

## SVS-603HR Wave Sensor

SeaView's industry leading SVS-603HR wave sensor is an accurate, low power, small form-factor sensor that reports a comprehensive set of wave statistics via RS232 or on-board SD card. The SVS-603HR is designed to be configurable for use on a variety of platforms including buoys as well as autonomous surface vehicles.

The SVS-603HR represents a new generation in accuracy and completeness for wave sensing electronics whose features include:

- Very low power consumption; fits the smallest power budget
- Very small footprint; sold packaged or as bare PCB
- Sensors account for 3-D motion, rotation and compass heading in all dimensions to cover nine degrees of freedom
- Sophisticated onboard electronics provide near-real-time wave statistics
- Variable sample set size (256, 512, 1024, 2048 or 4096)
- Overvoltage lockout provides protection up to 60V
- On-board temperature compensation
- On-board data archive capable of logging as much as ten years of wave data, depending on desired outputs
- Easy configuration to match your exact sensing rate and output requirements
- Readily interfaced with transmitter using NMEA or other configurable data output
- Sampling rates from 1 to 8Hz (user configurable)
- Horizontal and vertical offset correction algorithms to allow free positioning of sensor
- Orientation controls to allow for placing the sensor in any orientation



The SVS-603HR can be used to replace existing sensors, to upgrade existing buoys, or to add wave sensing capabilities to even the most compact buoys. Among the wave data that are available as outputs from the sensor are:

- Significant wave height ($H_s$) including wind and swell components
- Wave period (several formulations)
- Wave direction in degrees from north
- North, east and up displacement time series
- First-5 Fourier wave coefficients
- Maximum wave height ($H_{max}$)
- Wave period at $H_{max}$
- Wave energy
- Spectrum (raw or processed)
- Heading in degrees
- Comprehensive set of output parameters

Other outputs or data manipulations can be incorporated via firmware updates or through calculations on the available data stream.



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| **Output Formats:** | Hex code defined output parameters |
| | NMEA 0813 |
| | First-5 Fourier coefficients |
| | Wave energy spectrum |
| **Accuracy Metrics:** | |
| Hs: ≤ 1% | 0.1m to 25m<br>Resolution 0.001 m |
| Period: ≤ 1% | 1.0 – 30 sec, Resolution 0.001 sec |
| Wave Direction ±1º * | Range 0-360º; Resolution 0.001º |
| Heave 0.1m | Range ±25m, Resolution 0.01m |
| **Measurement Range:** | 0m to unlimited |
| **Available Ports and Slots:** | RS232 Adjustable baud rate (2400 - 230400) |
| | USB Micro-B |
| | Micro-SD |
| **Dimensions:** | 53.5mm length |
| | 68mm width |
| | 23mm height (w/connector) |
| **Weight:** | Bare board: 1.4oz/40g |
| | In enclosure: 15oz/425g |
| **Power Requirements:** | 180mW@5V |
| | 192mW@12V |
| | 240mW@24V |
| **Input Voltage:** | 5-30VDC |
| **Temperature:** | Operating: -40C to 85C **<br>Storage: -40C to 85C |

* Dependent on orbital buoy motion ** Industrial SD card required







