

Directional Wave and Current Meter

*Wave Direction and Height with vector-averaged
3D Current Speed and Direction in a Single Instrument*

Enhanced Design, Performance, Specifications

The **ACM-WAVE-PLUS** from Falmouth Scientific, Inc. provides wave direction, wave height, and other wave statistics by combining FSI's enhanced ACM-PLUS acoustic current meter technology with a high-accuracy, micro-machined silicon pressure sensor. The instrument can be deployed in a multiple-mode format to allow periodic burst sampling of wave data as well as long-term averaging.

The **ACM-WAVE-PLUS** includes advanced standard features such as **extended on-board data memory**, **fast download capability**, **high accuracy real-time clock**, and **high speed data sampling**.

The **ACM-WAVE-PLUS** comes complete with FSI's Windows-based **ACMProPLUS** software for system configuration and data download, as well as our **WavePost** software for graphics display and advanced post-processing.

The device may also be equipped with an optional CTD module, and can be configured to log up to two analog inputs from external sensors (e.g., DO, OBS, Fluorometer, Transmissometer).



*FSI ACM-WAVE-PLUS shown with
optional CTD and 5-ton frame*

FEATURES

- High-accuracy wave data, precise pressure sensor
- Built-in 3-Axis ACM with excellent low-velocity resolution
- Electronic magneto-resistive compass, 2-axis tilt sensor
- **Fast Data Sampling up to 5 Hz; Fast Data Download**
- Long-term data logging to **2 GigaByte internal memory**
- Built-in **High Accuracy** real-time clock
- 1.5-ton working strength mooring frame standard; optional 5-ton mooring frame
- Optional conductivity, temperature, pressure sensor package (CTD) may be added

SPECIFICATIONS

Sensors

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Parameter	Type	Range	Accuracy	Resolution
Pressure (Wave Height)	Silicon Micro-machined	0-50 PSIA (23m max depth)	±0.01% full scale	0.145 x10 ⁻³
Velocity	Acoustic	0 to 600 cm/s	≤ 1%±0.5 cm/s	0.01 cm/s
Direction	3 Axis Magnetometer	0 to 360°	±2°	0.01°
Tilt	2 Axis Accelerometer	0 to 30°	0.5°	0.01°
Temperature	Semiconductor	-2 to 35°C	0.5°C	0.01°C

Optional CTD

	Range	Accuracy	Resolution	Stability
Conductivity (mS/cm)	0 to 70	±0.01	.001	±0.0005 per month
Temperature (Celsius)	-5 to 32° ITS-90	±0.01°	.001°	±0.0005° per month
Pressure (dBar)	0 to 200 dBar	±0.1% full scale	0.01% full scale	±0.01% per month

Instrument

External Power: 8 to 32 VDC

Current Draw: Typical 60 mA at 1 Hz sample rate;
Sleep 1.0 mA battery, 3.5 mA external power

Battery Power: Alkaline 5 D Cell Welded Pack, 10 AHR

Internal Memory: 2.0GB Standard

Sample Rate: 5 Hz Maximum

Vector Averaging Period: User Selectable up to 59 Min:59 Sec

Real Time Clock: Programmable High Accuracy Sampling / Low-power Mode

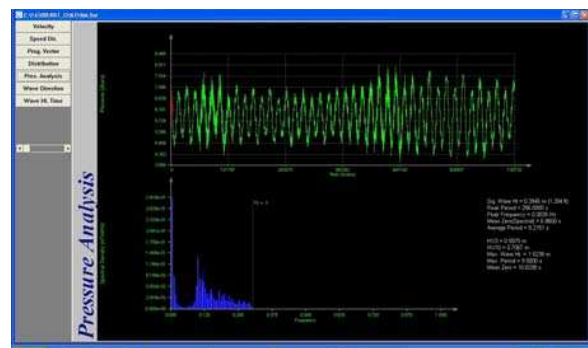
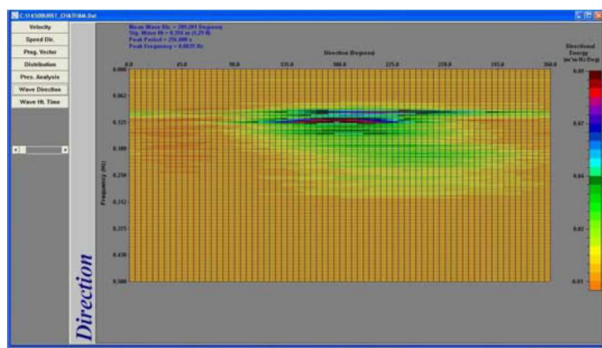
Sampling Modes: Continuous, Interval, and Delayed Start (continuous or interval)

Clock Stability: +/- 2ppm (0-40 degrees C);
+/- 4ppm (-40 degrees C to +85 degrees C)

Optional Input Channels: Two (2) 0-5V DC Input Channels with 12 bit A/D resolution available for external sensor input (Regulated 12 VDC, 1.5W provided to power external sensors)

Depth Rating/Physical Material: 200 Meter Epoxy Housing Standard, P/N: ACM-WAVE-PLUS

Mooring Frame: 1.5 Ton Rated 316 Stainless Steel Mooring Frame (Standard); 27" x 9.25" square (approx.)
5 Ton Rated 316 Stainless Steel Mooring Frame (Optional); 39" x 9.4" square (approx.)



**Wave Directional Energy (left) and
Pressure Analysis (right) are provided by
FSI's WavePost Software**

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