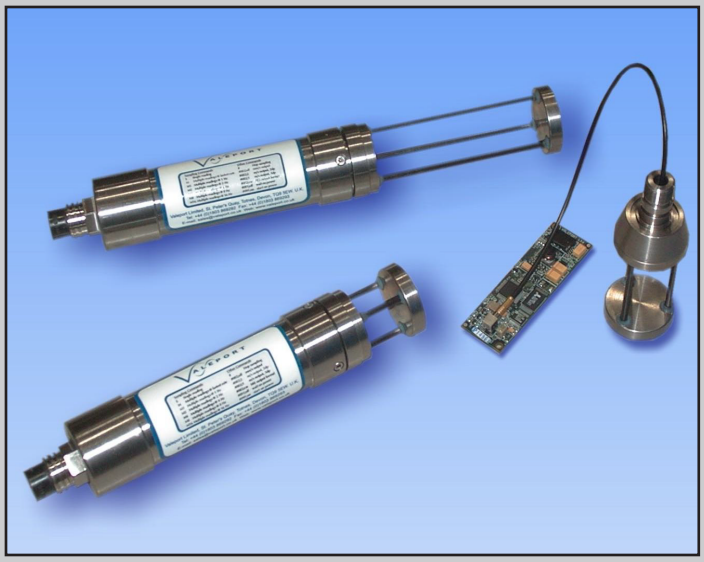
VALEPORT MINI SOUND VELOCITY SENSOR



GENERAL DESCRIPTION

The unique digital time of flight technology gives unmatched performance figures, with signal noise and order of magnitude better than any other sensor. The miniSVS is available in a selection of configurations and with optional pressure or temperature sensors. There is a variety of sizes to suit many applications.

Sound Velocity Measurement

Each sound velocity measurement is made using a single pulse of sound travelling over a known distance so is independent of the inherent calculation errors present in all CTD's. The unique digital signal processing technique virtually eliminates signal noise and gives almost instantaneous response. The digital measurement is also entirely linear, giving predictable performance under all conditions.

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VALEPORT MINI SOUND VELOCITY SENSOR

TECHNICAL SPECIFICATIONS

Range:	1400-1600m/s (extended range on request)	
Resolution:	0.001m/s	
Accuracy:	Dependent on sensor size	
100mm	Random noise (95%)	+/-0.002m/s
	Max systemic calibration error	+/-0.013m/s
	Max systemic clock error	+/-0.015m/s
	Total max theoretical error	**+/-0.03m/s**
50mm	Total max theoretical error	+/-0.06ms/
25mm	Total max theoretical error	+/-0.10m/s

Acoustic Frequency: 2.5MHz

Optional Sensors
The miniSVS may be optionally supplied with either a pressure or temperature sensor (but not both). Data is sampled at the same rate as above.

Sensor	**Pressure**	**Temperature**
Type	Strain Gauge	PRT
Range	5,10,50,100 or 600 Bar	-5°C to +35°C
Resolution	0.001% range	0.001°C
Accuracy	+/-0.1% range	+/-0.01°C

Data Output
Unit has RS232 & RS485 output, selected by command code. RS232 data may be taken directly into a PC over cables up to 200m long, whereas RS485 is suitable for longer cables (up to 1000m) and allows for multiple addressed units on a single cable. However it also requires a suitable RS485 PC adaptor.

Baud Rate:	1200 - 38400
Protocol:	8 data bits, 1 stop bit, no parity, no flow control

Electrical

Voltage:	8 - 30vDC
Power:	0.25W (SV only) 0.35W (SV + Pressure)
Connector:	Subconn Titanium MCBH6F (alternatives on request)

Data Format

<space>{sound_velocity}<cr><lf>
<space>{temperature}<space>{sound_velocity}<cr><lf>

SV:	Choose from mm/s (1510123), m/s to 3 decimal places (1510.123), or m/s to 2 decimal places (1510.12)
Pressure:	If fitted, pressure is always output in dBar with 5 digits, with a decimal point, including leading zeroes if necessary. Position of the point is dependent on sensor range e.g. 50dBar 47.123 100dBar 047.12 1000dBar 0047.1
Temperature:	If fitted, temperature is output as a 5 digit number with 3 decimanl places and leading zeroes, signed if negative e.g. 21.456 02.298 -03.174

Physical

Depth Rating:	6000m
Weight:	1kg (housed type)
Housing & Bulkhead:	Titanium
Transducer Window:	Polycarbonate
Sensor Legs:	Carbon Composite
Reflector Plate:	Titanium

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