

PRODUCT BULLETIN SB 8544-2001A

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Digital Marine Control

DIGITAL PROPULSION CONTROL SYSTEM

Prime Mover Controls Inc., a manufacturer of marine propulsion control systems and advanced marine automation equipment, offers a comprehensive digital control The D-MaC (Digital system. Marine Control) System provides micro-processor digital accuracy and reliability for a wide range of control requirements. It can be easily modified for specific applications and customer requirements, multiple engine installations, generators, fire pumps and other PTO arrangements.

The D-MaC offers easy user interface by means of a touch screen display panel which accurately shows the ship's control system and provides a means of precise control through direct operator feedback.

The micro-processor controlled digital electronic system provides outstanding accuracy of every control parameter. Also, reliability is enhanced by means of non-volatile memory and the elimination of the need for hard drives.

A high degree of flexibility and superior performance is ensured through advanced programming techniques for:

- Remote control
- Speed/power curves
- Load sharing
- Load control
- Clutch logic
- Servo loop characteristics
- Alarms
- Trends and operator messages

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The D-MaC automatic load control for controllable pitch propellers is fast and completely stable. Dual dynamics are implemented in installations where the propeller may break through the surface in rough seas.

Significant reduction in exhaust smoke is achieved by incorporating turbo pressure dependent "feed forward" pitch and load limits with proportional dynamics. Optional integration of PMC's fuel management system is also available.

Basic adjustments for system stability, RPM limiting, load and pitch for single or multi engine configurations are easily accomplished using the touch screen. Critical operating parameters such as speed/power curves and interlocks are secured by an access code which is available only to authorized personnel.

For pitch positioning, the D-MaC directly controls solenoid valves on the C.P. propeller O.D. box or controls a PMC pitch actuator with redundant inputs and proportional output.

Engine speed settings are accomplished in a variety of ways to accommodate various project specific governor arrangements such as;

- Transmitting signals directly to electronic engines or electronic governors.
- Incorporating I/P units for governors with pneumatic speed settings.
- Using PMC electric shaft remote control head provided with electric and pneumatic outputs for redundant speed setting arrangement as required for Woodward PGA-EG governor/actuator.

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