# SeaMODE<sup>TM</sup> Speed Lab



## Trip computer for sailing performance assessment

- · Get the most out of your yacht, gear and high-tech sails
- · Achieve results faster by systematic learning
- Measure, analyse and improve
- Dependable measurement due to versatile calibration and motion compensation



# Speed and Performance Analysis System

SeaMODE<sup>™</sup> Speed Lab is a performance analysis system designed for the best yachts and racing crews. SeaMODE<sup>™</sup> has comparable measurement features, accuracy and credibility as found in extreme racing and super yachts.

## Systematic Training Brings Rewards

Do you spend thousands on sails and gear on a regular basis? How do they benefit you on the race course? With SeaMODE<sup>™</sup> you can get faster results by systematic elimination of bottlenecks in your yacht's and crew's performance.

### More Exact Speed and Wind Information

Many types of motion also affect other on-board measurement such as speed and wind. Often these effects are large, yet their measurement is undermined. Speed and wind sensors connected to SeaMODE<sup>™</sup> are automatically motion compensated.

SeaMODE<sup>™</sup> can be used both during the race or afterwards.

#### SeaMODE<sup>™</sup> Speed Lab contains:

- Two MD100 motion detectors
- a GPS designed for racing
- the SeaMODE™ Speed Lab software

#### **Optional extras:**

- a speed and depth sensor
- · a wind sensor
- · a rudder sensor
- · a barometer



# System Components



The SeaMODE<sup>™</sup> Speed Lab software collects the data from the SeaMODE<sup>™</sup> MD100 motion detectors, processes the data and presents it as graphical information. Here is one of the dashboards available. In the Multi-view dashboard four different types of information are shown, such as Boat3D, BoatTrack, Tacks&Gybes and LegEfficiency.

#### Hardware

The SeaMODE<sup>™</sup> MD100 motion detector is based on the company's proprietary patented technology. The detector is specifically designed for demanding maritime conditions. The SeaMODE<sup>™</sup> Speed Lab system uses two MD100 motion detectors.

Each detector:

- · provides accurate motion measurement
- has low power consumption
- · is light weight
- · is water-tight, shock-proof, EMI resistant
- is easy to install, align, remove and re-install

The SeaMODE<sup>™</sup> Speed Lab system is connected to two SeaMODE<sup>™</sup> MD100 motion detectors.



#### Software

SeaMODE<sup>™</sup> software is preferably installed on a fixed onboard Windows<sup>™</sup> computer. If a laptop or tablet is used, a 12 VDC battery charger is required.

## Unique Dashboards

SeaMODE<sup>™</sup> is easy to use. In on-line mode simply click start to record, and then stop. Stored log files are easily available for replay.

SeaMODE<sup>™</sup>'s copyrighted dashboards are unique, intuitive and easy to understand. Performance information and boat motions are clearly visible on the dashboards both in on-line and off-line mode.

In off-line mode, logged data can be replayed in order to analyse the boat's performance, steering characteristics, route selection and the efficiency of tacks, gybes, and both upwind and downwind legs. Bottlenecks that require improvement can be identified with this information. Subsequent recordings prove whether corrective action has improved your sailing performance.

# Requirements

## SeaMODE<sup>™</sup> Speed Lab

Software requirements:

- 1.6 GHz dual core processor or better
- MS Windows<sup>™</sup> 7, 8.1 or 10
- Minimum 4 Gb RAM
- 100 Mb available hard drive space
- Minimum logging memory 16 Gb
- 1 Gb display memory
- Minimum 2 USB 2.0 ports

## SeaMODE<sup>™</sup> Motion Detector

- 3D motion measurement
- · Powered by and connected via USB ports
- Environmental classification XP67
- -5°C....+60°C (operational), -30°C....+70°C (storage)
- 10....100 %RH, condensing conditions
- CE marked

# **Specifications and Options**

Content:	Includes
SeaMODE™ MD100 motion detectors	2 items
SeaMODE <sup>™</sup> Speed Lab software license	1 item
10 Hz GPS	1 item
7-port USB hub	1 item
PC with SeaMODE <sup>™</sup> Speed Lab software and USB drivers pre-installed	Optional
Rudder Angle sensor (USB)	Optional
Barometer (USB)	Optional
NMEA 0183 multiplexer and USB converter	Optional
NMEA 2000 USB converter	Optional
Speed and Depth sensor (NMEA 0183)	Optional
Ultra-sonic Wind sensor with a carbon pole (NMEA 0183)	Optional
Parameters and Displays:	
Heading, Roll/Heeling, Pitch/Trim, SOG, COG, GPS time and Position	Yes
Leeway and Centre of Motion	Yes
STW, Depth and Water Temperature	Speed and Depth sensor required
AWS, AWA, TWS, TWA, TWD and Air Temperature	Wind sensor required
Beat angle and Velocity Made Good (VMG)	Wind sensor required
Target Boat Speed and Efficiency Ratio (if polar data is available)	Speed and Wind sensors required
Barometric Pressure	Barometer required
Data logging and replay of measured parameters and track	Yes
Dashboard with Tacks & Gybes display	Yes
Dashboard with LegGraph display (requires speed/depth & wind options)	Yes
Dashboard with WindGraph display (requires wind option)	Optional
Dashboard with DepthGraph display (requires speed/depth option)	Optional
Dashboard with Weather display (req. speed/depth, wind & barometer options)	Optional

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