IMACS

Integrated Monitoring, Alarm and Control Systems

IMACS is an **Integrated Monitoring, Alarm and Control System** for engines and machinery onboard ships. The system is comprised of Siemens PLC units in full redundancy, dedicated computers and field proven real-time monitoring & control software. The comprehensive system provides integration of on-board Power Management System, Tank Level indication, Anti Heeling and Loading program in addition to the incorporated standard Engine Monitoring and automation features. Shore-side back office version with offline data and fault analysis is also provided.

System Highlights

- Use of Commercial-Off-The-Shelf hardware eliminates dependency on dedicated, more expensive and less accessible "marinized" spare parts, enhancing serviceability and reducing repair time, anywhere in the world.

- Maintenance and fault detection are straightforward due to the SIMATIC-S7 PLC Push-Pull modules that can be hot replaced in no time.

- All workstations are connected on a common network and each station can take over the entire system regardless of potential failure(s) on other stations on the network.

- Existing computers on ship's LAN can log into the system at will.
  This is restricted to monitoring purposes only, without any possibility of further interference to the IMACS system.

- Full redundancy of CPU and BUS - automatic take over in case that one PLC fails.

- Open architecture - easily fitted in every vessel environment.

Software Features

- Online screen monitoring of all captured/collected information.

- Machinery control (valves, pumps, generators etc.) via smart mimics GUI.

- Graphical representation of data vs. time (Trend Analysis) on all variables.

- Easy setting of alarm thresholds and time delay windows, as well as software driven sensors calibration

- Controlled access to critical operations to authorized personnel only.

- Long retention of data logging, with easy retrieval and "search" functionality.

- Offline analysis of data retrieved from "history" data base (re: Alarm statistics and Multi Sensor Analysis) - a unique tool for enhancing preventive maintenance quality

- "Back office" version for shore supervision provides extensive offline analysis of both data and alarms

- On line stability tests (GM Determination)