

# Seabed Tide Recorder

*Model 730T*



**A high accuracy Tide Gauge, suitable for seabed or in-line deployments.**

## ● FEATURES

- High accuracy data
- Long deployment times
- Up to 6000m depth rating
- Wide choice of sampling regimes

## ● APPLICATIONS

- Oceanographic Studies
- Hydrographic Surveys
- Coastal & Estuarine Surveys
- Marine Research
- Offshore Engineering
- Dredging Operations
- Civil Engineering

## ● INTRODUCTION

The Model 730T Seabed Tide Recorder is the latest instrument in Valeport proven range of tide gauges and water level recorders. Designed with ease of operation, reliability and high data quality in mind, the 730T will appeal to oceanographers, hydrographers, offshore engineers, or anyone else who requires precise water level measurements in situations where a conventional shore based tide gauge system is inappropriate.

The standard instrument is fitted with a high accuracy ( $\pm 0.01\%$ ) resonant quartz pressure sensor, and PRT temperature sensor, in a 1000m rated acetal housing. This allows for lightweight construction as well as durability,

and the mooring cage (supplied as standard) is suitable for both in-line and seabed type deployments. An optional 6000m titanium version is also available, for further enhanced durability and of course deep water deployments. A more cost-effective  $\pm 0.04\%$  accuracy strain gauge sensor is also available in both housings.

The Model 730T is configured through Valeport's standard DataLog 400 Windows based software, which also allows data extraction and display in variety of formats. The instrument is particularly suited to long deployments, with an 8Mbyte



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## ● SPECIFICATION

### Sensors

#### *Standard Pressure*

Ranges: 65, 100, 200 or 500psi  
Accuracy:  $\pm 0.01\%$ FS

#### *High Pressure Option*

Ranges: 1,000 to 10,000psi  
Accuracy:  $\pm 0.01\%$ FS

#### *Strain Gauge Pressure Option*

Ranges: 20 - 6000dBar  
Accuracy:  $\pm 0.04\%$ FS

#### *Temperature*

Range:  $-5^{\circ}\text{C}$  to  $+35^{\circ}\text{C}$   
Accuracy:  $\pm 0.005^{\circ}\text{C}$

### Data Acquisition

The Model 730T has a wide choice of sampling regimes and rates. The user may choose to sample at 1, 2, 4 or 8 Hz, and may choose to log/output data continuously, on demand through external instrumentation, or most commonly in a burst pattern, where data will be measured for a short period of time before the instrument enters sleep mode. This mode conserves both battery power and memory capacity. Additionally, and in common with all Valeport "400 series" instruments, the 730T features a conditional sampling mode, whereby the output from a chosen sensor is monitored regularly, but logging does not occur until the data values pass a customer set trigger level. All measured data may be averaged on board, together with standard deviation values.

### Memory

Standard memory is 8Mbyte FLASH, which is capable of storing approximately 1.4million records. The memory is non-volatile, so data and configuration are retained in the event of power failure.

### Power

Instrument is powered by 8 x alkaline C cells, but will accept Lithium cells for improved capacity. External power input is 9 - 30vDC. Nominal power consumption at 12v is 55mA during sampling, dropping to less than 0.1mA during sleep mode, so a typical regime of a 40s burst every 15 minutes gives a life of 72 days on alkaline cells, extending to 180 days on Lithium cells.

### Communications

All Valeport "400 series" instruments are fitted with RS232, RS485 and RS422 communications as standard, chosen by pin selection on the output connector. Baud rate is selectable from 2400 to 460,800 (PC serial port permitting). RS232 comms are suitable for cable lengths up to 200m, extending to 1000m for RS485/RS422. FSK modem comms are optionally available for real time data output over 6km cable.

### Software

Instrument is supplied with DataLog 400 PC software, which is used to setup the instrument, upload memory and display data in tabular and graphical formats. The secondary calibration function allows data to be given in pressure units, metres or feet, or any other user programmed units.

## ● ORDERING

- 0730033** Model 730T in acetal housing with resonant quartz (0.01%) pressure sensor (specify range). Supplied with mooring cage, 3m comms lead, transit case, software and manual.
- 0730034** Model 730T in titanium housing with resonant quartz (0.01%) pressure sensor (specify range). Supplied with mooring cage, 3m comms lead, transit case, software and manual.
- 0730035** Strain gauge pressure option for either of above units (0.04%, specify range).

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.



Valeport Limited  
St. Peter's Quay  
Totnes, Devon TQ9 5EW  
United Kingdom  
Tel: +44 (0)1803 869292  
Fax: +44 (0)1803 869293  
e-mail: sales@valeport.co.uk  
Web Site: <http://www.valeport.co.uk>

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