



## Tritech SeaKing 700 Series Integrated Bathymetric and Oceanographic Sensor suites

### Features

- Conductivity and temperature module eliminates the need to take daily "dips"
- Real time, on line monitoring of seawater conductivity and temperature
- Correct velocity of sound may be applied in real time to devices such as the SeaKing profiling sonar and the altimeter
- Corrected temperature and salinity parameters can be passed to the Digiquartz depth sensor

### Applications

- Pipeline, site and route surveys
- Multi-beam echo sounder surveys



*Oceanographic sensor complete with protective shroud*

The Tritech SeaKing 700 Series comprises of up to four high resolution sensors:

- Tritech PA500 Precision altimeter
- Paroscientific Digiquartz Precision depth sensor
- Falmouth Scientific Conductivity probe
- Falmouth Scientific Temperature probe

There are two standard configurations available:

- SeaKing 701 Bathymetric system comprising depth and altitude sensors
- SeaKing 704 Oceanographic system - as 701 but with temperature and conductivity sensors

Other configurations can be supplied on request.

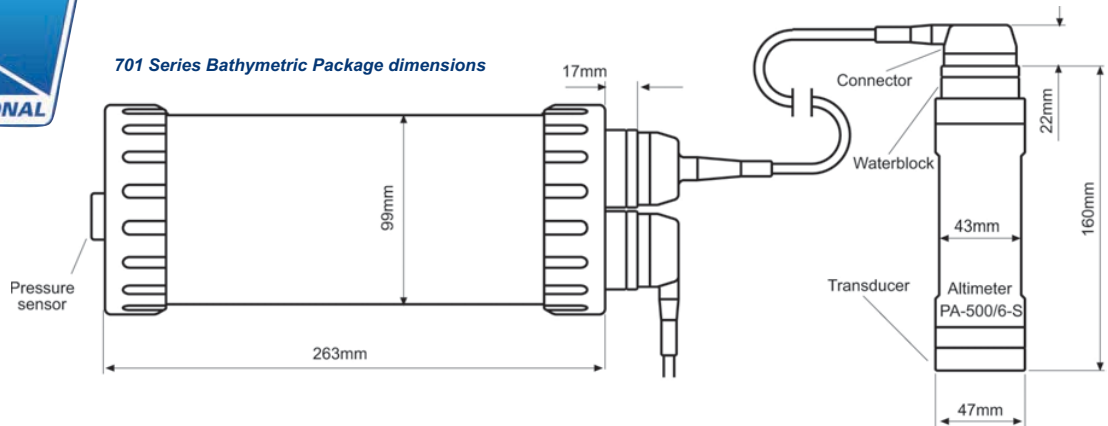
The units are available in four standard depth ratings: 700, 1400, 2000, 4000 metres

Although the sensors form an integrated package, the altimeter may be mounted separately on the ROV. This allows positioning of the individual sensors away from areas of masking or disturbance such as vehicle structure or thruster wash.

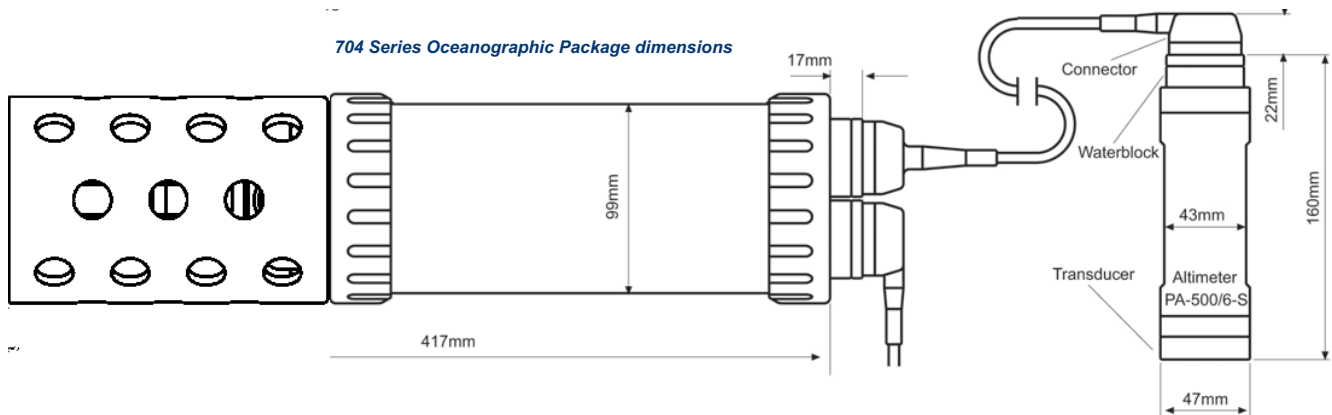
Full water column density profiling for the 704 systems is achieved by dynamically modifying a "look-up" table which contains all measured parameters versus depth. This table may be stored by the surveyors and re-loaded as required.

Whatever configuration of the bathymetric package is selected, it operates as a single subsea node on the SeaKing SCU data network and shares the same twisted pair wiring as the SeaKing DFP sea-bed profiling sonars and the SeaKing DFS imaging sonar heads. Vehicle integration is very simple as only a single pair of conductors is required on the ROV.

701 Series Bathymetric Package dimensions



704 Series Oceanographic Package dimensions



**Precision Depth Sensor**

<b>Sensor type</b>	Paroscientific® Digiquartz
<b>Repeatability</b>	0.01% FSD
<b>Hysteresis</b>	0.015% FSD
<b>Drift</b>	0.015% FSD
<b>Calibration</b>	Class A Dead Weight Tester
<b>Operating temperature</b>	-10°C to +35°C
<b>Storage temperature</b>	-20°C to +50°C

**Temperature & Conductivity Sensor**

<b>Conductivity sensor</b>	Falmouth Scientific
<b>Range</b>	0 to 65 mmho/cm (0 to 6.5 S/m)
<b>Accuracy</b>	± 0.025 mmho/cm
<b>Stability</b>	± 0.005 mmho/cm/month
<b>Temperature sensor</b>	Platinum resistance
<b>Range</b>	-5° to +35° Celsius
<b>Accuracy</b>	± 0.050° Celsius
<b>Stability</b>	± 0.005° Celsius/month

**Weights and Dimensions of Sensors**

<b>Overall length</b>	262 mm
<b>Overall length with C&amp;T probe</b>	417 mm
<b>Body tube diameter</b>	99 mm
<b>Maximum diameter</b>	110 mm
<b>Weight in air</b>	3.5 kg
<b>Weight in air with C&amp;T4.2 kg probe</b>	
<b>Weight in water</b>	1.5kg
<b>Weight in water with C&amp;T probe</b>	2.1 kg
<b>Materials</b>	HE30 Alloy, Acetal, SS316, GF nylon
<b>Electrical</b>	
<b>Input voltage</b>	24 - 28 VDC @ 8VA
<b>Communications</b>	ARCNET
<b>Single head</b>	RS232

**PA500 Precision Altimeter**

<b>Frequency</b>	500 kHz
<b>Beam width</b>	6° conical
<b>Range resolution</b>	± 1 mm
<b>Minimum range</b>	300 mm
<b>Maximum range</b>	50 metres
<b>Overall length</b>	148 mm
<b>Diameter</b>	47 mm
<b>Weight in air</b>	0.75 kg
<b>Weight in water</b>	0.45 kg
<b>Material</b>	316 stainless steel
<b>Operating temperature</b>	-10°C to +35°C
<b>Storage temperature</b>	-50°C to +50°C
<b>System Recalibration Tolerances</b>	
<b>Pressure</b>	0.015% FSD
<b>Conductivity</b>	0.1% FSD
<b>Temperature</b>	0.5% FSD

All specifications are subject to change in line with Tritech's policy of continual product development.

Ref: EDS-BAT-001.11