

# SMCsamp add-on

SMCsamp Monitoring System, is an aid to ship managers and crew to reduce fuel consumption and monitor the ship motions.

SAMP helps to optimize and simplify trim and heeling. SAMP enables the officer on watch to optimize the ship's movement at sea to reduce fuel consumption.

The SMCsamp add-on indicates that the ship is running on an even keel (Bow/Stern) and not listing (Port/Starboard). The SMCsamp also indicates the direction of the deviation with an arrow in a chart. The size of the arrow symbolizes the deviation speed.

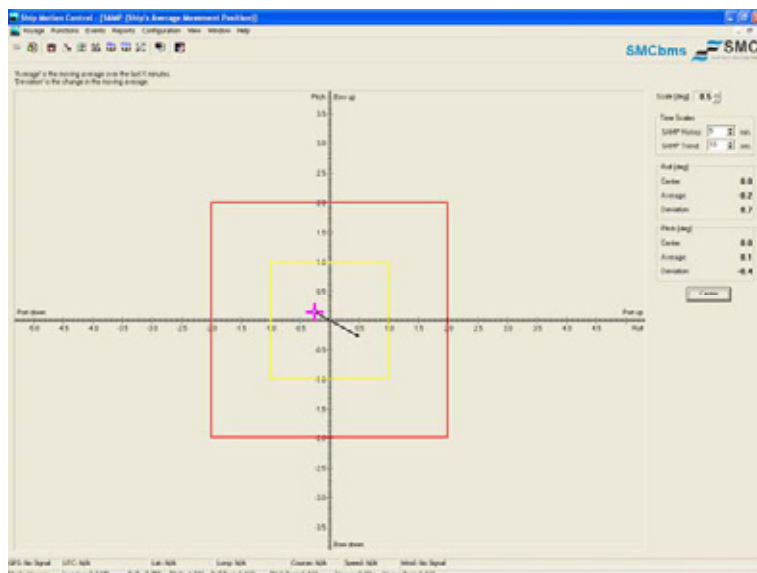
The SMCsamp system is an add-on to the SMCbms software which also contains a SMC Gyro Motion Sensor.

All data is processed in the integrated software and is displayed in an easy-to-read graphical interface.

All captured data is stored in a log file enabling it to be replayed, analysed and monitored at any time from any location.

### SMCsamp displays:

- Trim
- Heal
- Deviations



# SMCbms

SMCbms, Base Monitoring System, is a comprehensive, invaluable aid to vessel managers and crew during a variety of sea going operations and cargo loading.

The SMCbms system contains an SMC Gyro Motion Sensor and SMCbms PC software.

SMCbms is a multifunctional monitoring system that can be used during, vessel loading and unloading for trim and list monitoring, voyage motion monitoring, and inclining tests as well as other applications.

SMCbms works a stand-alone unit or together with one or more add-on softwares for enhanced specialised functions.

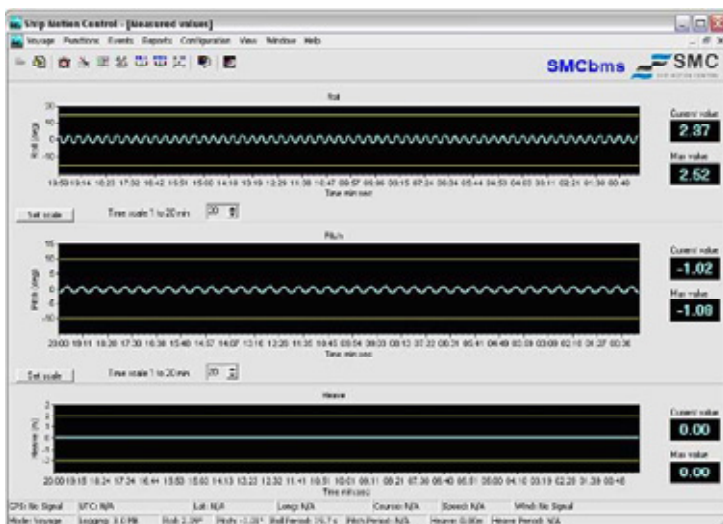
- SMCrig add-on for jack up oil rig leg extensions operations.
- SMCsmp add-on as an aid to improve fuel economy in the shipping industry.

All data is processed in the integrated software and is displayed in an easy-to-read graphical interface in real time or by replaying a previous recorded log file.

All captured data is stored in a log file enabling it to be replayed, analysed and monitored at any time from any location.

Daily reports of all recorded data can be produced and stored for future reference.

GPS receiver data and Anemometer data can be incorporated into the software.



## Real Time Values

Actual values of Roll, Pitch and heave recorded for a set monitoring time.

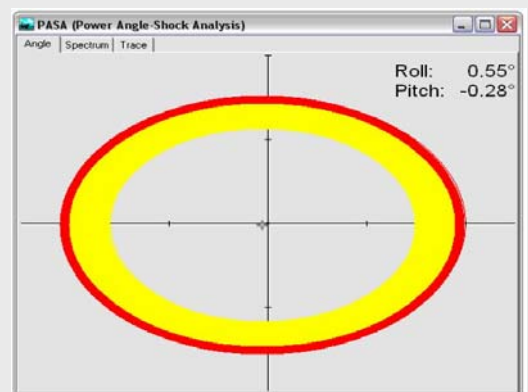
## SMCbms contains:

- SMC Gyro Motion Sensor
- SMCbms software

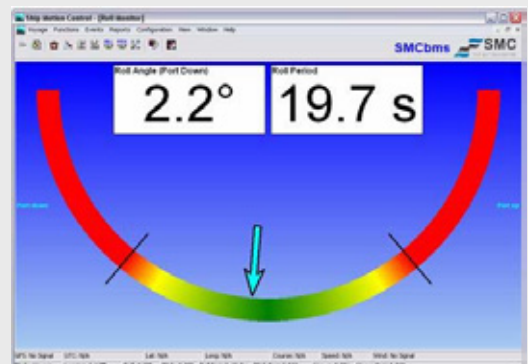


## SMCbms displays:

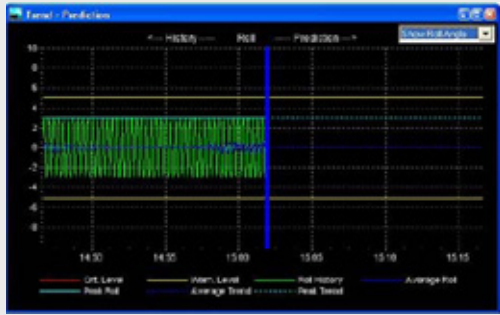
- Roll / Pitch / Heave
- Roll / Pitch Period
- Heave Period
- PASA (Power Angle Shock Analysis)
- Real Time Values
- Trend Prediction
- Voyage Log
- Daily Reports



## PASA

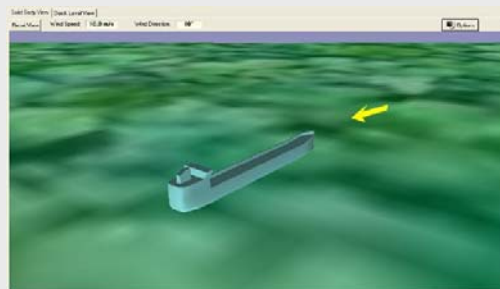


## Roll & Pitch Monitors



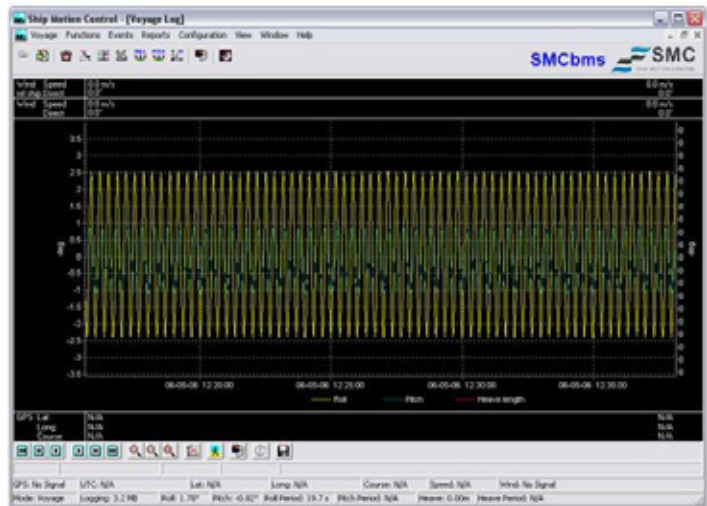
### Trend Prediction

Based on the last 30 mins history a prediction of motion trends to aid in decision making.



### 3D Modeling

Graphical display to aid in visualization of vessels motions.



### Voyage Log

All recorded data is stored in a voyage log that is saved in a 24hour recorded file for future analysis of any incidents or performance

## SMCsensors S-108 series

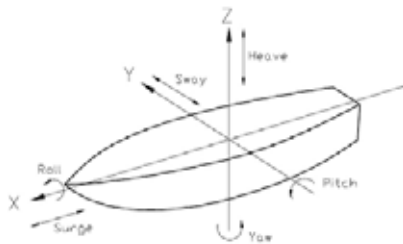
### Gyro Motion Sensor

- High Accuracy roll, pitch and heave measurements.
- Real Time Data
- High Output Data Rate
- Multiple communications, RS232/RS422
- Windows based configuration software.
- Multiple output signal protocol
- Compact and Lightweight Design
- Low Power Consumption
- 2 Years Warranty



The S-108 sensor is included in the SMCbms system

SMC has developed the SMCsensor range of Gyro Motion Sensors to meet the requirements of the marine sector. With the use of the latest technology, high precision algorithms, and patented advanced software SMC motion systems provide quality, cost effective solutions for the most demanding environments.



The S-108 series measures

- Heave
- Roll
- Pitch

The SMCsensor range of Gyro Motion sensors uses the latest inclinometer technology with gyro to provide accurate, real time motion measurements with high dynamic accuracy during accelerations. The SMCsensor has high temperature stability.

SMC setup software makes the sensor installation simple and allows user configuration and set up of multiple parameters.

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# SMChms

SMChms, Helideck Monitoring System, is a complete helicopter take off and landing system that contains a SMC Gyro Motion Sensor and HMS PC software. SMChms is developed to provide full information concerning the offshore helideck movements to the bridge as well as to Heliports and land based operators. The external operators are able to remotely connect to the onboard system, to improve safety and flight planning.

SMChms meets all prevailing recommendations and guidelines in the UK CAA (CAP437), Norwegian CAA (BSL D 5-1) and Standard HMS (CHC HS/ NH) Norway IEC 60945

All data is processed in the integrated software and are displayed in an easy-to-read graphical interface.

All captured data is stored in a log file enabling it to be replayed, analysed and monitored at any time from any location.

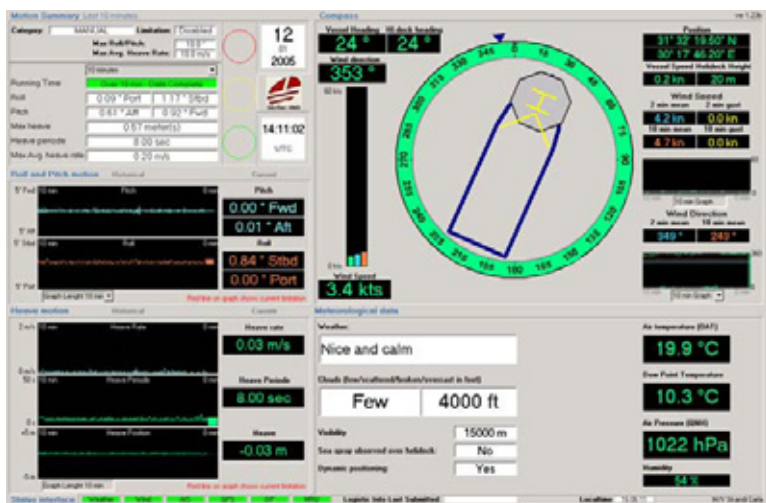
Authorized land based operators ashore can request different types of reports from the system through the integrated E-mail commands. Officers on board can also submit reports from the system to the operators.

### SMChms contains:

- SMC gyro motion sensor
- SMChms software

### SMChms displays:

- Heave/heave velocity
- Roll
- Pitch
- Platform inclination
- Weather information
- Navigation data via GPS
- Video monitoring of Helideck



# SMCrig add-on

SMCrig, Monitoring System, is an invaluable aid to rig managers and crew during Jack-up rig leg extension operations and rig towing.

The SMCrig system is an add-on to the SMCbms software which also contains a SMC Gyro Motion Sensor.

During leg extension operations it is critical to know not only the sea state, but the motions of the rig and be able to compare these against known safe operational data.

SMCrig calculates data such as Significant Rotation, the overall movement based on RMS roll and RMS pitch to show that the acceleration at the legs is not out of safe tolerances. The operators are able to view this information to aid in the assessment of safe conditions to carry out final leg extension.

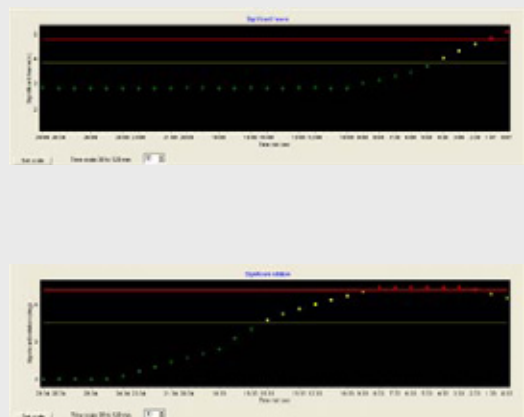
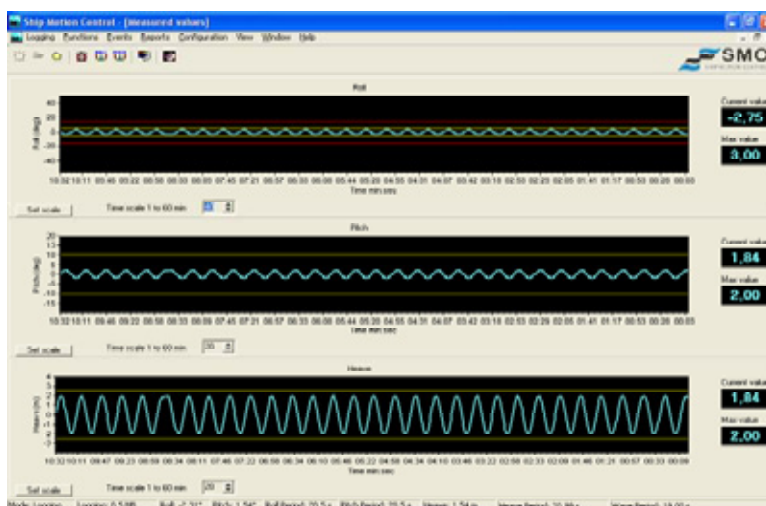
All data is processed in the integrated software and is displayed in an easy-to-read graphical interface.

All captured data is stored in a log file enabling it to be replayed, analysed and monitored at any time from any location.



### SMCrig displays:

- Roll / Pitch / Heave
- RMS Roll / Pitch / Heave
- Roll / Pitch Period
- Wave / Heave Period
- Significant Roll / Pitch
- Significant Rotation / Heave



# SMCfish

Provides real time information

SMCfish helps the fishing boat crew to make more informed decisions by virtue of providing real-time, as well as predictive, sea and vessel state information so that preventative and/or conciliatory action can be taken.

The SMCfish system is designed to accurately measure, monitor and record the following maritime parameters:

- Fishing vessel stability
- Safe loading table
- Roll
- Pitch
- Roll Period
- Pitch Period

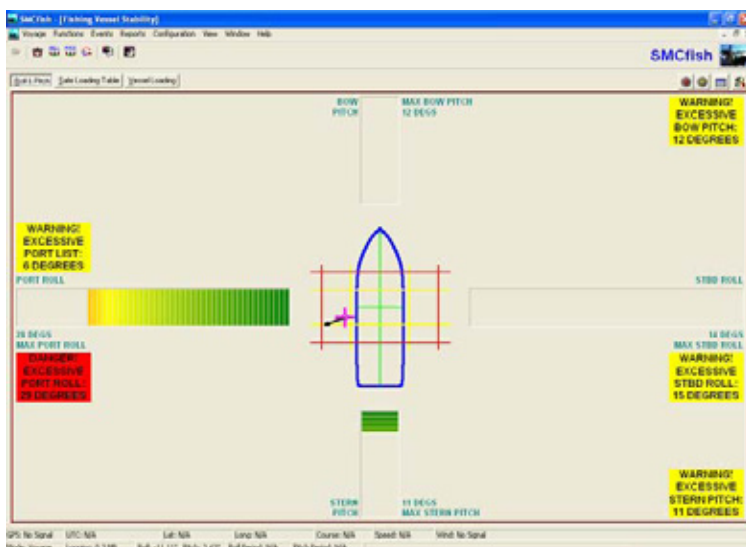
SMCfish consists of a motion sensor linked by cable to an onboard PC, which in combination with the SMCfish software program, provides a visual, real-time display and analysis of a fishing vessel's motions in port and at sea. The SMC sensor measures angles, roll and pitch.

SMC sensor readings of angle and corresponding movement, in combination with the installed SMCfish software program, enable a vital estimate of the degree and period of roll and pitch of the fitted vessel.

These readings displayed in the SMCfish software allow for a general and easy to interpret picture of vessel stability and seaworthiness, thereby helping to reduce the risk of accidents at sea, as well as in port.

A graphical analysis of vessel movements can be recorded continuously to be reviewed and replayed later.

The primary function of the SMC system is to improve vessel and cargo monitoring and management in all weather conditions, and to enable the vessel to maintain optimum performance in terms of course and speed. The SMC system achieves this by pictographically displaying important maritime readings, as well as through audible and/or visual alarms that are triggered when pre-set alarm levels are reached.



# SMCsensor

## Gyro Motion Sensor

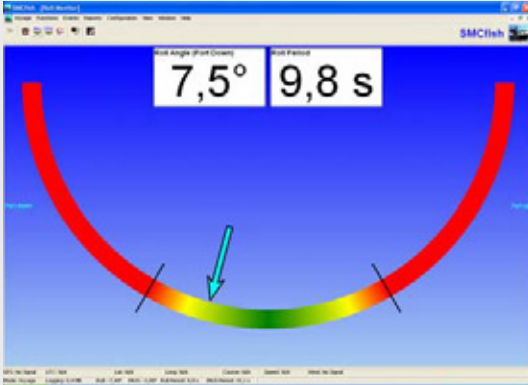
The SMCfish system includes the S-107 Gyro Motion Sensor.

The S-107 sensor measures roll and pitch, as well as acceleration and shock along all three axes, X, Y and Z.

The SMCsensor range of Gyro Motion sensors uses the latest inclinometer technology with gyro to provide accurate, real time motion measurements with high dynamic accuracy during accelerations. The SMCsensor has high temperature stability.

SMC Calibration software makes the sensor installation simple and allows user configuration and set up of multiple parameters.

- High Accuracy roll and pitch measurements.
- Accelerations
- High Output Data Rate
- COM-port connector for connection to the PC
- Windows based configuration software.
- Compact and Lightweight Design
- Low Power Consumption
- 2 Years Warranty



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