

# The Next Generation

New approach to sound velocity measurement in vehicles, on platforms or at fixed locations

Applied Microsystems' Micro SV incorporates radical advances in 'time-of-flight' sound velocity measurement. Hi-tech composite sensor materials provide users with longer intervals between calibrations as well as dramatic improvements in temperature response time. Sacrificial zinc anodes are not required, simplifying maintenance operations. And the Micro SV is smaller than ever...

## Smaller in Size:

Pictured at right, the Micro SV has a diameter of 33 mm (1.3") and nominal length of 214 mm (8.4"). The instrument can be easily integrated onto even the smallest of AUV, ROV, or tow body.

## No Zincs Required:

With no metal parts, the Micro SV does not require sacrificial zinc anodes. Complex zinc replenishment operations are avoided, saving significant inconvenience on hull mounted deployments for multi-beam transducer correction. Similarly, long-term use in sea-chests or for intrusion detection are greatly simplified.

## High Performance:

The Micro SV comes standard with our hi-tech, composite sound velocity sensor. This new approach to sound velocity sensors has eliminated path-length change due to vibration and corrosion, resulting in longer intervals between calibration. The sensor's zero response to temperature change ensures unprecedented accuracy in vertical profiling applications, effectively eliminating offsets.



The Micro SV is available in either of two sizes:

- 1) A single sensor housing with a composite sound velocity sensor; or
- 2) A multi (two or three) sensor housing, equipped either with a sound velocity sensor plus T (temperature), P (pressure), or both T and P.

The single sensor housing is 33mm (1.3") by 214mm (8.4") while the multi-sensor housing is 50mm (1.98") by 316mm (12.54").

In its multi-sensor housing, the Micro SV (T or P) is available in one of four different sensor mounts. They include in-line OR right angle end-caps and water flow parallel OR perpendicular to the instrument housing.

### Single Sensor Configuration (ie. Micro SV):

- Sound velocity only
- Externally powered (8 to 16 VDC) with no memory
- 33mm / 1.3" (diameter) x 214 mm / 8.4" (nominal length)
- Standard Connectors: Subconn Micro 6 pin wet pluggable, Female

### Multi-Sensor Configuration (ie. Micro SVT&P):

- Sound velocity & pressure; Sound velocity & temperature; Sound velocity temperature & pressure
- Externally powered (8 to 16VDC) with no memory
- Optional battery pack (3 x C cell Lithium) in separate housing
- Optional memory (128Mb)
- Optional additional channels (2 Analog or 1 Digital)
- 50mm / 1.98" (diameter) x 280 mm / 11.0" (nominal length)
- Standard Connectors: Subconn Micro 8 pin wet pluggable, Female

### All Configurations:

- 16 bit analog to digital resolution (65,536 counts)
- Up to 25 scans per second
- User configurable comm settings (RS232 or RS485)
- Auto shut-down in low battery conditions
- Choice of pressure housings: Delrin to 500m, Stainless Steel to 4500m, or Titanium to 10000m
- Environmental Specifications: Storage, -40°C to 60°C; Usage, -20°C to 45°C
- Sampling on continuous, defined increments of time, at specific pressures, or upon request

### Available Accessories:

- 2m data / power pigtail
- Instrument suspension bar
- Instrument suspension bar with protective cage
- Mounting brackets

		Range	Precision	Accuracy	Response	Resolution
Standard Sensors	Sound Velocity (Composite)	1400 to 1600 m/s	+/-0.03 m/s	+/-0.05 m/s	47 microseconds	0.015m/s
Optional Upgrades	Temperature	-2 to 32°C	+/-0.003°C	+/-0.005°C	350 millisecond	0.001°C
	Pressure (Strain Gauge, Temp Compensated)	Various to 6000m	+/-0.03%FS	+/-0.05%FS	10 milliseconds	0.005%FS
Calculated Parameters	Salinity (only with SVT&P)	0 to 40 psu	+/-0.005 psu	+/-0.010 psu		+/-0.001 psu

The Micro SV is available in various configurations; our website has details. Specifications subject to change without notice. Document version 1.05.



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