

SV Plus^{v2}

Setting the Standard for Sound Velocity Profiling

Updated in 2004, the SV Plus was released in 1996 as the first-ever time-of-flight sound velocimeter. By directly measuring the time-of-flight of an acoustic ping, the SV Plus improves sound velocity accuracies by a factor of five. Field accuracy is 0.05m/s; precision is 0.03m/s. In contrast, instruments that calculate sound velocity using Chen & Millero or Del Grosso offer accuracies of 0.25m/s at best.

Applied Microsystems has manufactured more than 3000 invar-rod sound velocity sensors, making the SV Plus a proven field partner. Used by surveyors worldwide and recommended by leading multi-beam manufacturers, the SV Plus is the industry standard for reliable sound velocity measurement.

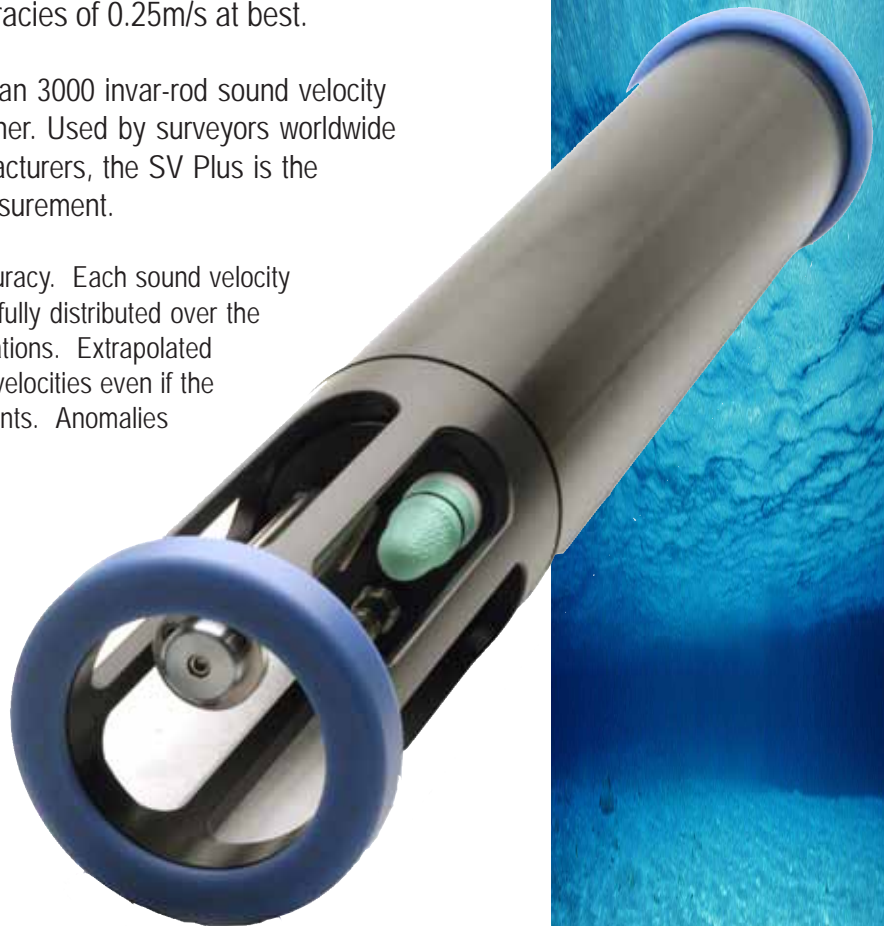
Customers choose the SV Plus for reliability and accuracy. Each sound velocity sensor receives 700 individual calibration points carefully distributed over the sensor's full range. We do not extrapolate our calibrations. Extrapolated calibrations are often out of spec at individual sound velocities even if the instrument – on average - meets accuracy requirements. Anomalies of this type lead to error.

Standard Features:

- Time-of-flight sound velocity precision of 0.03m/s
- 0.05%FS pressure sensor, temp compensated (0.01%FS optional)
- 0.05°C temperature sensor (0.005°C optional)
- USB port for high-speed data download
- User selectable sampling to 25Hz
- 64Mb non-volatile memory (expandable)
- User configurable comms settings (RS232 or RS485) & baud rates
- Dual power (battery and external)
- Aluminium 6061-T6 hard-anodized housing (to mil spec) for profiling to 5000m depths (deeper on request)
- Programmable sampling parameters
- Plug and play sensor capability

Comes Complete With:

- Aluminium shipping case
- 2m data / power pigtail
- Spares kit
- Sensor protection cage
- Dummy & shorting plugs
- Software & manuals



SV Plus^{v2}

Sound Velocimeter for Profiling

The SV Plus^{v2} is available with either our hi-tech composite sensor (top in photo located below) or traditional invar-rod sensor. Invented in 2000, composite sensors eliminate path-length change due to corrosion and vibration, resulting in longer periods between calibrations. Temperature response time is immediate and range extends to 1600 m/s. On some applications, no zincs are required.



Electrical:

- 128 Mb non-volatile memory
- 16 bit analog to digital resolution (65,536 counts)
- Up to 25 scans per second
- Real time clock
- User configurable comm settings (RS232 or RS485)
- Optional additional channels (10 analog or 5 digital)
- Auto shut-down in low battery conditions

Power Options:

- 8 to 24VDC (external)
- 9 D cell Alkaline batteries
- 3, 6, or 9 D cell Lithium batteries
- 9 D cell Ni-Cad rechargeable batteries

Sampling Modes:

- Continuous, defined increments of time, at specific pressures, or upon request

Mechanical:

- Hard anodized 6061-T6 Aluminium housing, rated to 5000m (optional 7075-T6 Aluminium to 6000m)
- 100mm / 4.0" (diameter) x 881 mm / 34.9" (end-to-end, logger version) or 653 mm / 25.9" (end-to-end, real-time version)
- Connectors: Subconn Micro 8 wet pluggable
- Environmental: Storage, -40°C to 60°C; Usage, -20°C to 45°C

Accessories:

- Instrument suspension bar
- Instrument suspension bar with protective cage

Additional Information:

- The SV Plus is available in various configurations; visit our website for details. Specifications subject to change without notice. Document version 1.07

		Range	Precision	Accuracy	Response	Resolution
Standard Sensors	Sound Velocity (Invar Rod)	1400 to 1550 m/s	+/-0.03 m/s	+/-0.05 m/s	145 microseconds	0.015m/s
	Temperature	-2 to 32°C	+/-0.003°C	+/-0.05°C	1 second	0.001°C
	Pressure (Strain Gauge, Temp Compensated)	Various to 6000m	+/-0.03%FS	+/-0.05%FS	10 milliseconds	0.005%FS
Optional Upgrades	Sound Velocity (Composite)	1350 to 1600 m/s	+/-0.03 m/s	+/-0.05 m/s	47 microseconds	0.015m/s
	Temperature	Various to 45°C	+/-0.003°C	+/-0.005°C	500 milliseconds	0.001°C
	Temperature	Various to 45°C	+/-0.003°C	+/-0.005°C	350 milliseconds	0.001°C
	Pressure (Quartz Crystal)	Various to 7000m		+/-0.01%FS	Varies	0.000001%FS
Calculated Parameters	Salinity	0 to 40 psu		+/-0.035 psu		

APPLIED Because it's not just 
MICROSYSTEMS

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