PRODUCT BULLETIN SB 8003-2000A

IMACS

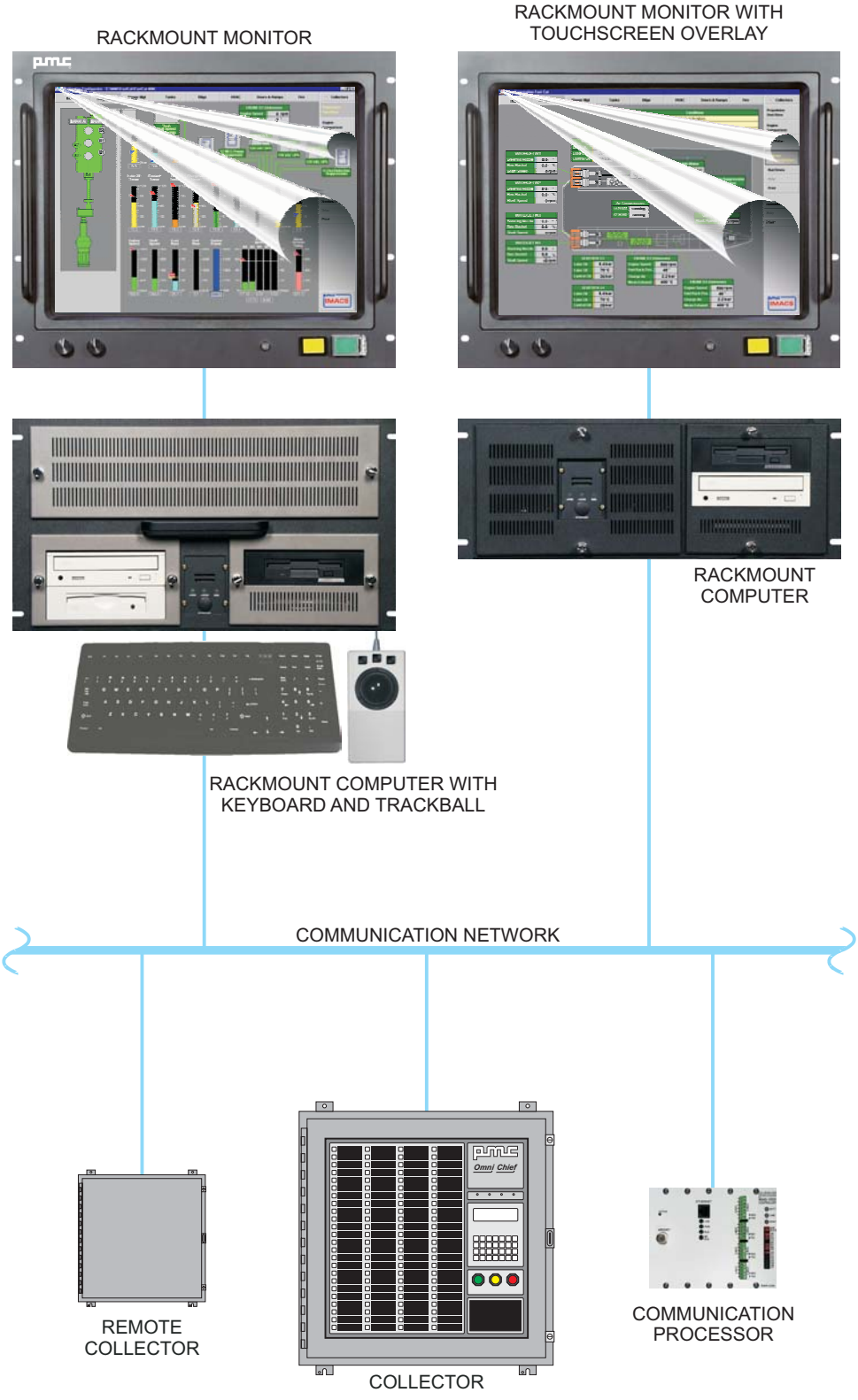
Integrated Machinery Alarm and Control System

HARDWARE
- Ruggedized with marine approvals
- Commercial desktop or industrial rackmount PC enclosures
- Dimmable for bridge applications

SOFTWARE
- High resolution graphics
- Ergonomic menu system
- Control interfaces
- Active and historical alarms
- Archiving alarms, status points and configuration changes
- Password protection of configuration changes
- Advanced integration strategies

OPTIONS
- Fibre optic network
- Monitored redundant high speed network
- Touch screen/LCD monitor
- Gateways for interfacing to virtually any other communication protocol
- Day/night screens

Integrated Machinery Alarm and Control System



PRIME MOVER CONTROLS INC.

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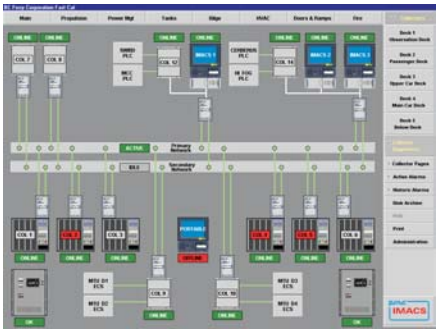
The PMC IMACS (Integrated Machinery, Alarm and Control System) is a technically advanced Windows NT™ based graphical user interface. This system provides seamless integration with the PMC Omni Chief Distributed Control and Monitoring units.

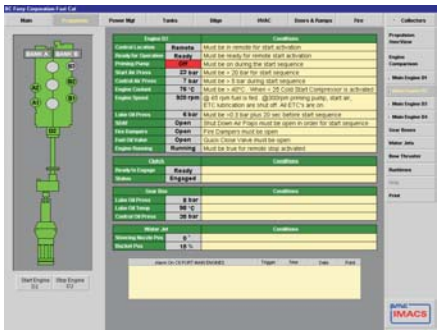
The overall system provides reliable hardware and software easily configurable to suit project specific requirements such as graphical displays, automation, safety systems, trending, health monitoring, power management, fire suppression, motor control, and environmental control (HVAC).

The IMACS workstations and Omni Chief units, featuring layered redundancy with an optional dual high-speed network, function independently, without a centralized file server.

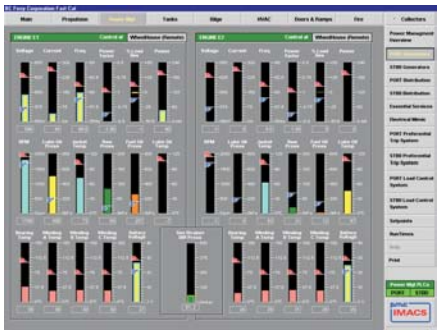


Custom software requirements are easily implemented in house at PMC. The entire vessel can be controlled and monitored with the IMACS and Omni Chief system. Isolated data links allow the IMACS to connect to virtually any type of existing or customer supplied equipment.

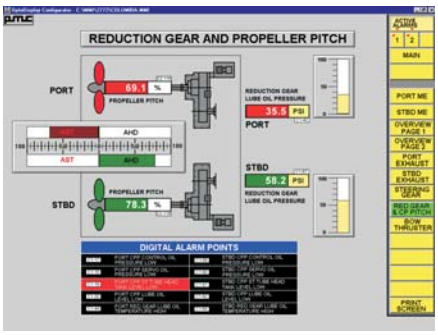
The IMACS can summarize and network all the data that is collected from electronic engine packages, fire alarm panels, power management systems, motor controls and environmental controls throughout the vessel.



The IMACS workstations can present custom graphical display pages that include readouts for temperature, pressure, level, flow, RPM, vibration, voltage, amperage, and machinery status. Analog inputs can be compared against a variety of independent set points such as fixed, averaging and dynamic.



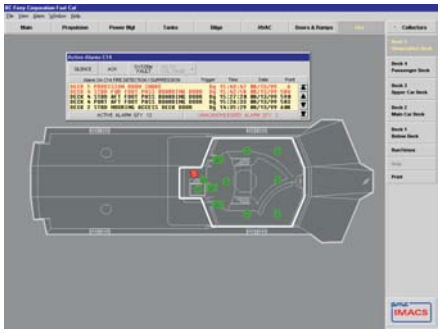
Control of machinery, complete with interlocks, is provided via clickable icons located on the graphical pages. Point and click graphics allow the operator to switch from a ship-wide overview to progressively more detailed displays.



The advanced graphics provide pop-up windows for a wide variety of events

New alarms generate pop-up windows that allow the operator to view and acknowledge current alarms without leaving the present graphic page.

Critical machinery alarms generate pop-up windows detailing emergency procedures for the engineering staff to follow.



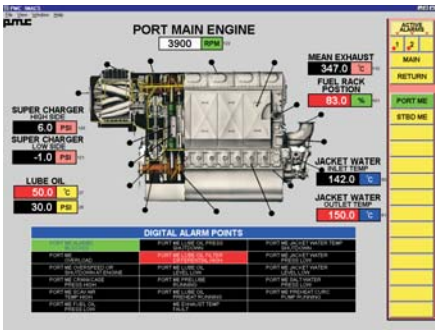
Pop-up windows are available to display additional

information including; schematics, exploded views of equipment, and 'as fitted' drawings of vessel systems.

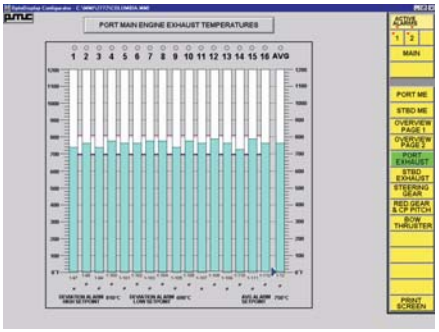
A typical PMC IMACS system consists of various types of custom graphics screens.

Overview pages use the plan and side views of the vessel to show machinery locations and operating status.

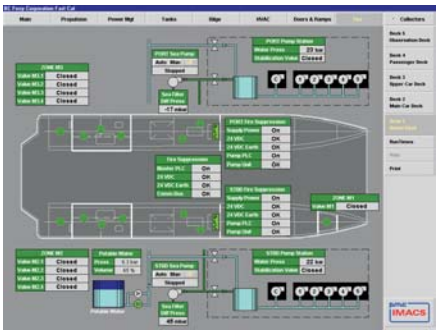
Detailed machinery pages display analog values and operational status superimposed on actual machinery images.



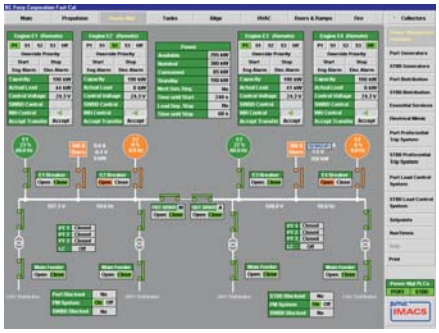
Bar graph pages allow users to scan and compare all operating parameters for selected machinery in an easy to read graphical form.



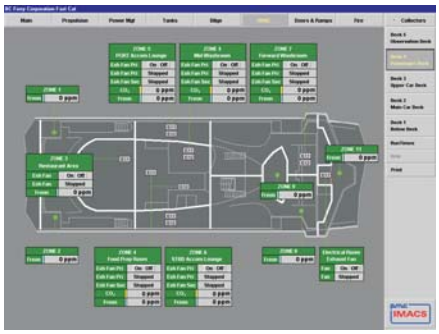
Damage control pages display fire alarm, fire door, and watertight door status using plan views of each deck, as well as providing operational indication for fire suppression and zone isolation.



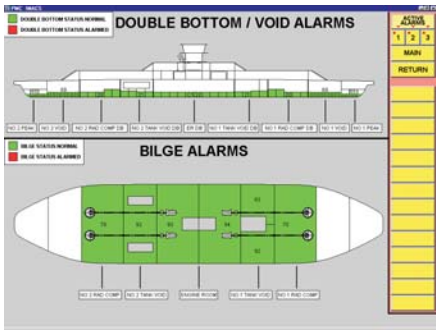
Power management pages provide control and detailed information on the generator plant and switchboard operation including breaker status.



Environmental control pages provide monitoring and control of fans, dampers, and HVAC units. Plan views are used to display equipment locations.



Tank and bilge pages use the plan and side views of the vessel to show tank/bilge locations. Continuous level indication is displayed via bar graphs. Level alarms, and pump status are also displayed. Compensation for sloshing liquids and tank shapes as well as control of pumps and valves for fluid transfer can



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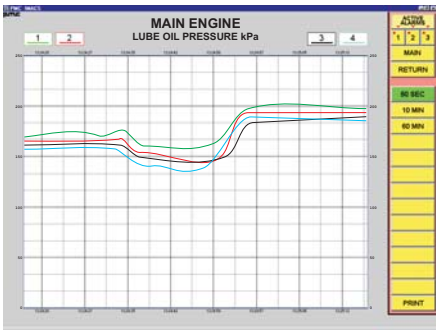
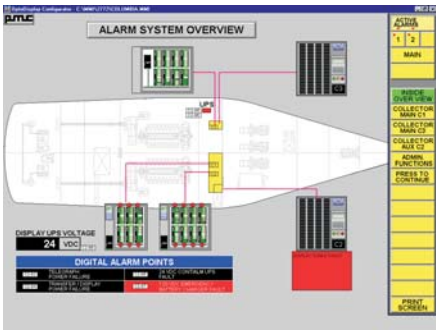


Graph pages show multi-pen realtime plotting of

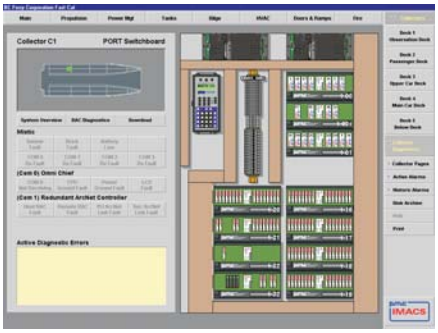
analog signals.

Annunciator pages that mimic the Omni Chief's ninety-six LED (light emitting diode) indicator displays.

System self diagnostic pages use the plan and side views of the vessel to show Omni Chief distributed hardware locations and diagnostic information including:



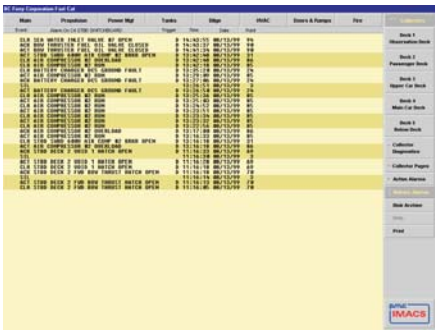
- network status



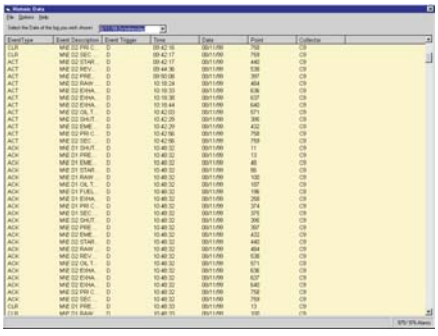
- processor status
- individual alarm channel status

Help pages provide the user with detailed problem solving instructions.

Individual active alarm windows from each Omni Chief collector.



Individual event log pages detail the most recent events for each Omni Chief collector.



Disk archive pages show all the events on a day by day basis from the entire alarm system and can be sorted by category, time etc.

Optional day/night alternate for each page, for easier

PRIME MOVER CONTROLS INC.
3600 GILMORE WAY, BURNABY B.C. CANADA V5G 4R8
TEL (604) 433-4644 FAX (604) 433-5570 www.pmc-controls.com