300004: Standard response PRT temperature sensor

0300023: Control Display Unit set including 3m deck lead

0300008: 50 metres cable on hand reel

0300009: 100 metres cable on hand reel

0300021: 200 metres cable on hand reel

SENSOR SPECIFICATIONS

Parameter	Type	Range	Accuracy	Resolution	Response time
Conductivity	Pressure balanced inductive coils	0.1 to 60 mS/cm	± 0.05 mS/cm	0.003 mS/cm	100 ms
Temperature	Fast PRT	-5 to +35 degC	± 0.02 degC	0.002 degC	100 ms (60 ms without guard)
Temperature [optional]	Slow PRT	-5 to +35 degC	± 0.02 degC	0.002 degC	250 ms
Pressure	Strain Gauge	1000, 2000 or 3000 dBar	± 0.1% FS	0.005% FS	20 ms
Salinity	Derived [SAL78]		± 0.07 PSU	0.003 PSU	
Speed of Sound	Derived [user selectable formula]		± 0.25 m/s	0.02 m/s	
Density Anomaly Gamma	Derived [EOS80]		± 0.06 kg/m^3	0.01 kg/m^3	

PHYSICAL SPECIFICATIONS
Body Dimensions: 88mm ∅ x 695mm long
Cage Dimensions: 825mm x 140mm x 120mm

Weight in air (in cage): 12.5 kg
Weight in water (in cage): 9 kg
Material: Titanium [Stainless Steel 316 Cage]

Depth Rating: 3000 m
Shipping Case Size: 170mm x 500mm x 1000mm
Shipping Weight: 20 kg

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

VALEPORT

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