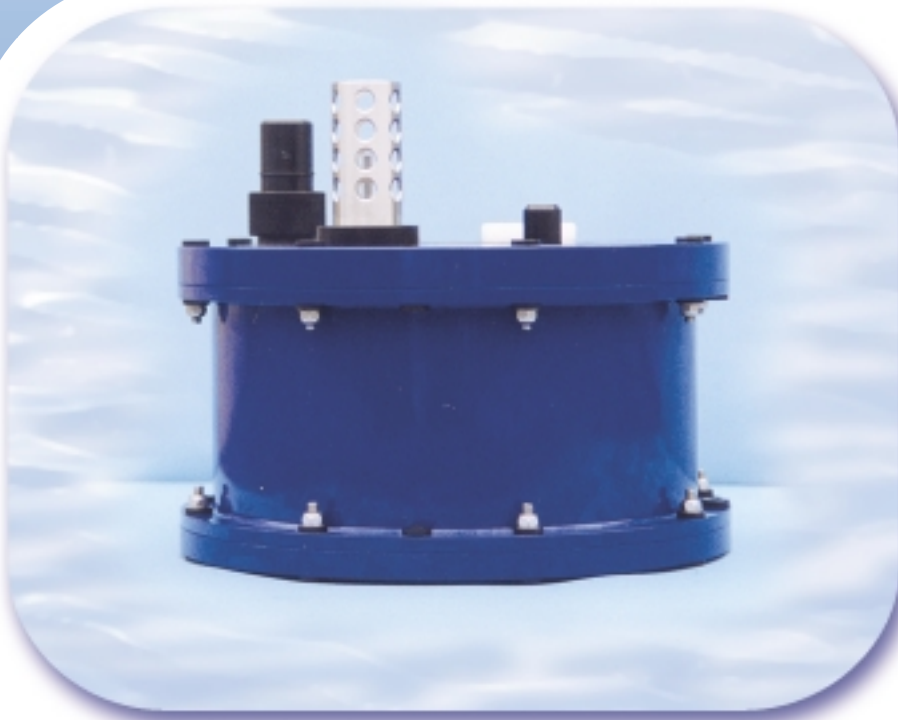


Seabed Tide Recorder

Model 730T



An advanced seabed mounted tide gauge, ideal for collection of tidal data in offshore and coastal environments

FEATURES

- Self Recording or Direct Reading
- Programmable Sampling Regime
- Optional Conductivity Sensor
- Compatible with Model 750 Telemetry Buoy
- Large Memory

APPLICATIONS

- Oceanographic studies
- Hydrographic surveys
- Coastal and Estuary surveys
- Marine research

DESCRIPTION

The Model 730T Seabed Tide Recorder is part of the Valeport Model 730 range of tide and wave recorders, and has been designed to provide oceanographers, hydrographers and surveyors with a robust, easy to use tide recorder, specifically for use at sites where a conventional shore based recorder is inappropriate.

The instrument is fitted with either a resonant quartz transducer or precision strain gauge transducer, which measures the total pressure above the gauge. User settable sampling regimes allow sufficient data to be averaged to eliminate the effects of wave action, and the 4Mbyte memory will allow storage of over 650,000 data points.

The Model 730T also features a PRT temperature sensor as

standard, which together with the optional conductivity sensor allow the unit to also calculate salinity, density and speed of sound data.

Power is taken from an internal battery pack of 8 x D cells (either 1.5v alkaline or 3.6v Lithium). The low power consumption and sleep mode between samples allow extended deployment times.

The Model 730T can be deployed in self recording mode, or can be interfaced to the Model 750 Telemetry Buoy. This allows real time data to be available over distance up to 10km via UHF radio link (or data extraction over much greater distances if the GSM phone link is used instead).

Seabed Tide Recorder

Model 730T

DESCRIPTION

Materials

Housing is made from painted anodised aluminium, combining durability with light weight. All exposed metal is 316 grade stainless steel (insulated from aluminium).

Standard Parameters

Pressure

Type: Resonant quartz crystal
Accuracy: $\pm 0.01\%$
Range: 100 or 200psi (absolute)
Approx 60m or 130m deployed depth.
Resolution: 0.005%FS

Pressure (option)

Type: Precision Strain Gauge
Accuracy: $\pm 0.1\%$
Range: 50, 100 or 200 dBar (abs)
Resolution: 0.005%FS

Temperature

Type: Platinum resistance thermometer (PRT)
Accuracy: $\pm 0.01^\circ\text{C}$
Range: -5°C to $+35^\circ\text{C}$
Resolution: 0.002°C

Optional Parameters

Conductivity

Type: Valeport inductive coils.
Accuracy: $\pm 0.02\text{mS/cm}$
Range: 0.1 to 60mS/cm
Resolution: 0.003mS/cm

Allows derivation of salinity, density and speed of sound data using industry standard equations.

Data acquisition

For each burst of data, pressure is measured at 1Hz, 2Hz or 4Hz and the other parameters are sampled once at the end of the burst. The user may set the number of samples in the burst and the time between bursts. A typical scenario would be a burst of 40 seconds every 10 minutes. The data recorded consists of the average pressure reading over the burst and the single temperature and conductivity readings.

Software

Compatible with Valeport's own WaveLog Windows™ based software which allows sampling setup, data extraction and viewing of both historical and real-time data.

Memory

The unit is fitted with a 4Mbyte solid-state RAM memory. Each record consists of 6 bytes of binary data meaning that over 650,000 separate data points can be stored. Each time the instrument is switched on and off a new file is created. In this way data from different deployments can be kept separate.

Communications

RS232 data at up to 19.2kbaud. This can be either direct to PC or via the Model 750 Telemetry Buoy.

Power Supply

8 x D Cells in internal pack. Unit is supplied with 1.5v alkaline cells fitted but 3.6v lithium cells can also be used. Uses 60mA when sampling and less than 0.1mA between bursts. Deployments of over 80 days at 10 minute sampling intervals (40s burst) using alkaline cells, or over 240 days using Li cells, are possible.

Deployment Frame

An optional stainless steel deployment frame is available. Customer provides suitable ballast and mooring accessories.

Sizes

Instrument: 300mm \varnothing x 250mm, 14kg
Shipping: 50 x 43 x 40cm, 22kg
Frame: 98 x 98 x 32cm, 26kg

ORDERING

0730014: Model 730T Seabed Tide Recorder, fitted with 100psi or 200psi resonant quartz pressure sensor (specify range), PRT temperature sensor, 8 alkaline D cells (will take Lithium) and 4Mbyte RAM memory. Includes WaveLog software.

0730015: As above but fitted with strain gauge pressure sensor (specify range)

0730012: Conductivity sensor

0730020: Deployment frame for Model 730T

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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